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**Management, Economics, Business and Marketing
(IAC-MEBM)**

PR Strategy over the Years: Still Sticking to a Manly Instrumental Mode

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Abstract

This paper provides an analysis of the submission trends for the Austrian-PR-State-Award from 1984 to 2020. It was discovered that despite the increased public visibility, specialization, and technological advances in PR, there has been no significant change in the perception and treatment of public relations during this period. A symbolic-interpretive approach to PR is more often practiced than a dialogue-oriented, performance-oriented approach. Furthermore, PR professionals focus more on gaining internal influence than actual performance improvement. As a result, professionalization efforts cannot be fully utilized due to the imbalance resulting from the above. The paper also analyzes the impact of this imbalance and discusses the research gaps that may exist in relation to PR educational and training elements. Possible solutions to enhance the professionalization of the PR industry include a shift towards a dialogue-oriented and performance-oriented practice, along with strong educational systems and training elements to help bridge the gap between research and practice. Additionally, PR practitioners need to have a good understanding of the organization's goals and abilities in order to be able to strategize for maximum effectiveness. Through these measures, the PR industry can become more adept at managing complexity and leading organizations toward success.

Keywords: Public Relations, Communication Management, Professionalization, Austrian State Award for Public Relations

1. INTRODUCTION

Observing the industry over the last decades, it is striking that PR tries to professionalize in different ways but seems stuck in this process. Still, PR suffers a bad reputation in public, of which PR professionals are quite aware, as exemplified by the fact that 52.4% of PR practitioners across Europe complain about the “[p]oor reputation of professional communication and PR in society” (Zerfass, Verčič, Verhoeven, Moreno, & Tench, 2012, p. 38). This dubious image of public relations goes hand in hand with a general impression that depicts prototypical representatives of the field as friendly, smiling, but naive “PR-ladies” or so-called “earls-of-sandwiches” on one side and the other side as reckless and sneaky spin doctors of public opinion. You might have to accept this negative public image when your first aim is to hone the interest of your own company.

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In addition to facing a devastating reputation, PR departments also experience a challenging position as a functional area within their own organization: “A large majority of the respondents state (...) a lack of understanding of communication practice within the top management (84%) and difficulties of the profession itself to prove the impact of communication activities on organisational goals (75%)” (Zerfass et al., 2012, p. 37). Again in 2022, Linking Business Strategy and Communication continues to be one of the most urgent issues over the years (Zerfass, Moreno, Tench, Verčič, & Buhmann, 2022, p. 74). Additionally, Röttger emphasizes that PR has a, “lack of problem-solving competence”, which leads to empirically verifiable “encroachment effects” (2010, p. 21, translated by authors). This means that managers from outside the field (e.g., lawyers or engineers) are often more likely to be entrusted with the execution of PR tasks than trained PR managers (Dees & Döbler, 1997; Dozier, 1988; Nothhaft, 2011; Röttger, 2010; Wienand, 2003).

These impressions and their effects are fatal for a relatively young industry like PR and provide the framework for this study. The goal is to shed more light on how PR practitioners deal with communication issues and what accents have been set in the past to solve these problems better, i.e., more professionally.

2. THEORETICAL FOUNDATION

Three main strategies point out how the PR industry deals with those challenges:

1. *Semantic positioning*: Academics, PR, and communication professionals, professional associations, agencies, and consultants are constantly trying to redefine the function mainly via coming up with different labels that should help to broaden the field and expand the area of responsibility (Dietrich, 2018, 10 et sqq.). Grunig and Hunt set the most common definition when stating, “Public relations [...] is the management of communication between an organization and its publics (1984, p. 8); From thereon, terms such as Communication Management, Integrated Communication, Organizational Communication, and Corporate Communication, came up and as the latest example the discussion of the branch circulates around the label Strategic Communication.
2. *Gain internal influence*: PR is striving to be recognized as a management function and is trying “to unlock the boardroom“ (Bütschi & Steyn, 2006, p. 108) and get access to the C-Suite (Nothhaft, 2011, p. 212) or Dominant Coalition (Grunig & Hunt, 1984, 120 et seq.). This Management-Shift (Wehmeier, 2008) is driven by the idea of positioning the PR department as an essential function of organizations and playing a more substantial role in the internal Management Game (Simcic Brønn, Romenti, & Zerfass, 2016) to gain more influence on superior corporate strategy decisions.
3. *Improve actual performance*: PR work on their actual performance of what is done and which results can be expected. In other words, improving the primary mode of PR, in terms of delimited problems which PR is responsible for, strategies for coping with those problems, and actual measures realized when PR comes into play.

All three strategies try to pave the main path PR tries to walk to develop as a profession: “For decades now, communication management and public relations is transforming itself from an operational practice of preparing, producing, and disseminating communication materials into a full strategic management function, which includes speaking as well as listening, consulting as well as executing.” (Zerfass et al., 2012, p. 43).

According to the general objection on fashion in management (Kieser, 1997), the first mentioned strategy (semantic positioning) is unsuitable for substantial changes, as numerous authors have rejected these initiatives of redefining PR via finding new labels. Theis-Berglmair (2013) argues for sticking to Public Relations as all communicative activities are subsumed sufficiently. And Röttger et al. too prefer the term Public Relations as it still suits all challenges of the communication industry best. They define Public Relations as, “all managed internal and external communication to support the organization’s interests and help to gain public legitimacy” (2018, p. 7, transl. by authors).

The second strategy (gaining internal influence) and third (improving actual performance) are theoretically founded much better and broader. They are dominating the discussion of the practical field over the last decades: “The profession is striving for a strategic position at the decision-making table to become a part of the strategic management of an organisation (...)” (Zerfass, Tench, Verčič, Verhoeven, & Moreno, 2014, p. 83). The whole Grunig-Paradigm (Macnamara, 2012, p. 367) is to be subsumed with the term Management-Shift (Dees & Döbler, 1997; Raupp & Klewes, 2004; Wehmeier, 2008) and shall be discussed in more detail in the following.

2.1. Excellent PR – The Grunig paradigm

Grunig and Hunt (1984, p. 22) first distinguished four different models of public relations: Publicity, Public Information, Two-Way-Asymmetrical, and Two-Way Symmetrical (Table 1).

Table 1: Characteristics of Four Models of Public Relations – own presentation based on Grunig & Hunt (1984, p. 22)

	Model			
Characteristic	Publicity	Public Information	Two-Way-Asymmetric	Two-Way-Symmetric
Purpose	Propaganda	Dissemination of Information	Scientific persuasion	Mutual understanding
Nature of Communication	One-way; complete truth not essential	One-way; truth important	Two-way; imbalanced effects	Two-way; balanced effects
Communication Model	Source -> Receiver	Source -> Receiver	Source <-> Receiver (Feedback)	Group <-> Group

In the context of the famous Excellence Studies (Grunig, Grunig, & Dozier, 2002), those four models were subsumed in two different modes or approaches of practicing public relations: symbolic-interpretative and strategic management paradigm. Symbolic-interpretative-oriented Communication believes in PR as a buffering function. The main goal is to influence the publics and gain interpretative sovereignty over important topics, issues, and images. “Such organizations believe favorable impressions created by public relations can obscure their decisions and actions and, in turn, that they can behave in the way that managers with power want without interference from publics.” (Kim, Hung-Baesecke, Yang, & Grunig, 2013, p. 201). PR, based on a strategic management approach, on the other hand, is conceptualized as a boundary spanner or bridging function. It strives to create opportunities and platforms for exchange, collaboration, and Co-Creation to enable win-win situations where all stakeholders benefit. PR departments claiming to be a bridging function, need to have access to the C-Suite (Bütschi & Steyn, 2006, p. 108; Nothhaft, 2011, p. 212) to be able to proactively shape the strategy of the whole organization rather than acting like an announcer who transports messages from the organization to the public and ensures that the public receives and accepts the organization's positions.

Grunig states that PR, of course, is realized in all four models and both of the two approaches. Still, he points out that excellent PR departments more often focus on a management approach: “The Excellence study concluded, therefore, that public relations makes an organization more effective when it identifies the most strategic publics of the organization as part of strategic management processes and conducts communication programs to cultivate effective long-term relationships with those publics (Kim et al., 2013, p. 200).

2.2. Excellent PR - revisited

Zerfass and colleagues have taken the discussion around excellence in Public Relations further and developed the Comparative Excellence Framework (Zerfass, Verhoeven, Moreno, Tench, & Verčič, 2016), which allows identifying excellent PR departments on the following characteristics: “Excellence is conceptually based on the internal standing of the communication department within the organisation (influence) and external results of the communication department’s activities as well as its basic qualifications (performance).” (Zerfass et al., 2022, p. 89) This is based on the variables of advisory and executive influence as well as success and competence (Table 2). Excellent departments must achieve maximum values (6-7) in all four dimensions. (Zerfass, Buhmann, Tench, Verčič, & Moreno, 2021, 85 et seq.) It is striking that the departments in the area of influence (22.5% and 22.7%, respectively have the maximum value of 7) perform significantly better than in the area of performance (only 9.8% and 11.0% respectively achieve the total value of 7). This ratio has been relatively constant over the years.

Table 2: Excellent communication departments 2022 (Zerfass et al., 2022, p. 91, own presentation)

		no manifestation (1) - strong manifestation (7)						
		1	2	3	4	5	6	7
Influence	Advisory Influence	< 3%	4.5%	5.6%	10.7%	23.6%	31.7%	22.5%
	Executive Influence	< 3%	4.8%	5.8%	11.6%	19.1%	34.0%	22.7%
Performance	Success	< 3%	4.1%	7.0%	17.1%	31.7%	28.9%	9.8%
	Competence	< 3%	3.5%	6.8%	18.6%	29.7%	29.3%	11.0%

The Comparative Excellence Framework (Zerfass et al., 2016, p. 109) makes it clear that the orthodox discourse on professionalization must be conducted on two levels: on the one hand, the performance of the PR department, and, on the other, its internal influence. The results of the European Communication Monitor show, however, that the PR industry is concentrating its professionalization efforts rather one-sidedly on increasing management skills to increase its influence in shaping organizational policy. Investments in communication-specific know-how or implementation skills (Szyszka, 1995) to achieve a higher level of performance are made to a much lesser extent. The perceived disadvantages in the internal management game are to be compensated by higher management skills.

Dietrich (2018) came up with the idea to conceive professional PR as a medal whose two sides of influence and performance affect each other mutually: High influence in the dominant coalition enables PR to help shape corporate strategy. This can create conditions and frameworks that facilitate higher communicative performance. This undoubtedly requires skillful acting in the internal management game. At the same time, however, corresponding performance (i.e., a high level of communicative problem-solving competence; i.e., performance) is a central prerequisite for increasing trust in the PR function and, in turn, for increasing influence. A mutually reinforcing dynamic of increase between performance and influence cannot be fully exploited in this unbalanced approach.

3. RESEARCH OBJECTIVES AND RESEARCH QUESTIONS

To gain insights in more detail on the performance side of PR, we will present and discuss empirical data in the next step. The study aims to determine the status quo of PR practice empirically and which professionalization developments can be identified. The research questions were: (1) How can PR work - rated as excellent by the PR professionals themselves - be described in the central dimensions? (Analyzing the submissions to the Austrian State Award for Public Relations provides the unique opportunity to examine material the submitters have classified as outstanding and thus worthy of the State Award.) And, (2) What professionalization trends and developments can be perceived in Austrian PR practice between 1984 and 2020?

3.1. Research Design

The primary object of investigation is submissions to the Austrian State Award for Public Relations between 1984 and 2020. The primary approach follows an exegetical character insofar as not the stated aims are investigated, but rather the overall setup and themes are explored. The reconstruction of problems, goals, and strategic as well as tactical procedures in projects, which the actors involved consider excellent examples of their work, should enable more profound insights into the mode of PR practice. (A critical reflection on the limitations of the methodological approach can be found at the end of the article.)

3.2. Description of Data Set

The Austrian State Award for Public Relations was initiated for projects implemented between the 1st of January 1984 and the 30th of June 1985. Since this time, the award has been given out annually. The Austrian Association for Public Relations (PRVA) granted exclusive access to the project documents submitted from inception until 2020. Unfortunately, no submissions from 1988 to 1999 are archived in the PRVA office and, therefore, could not be included in the analysis. The data corpus, thus, comprises the sum of 1,030 submissions in the period from 1984 to 1987 and from 2000 to 2020.

This considerable period enables the investigation of trends and developments in different periods based on the same underlying variables.

The annual data are aggregated into higher-order clusters to increase the number of observations and improve the identification of patterns (although the submissions from 1988 to 1999 could not be included). Two types of clusters are formed: Cluster 1 includes three four-year categories starting with the initial period, whereas Cluster 2 accounts for five and six-year periods from 2000 until 2020. In this way, Cluster 1 is designed to provide information on long-term changes, while Cluster 2 allows tracking current developments throughout the last twenty years on a seamless base.

Table 3: Number of Project Submissions for Austrian State Award for Public Relations in Cluster 1 and Cluster 2 Categories

Cluster Type	Categories	Observations	Overall
Cluster 1	1984-1987	71	436
	2000-2003	95	
	2017-2020	270	
Cluster 2	2000-2005	145	937
	2006-2010	191	
	2011-2015	281	
	2016-2020	320	

Table 3 provides an overview of the two cluster types and their categories. Cluster 1 splits the overall period into three sub-categories that can be analyzed as markers in time. Cluster 2 displays a more fine-grained picture of essential developments by zooming into the last twenty years. Due to its concentration in the most numerous sample years, the second cluster type contains more than twice as many observations compared to the first and, therefore, may serve to highlight important trends throughout the underlying two decades.

3.2.1. Conceptual Content Analysis

Based on the indicated project submission, a conceptual concept analysis is implemented to classify important characteristics (Mayring, 2010, p. 24). As a rule, this type of analysis structures formal aspects and content-related characteristics of the investigation material. In principle, it can be assigned to qualitative social research. However, it is regarded as a prime example of overcoming the contradiction between quantitative and qualitative research in that both methods are closely intertwined.

Gläser and Laudel (2010, p. 197) indicate the following steps for content analysis:

- Creation of a closed categorical system in preparation for the analysis
- Splitting up of text in elements of analysis
- Investigation of text for relevant information
- Assignment of information to predefined categories (coding)

All submitted documents exhibit a similar structure: (1) Starting point / Definition of problem, (2) Target groups for dialogue, (3) Definition of objectives, (4) Formulation of strategy, (5) Selected measures, and (6) Evaluation. Based on this setup, the categories can be retrieved in the respective chapters. A variable such as Problems & Objectives of the Organization can be gleaned from the first chapter on problem definition. The individual categories of this variable are formulated based on the approach by Eisenegger and Imhof (2009) that proposes a classification into functional-factual, social-moral, and expressive organizational problem statements.

3.2.2. Frequency Analysis

The Austrian State Award for Public Relations submissions often contain formulations that do not allow a clear assignment of the described strategic or tactical procedures in the individual concepts. This can be seen, for example, in the abundance of dialogue groups or stakeholders that are addressed in each case, in a wide range of goals that are to be achieved using the respective PR project, and a generally broad bundle of measures that are implemented using a large number of instruments in different combinations is implemented.

When analyzing the submissions for the Austrian State Award for Public Relations, it is noticeable, among other things, that possible communication modes are used, such as types of media (one-way, two-way, social media, and

events). Furthermore, projects are often implemented via a mix of owned, paid, and earned media. And, of course, no organization focuses and reduces its direction of impact to purely inbound or outbound.

The consequence is that in major categories, the respective item characteristics cannot be assigned exclusively and selectively since quantifications in the sense of a distribution or a ranking are difficult to objectify with the naked eye. As a result, these categories would lose their ability to discriminate, and the entire analysis would lose its meaningfulness due to the coding. For this reason, an IT-supported frequency analysis was used. It makes general tendencies in PR practice visible across all concepts by assuming a connection between the number of terms and content mentioned and their meaning in the specific context – in this case, the planning and implementation of PR projects (for the foundation and methodological discussion of this approach, see Titscher, Wodak, Meyer, & Vetter, 1998, 80 et seq.). By compressing the PR-relevant terminology into a manageable number of meta-labels generated from the material, a relation of different strategic and tactical approaches or dispositions of the PR actors can be read.

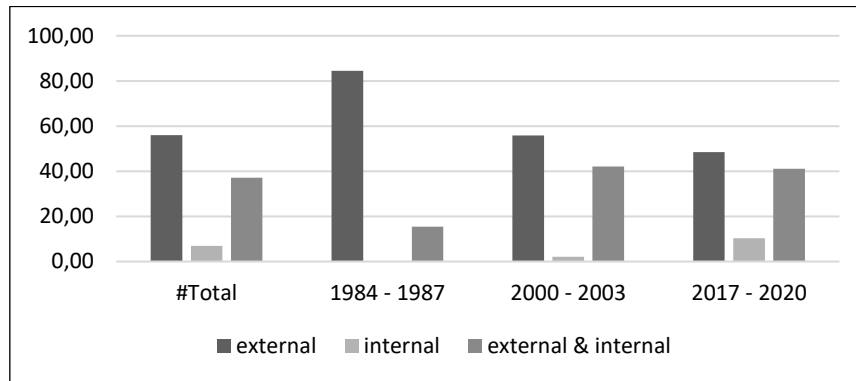
Table 4 provides an overview of the variables and their categories generated based on conceptual content and frequency analysis.

Variable	Categories	Analysis
Dialogue Groups & Stakeholders	internal	Conceptual Content Analysis
	external	
	internal & external	
Organizational Problem & Objectives	functional-factual	Conceptual Content Analysis
	social-moral	
	expressive	
Organizational Policy	unchanged organization/product	Conceptual Content Analysis
	changed organization/product	
	new organization/product	
Main Trigger of Problems	internal	Conceptual Content Analysis
	external	
Direction of Impact	inbound	Frequency Analysis
	outbound	
	inbound & outbound	
Communication Mode	one-way	Frequency Analysis
	two-way	
	Social Media	
	Event	
Types of Media	earned media	Frequency Analysis
	paid media	
	owned media	

4. EMPIRICAL RESULTS

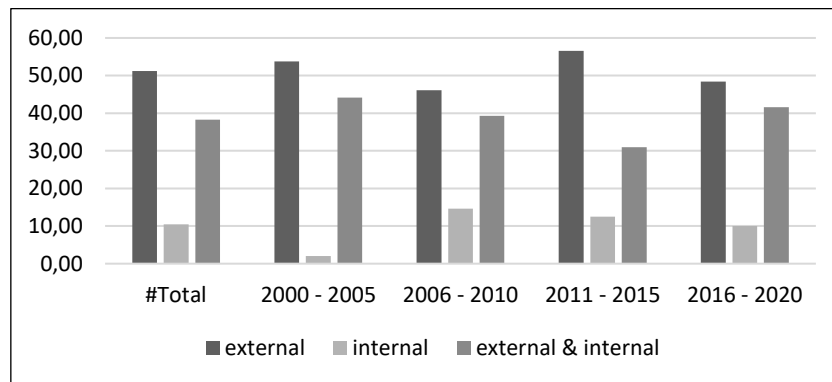
The first thing that stands out is that the composition of the dialog groups has changed massively (highly significant). The distinction was made between internal and external dialog groups. Whereas at the beginning of the study period, more than four-fifths of the stakeholders were exclusively external, this proportion has fallen to around half over the years (see Figure 1). On the one hand, there has been a slight increase in the number of projects focused purely on an internal target group. Still, on the other hand, there have been simultaneous considerations of both external and internal stakeholders. This shows that the importance of internal groups has increased to a highly significant degree. Even if a PR project is primarily externally oriented, the internal workforce is involved and at least informed about these activities.

Figure 1: Addressed Dialog Groups and Stakeholders (Cluster 1: 1984-2020)



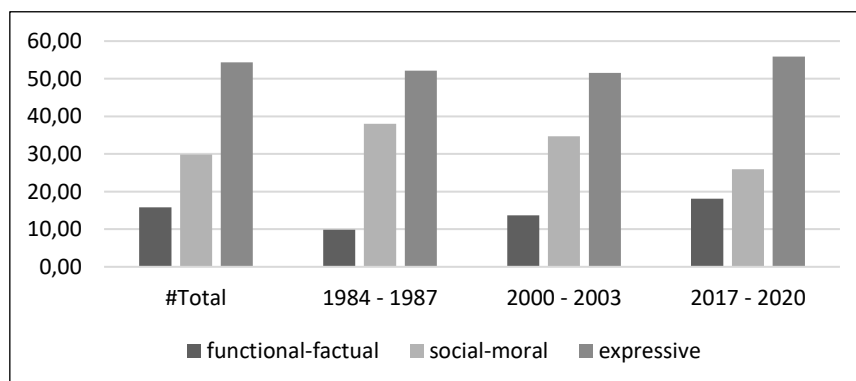
A closer look at the development over the last 20 years (Cluster 2) confirms this trend that internal dialog groups are gaining importance. Only slight fluctuations in the distribution are discernible (see Figure 2).

Figure 2: Addressed Dialog Groups and Stakeholders (Cluster 2: 2000-2020)



Presenting the next results, we follow Eisenegger and Imhoff's distinction (2009) by differing organizational problems with functional-factual, social-moral, and expressive orientations. It can be seen that most of the projects (54.36%) in Cluster 1 (see Figure 3) were expressive. The percentage of functional-factual-oriented projects increased slightly, whereas the social-moral orientation decreased slightly (all changes are in a non-significant range).

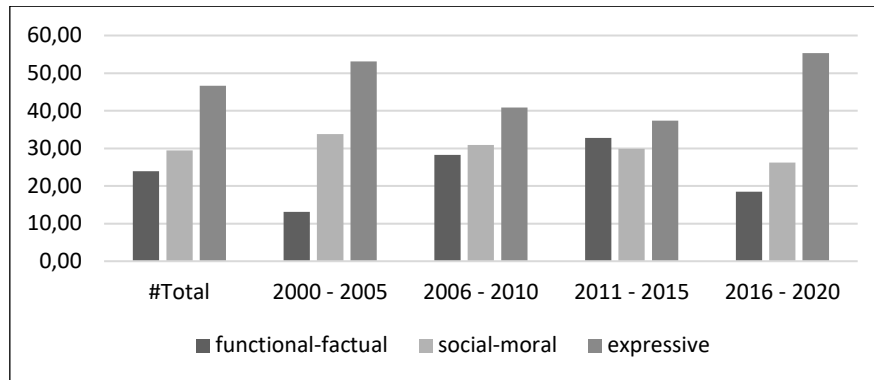
Figure 3: Problems & Objectives of the Organization (Cluster 1: 1984-2020)



The evaluation of Cluster 2 (see Figure 4) over the last 20 years shows a similar picture: Overall, 46.64% of the projects were expressive in nature, and the other dimensions, functional-factual (23.91%) and social-moral (29.46%)

are significantly underrepresented. It is striking that the expressive orientation – after a downturn between 2006 to 2015 – has once again clearly (and significantly) gained importance in the last five years.

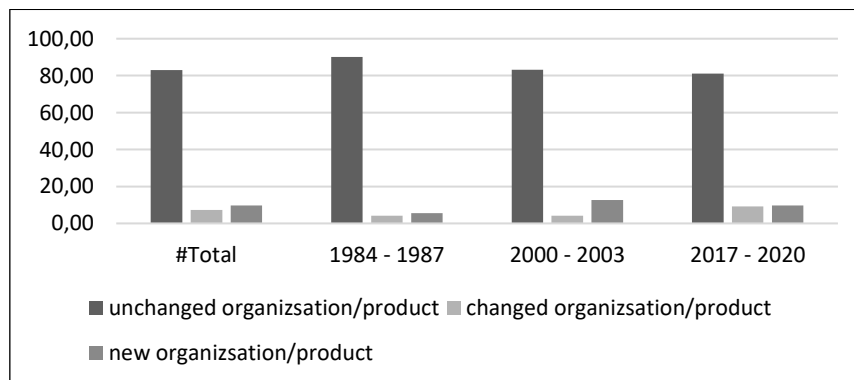
Figure 4: Problems & Objectives of the Organization (Cluster 2: 2000-2020)



This can mean that PR acts with a massive orientation to expressive problems via reference variables, such as increasing awareness, sympathy, trust, and image, and strives for potentials concerning central positioning characteristics. Functional and factual problems (e.g., quality, innovation, business processes, etc.) and social and moral problems (e.g., assumption of responsibility, social orientation, etc.) remain underrepresented, even over time.

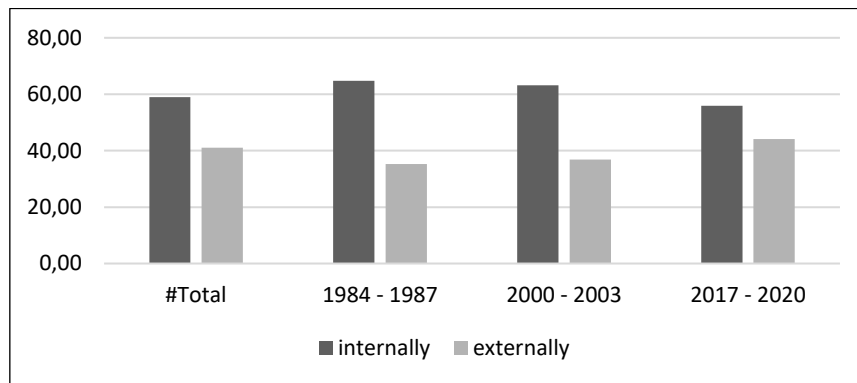
Considering, together with the results, that the dominant organizational policy usually does not generate any news value whatsoever, the staging and expressive presentation of the organization’s positions and qualities can be better understood as the decisive goal of PR activities. In 82.03% of the projects, the organization or the organization's products remain unchanged, and in just roundabout 10% each, the PR project serves to communicate a new or changed company or product. These characteristics are unchanged in magnitude and distribution over time in Cluster 1 and Cluster 2. The results are, therefore, only shown with a graph from Cluster 1 (see Figure 5).

Figure 5: Organizational Policy (Cluster 1: 1984-2020)



Over the entire analysis period, 58.94% of the PR initiatives start within the organization itself, i.e., internally. In other words, in almost two-thirds of all cases, the PR project is launched without any explicit reference to external developments or any discernible direct pressure from environmental developments. Conversely, 41.06% of PR projects can be classified as reactions to the environment (externally). Here, companies react to external expectations that were either directly addressed to them (e.g., crisis, registering claims of specific stakeholders) or to general expectations, trends, and problems of the environment (e.g., general sustainability trend, gender gap ...). Again, the same results emerge when looking at the period in Cluster 2. The slight fluctuations in the results are in a non-significant range in each case (see Figure 6).

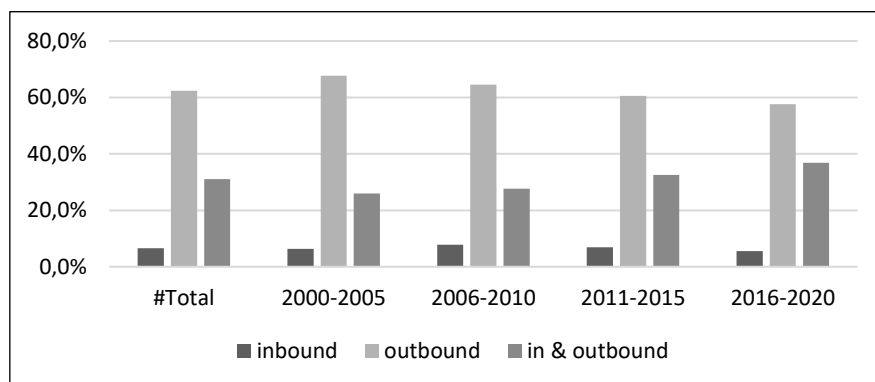
Figure 6: Main Trigger of Problems (Cluster 1: 1984-2020)



This finding, in combination with the results of the organizational policy PR projects are based on, presented above, can be seen as a strong indicator that PR is more internally focused and less externally oriented - an approach that suggests an understanding of PR as a buffering function rather than as a bridging function.

This impression strengthens when looking at the dominant direction of action. As an outcome of our frequency analysis, we identified the direction of impact, which PR professionals mainly rely on. Management is effective in two directions: On the one hand, organizations try to exert an intentional influence on the environment (outbound); on the other hand, organizations carry out adaptive activities to adjust to changing requirements of the environment (inbound). Our results show that in both Clusters, exemplified between 2000 to 2020 (Cluster 2), inbound-orientated activities only come into play to the extent of 6.6%. Outbound orientation is the dominant mode of PR, as 62.3% of all activities focus on this approach exclusively, and the rest 31.1% cover both directions (inbound and outbound). The development over the years shows that outbound is decreasing slightly but still is the first choice by far (see Figure 7).

Figure 7: Direction of Impact (Cluster 2: 2000-2020)



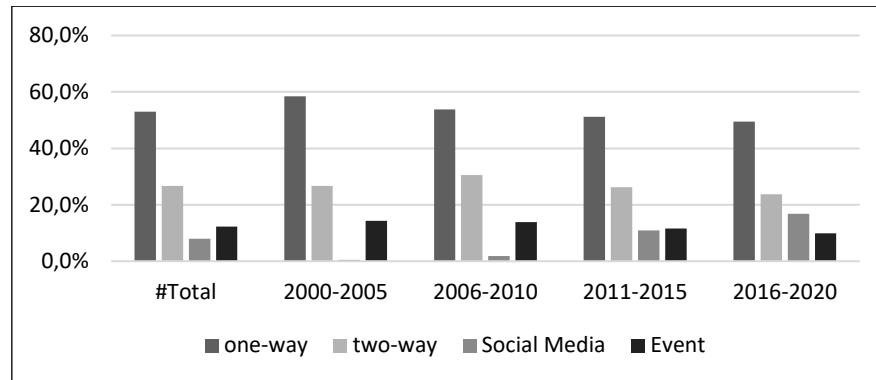
The following variable shows the actual mode of the communication instruments used. A distinction is made between one-way and two-way, i.e., instruments that are purely transmission-oriented and those that are capable of dialog. On the other hand, events were also selected as opportunities for direct interaction and social media, which can be used as a pure sending and an exchange instrument.

In the evaluation, we focus on Cluster 2 (see Figure 8), as social media has only become important in the last 15 years. Despite the hype of social media, however, it is surprising that the one-way orientation has only fallen by 9% and still dominates by far with 49.50%. Interestingly, the rise of social media has been more to the detriment of one-way than two-way instruments, which have only fallen by 2.9% over the same period. This can be interpreted either as PR professionals using social media predominantly as one-way instruments or as the hope for a development towards more exchange and dialogue being placed in social media.

However, this seems a fallacy because most users are still passive. Jakob Nielsen's 90-9-1 rule describes this (2006), according to which 90% of Internet users are lurkers, i.e., pure observers who do not actively exchange

information, 9% are intermittent contributors, which primarily refers to those who react to contributions from others, and only the remaining 1% are referred to as heavy contributors, who proactively create and share contributions.

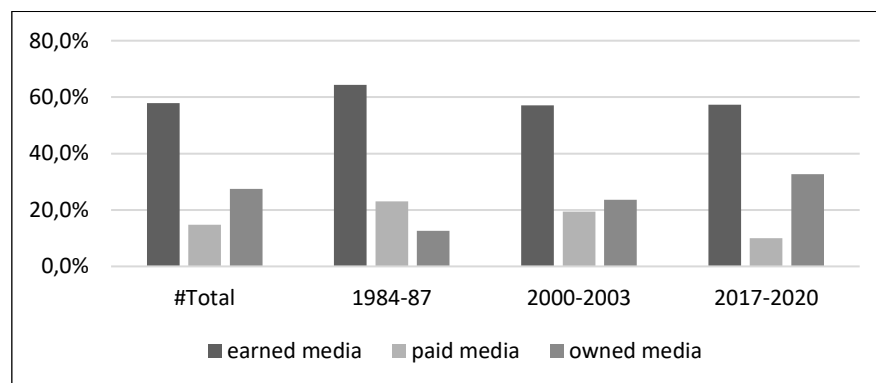
Figure 8: Communication Mode (Cluster 2: 2000-2020)



Finally, the distribution of activities between the different media types should be explained. Shown here using the example of Cluster 1, which provides a better overview of the long-term development (see Figure 9)

There are more or less substantial shifts in all three categories: Earned media - i.e., all activities aimed at generating editorial reporting - is still clearly dominant at 57.4%, but more than three decades ago, the proportion was even more pronounced (64.3%). Owned media has become much more important, with an increase from 12.6% at the beginning to 32.7% most recently. In addition to earned media activities, this trend was primarily at the expense of paid media, which fell from 23.0% to 10.0%. One explanation could be that thanks to the internet and social media, more channels and instruments are within organizations' own sphere of influence. This is linked to the hope of playing out content there more cheaply, directly, and unfiltered to their own communities.

Figure 9: Types of Media (Cluster 1: 1984-2020)



5. CONCLUSION

The central result of the empirical determination of the status quo is that PR is practiced as an organizational communication function for the implementation or achievement of particular interests, whereby the understanding of communication throughout the 37-year timeframe of the study continues to be unaltered instrumentally shaped.

PR, according to Grunig, serves less of a management function but acts predominantly in a symbolically interpretative mode as an announcer by exclusively propagating corporate policy decisions in an outbound and one-way communication mode and promoting their acceptance among the relevant stakeholders and publics. Thus, most problems are purely expressive, and their triggering moment is primarily identified in the organization itself - with minor environmental sensitivity. Buffering is more on the agenda than bridging.

In doing so, PR acts predominantly on a purely symbolic level and involves few substantial changes in the organization or the offer (product or service). Accordingly, PR is characterized by a solid instrumental orientation.

Despite all professionalization efforts, only some significant changes in how PR is operated can be identified over the entire observation period of almost four decades (1984-2020).

Such an instrumental mode of communication does not seem suitable for supporting central goals such as legitimacy and acceptance, reputation, trust, and credibility or dialogue and understanding (see corresponding list of critical strategic issues for PR as a result of the latest European Communication Monitor: Zerfass et al., 2022), which, according to Elster (1987), are essentially by-products and therefore cannot be directly influenced (Dietrich, 2022). In self-perception, however, the situation is different. PR practitioners see a more urgent need for development in their management skills (78.1% of those surveyed see them as highly developed) than in their communication skills, which 91% of those surveyed consider to be perceived as highly developed (Zerfass, Verhoeven, Moreno, Tench, & Verčič, 2020, p. 86). All in all, the actors involved seem to be aware of the PR industry's legitimacy problems but less about the underlying drivers.

This should at least partly serve as an explanation as to why still nothing ever happens, and PR professionals are wondering. But facing the challenges of an instantly faster-developing world full of disruptions, it's high time to speed up PR professionalization and pay more attention to the performance side. It is about understanding the logic of digitally constituted environments and communities and providing ideas, strategies, and tools to deal with those opportunities and threats. Therefore, we urgently need to expand our know-how of the communicative process.

5.1. Critical Reflection and Limitations

We know this methodological approach has limitations, just like any other method. Most empirical PR science results are based on interviews and surveys. For example, the surveys carried out as part of the Communication Monitor (Zerfass, 2007 ongoing), where annual or biannual data has been collected and published since 2007 (Europe), 2014 (Latin America), 2015 (Asia-Pacific), and 2018 (North America). These results are biased due to the uncontrollable composition of the sample and the possibility of multiple participation, which tends to influence the results, aside from the typical biases in reactive methods, such as socially desirable responses occurring both consciously and unconsciously. On the other hand, shadowing studies have been an excellent opportunity to look behind the scenes at what is actually happening since Mintzberg. Still, they are usually precise and highly complex to implement. The latest example is the study by Nothhaft (2011).

The charm of our non-reactive procedure, on the other hand, is that we are not subject to any distortions in the context of an interview or survey, and we can examine exactly those examples of which the PR actors themselves feel is excellent PR and thus observe the self-image of an entire industry. In addition to non-reactivity, further advantages are that the corpus is complete, multiple submissions are not possible, and a good database has been accumulated over a long period (since 1984).

The limiting factors are that the basic policy of the award and the composition of the jury could be a controlling factor and make the submission of some projects more likely than others. However, over the years, we have seen that the range of participating agencies and companies is vast (from large to small companies or agencies, high to low budgets, and participants from all sectors) and that the topics of the projects are very diverse. Furthermore, it could also be that the project description in the submission represents an alternative representation of the actual project process that the jury likes. This can undoubtedly be the case and is neither verifiable nor controllable. Still, it does not represent a severe problem for the study, as this adaptation takes place within the framework of the self-image of excellent PR and thus contributes to the research goal. Another objection to the method could be that the submission criteria favor specific projects. The categories are standardized and identical for all participants. Information on the Initial Situation, Dialogue groups, Definition of Objectives, Strategy, Implementation, and Evaluation must be provided. These are the generally accepted categories for the written representation of concepts (Baerns, 2005) and should not affect the results. It is also striking that the diversity of submissions is encouraged because some subcategories are advertised for specific subject areas, such as Corporate PR, CSR, Digital Communication, Internal PR and Employer Branding, PR for Products & services, and Special PR Projects.

In summary, we think that possible objections to the methodological approach are justified in a weakened form. However, this study should be understood as something other than an individual presentation but should be located in a larger context. Combined with the findings from other studies, which are also quoted here, we contribute to a supplemented and more differentiated presentation of the status quo of the PR industry and its development.

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How to Compare Webcams for Online Conference Participants: A Multi-Criteria Approach

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Abstract

Being faced with the potential of virtual and hybrid online/onsite formats of conferences, participants must ensure themselves an appropriate working environment. The main aim of this paper is to present the multi-criteria approach for the comparison of appropriate webcams for online conference participants. The frame procedure for multi-criteria decision-making based on the analytic hierarchy process was used for this purpose. It can be concluded that detailed products' specifications that are publicly available on the world websites are crucial because they not only allow the formulation of a list of relevant criteria, but also enable eliciting preferences to alternatives. The results of the real-life example show that the alternative that has the highest aggregate value with respect to the global goal is distinguished by technical characteristics, particularly by zoom, privacy cap and certifications, and the second-ranked alternative with respect to the global goal is distinguished by economic characteristic, with an emphasis on warranty. Limited to the comparison of appropriate webcams, a similar procedure can be performed to compare and consequently select and integrate other necessary elements for direct online communication in quality working environments.

Keywords: Analytic hierarchy process, multi-criteria decision making, virtual conference, webcam

1. INTRODUCTION

We are faced with the enormous potential for virtual scientific exchange due to the obvious advantages of virtual and hybrid online/onsite formats of conferences. They occur not only occasionally due to social distancing constraints, but – as the current developments show – permanently and increasingly due to carbon footprint concerns, budget constraints, and continuous work and family duties. For conference participants with caregiving responsibilities, disabilities, travel restrictions, scheduling conflicts, or limited funds (Palmer, 2021; Roos et al., 2020), virtual and hybrid conferencing is not only an attractive substitute for the onsite format but represented also a more appropriate conference format. So many conference organizers and participants have rapidly adopted virtual (Roos et al., 2020) and hybrid formats. While conference organizers are engaged in the regulation of a virtual or hybrid format (Goodsett et al., 2022), participants in virtual and hybrid conferences that join online must ensure themselves an appropriate working environment. According to Gupta et al. (2022), webcam and/or microphone functionality is one of the critical prerequisites at the participant end.

Bedenlier et al. (2021) warned about the frequently noted non-use of webcams by students. Practical experience says that such behavior can be observed by conference participants, as well. The Community of Inquiry model (CoI; Garrison et al., 1999) encompasses social presence, how participants in the CoI can project their personal

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characteristics into the community, i.e., how they present themselves to other participants as real people. Together with a social presence, sociability and social space are inevitable parts of social interaction (Kreijns et al., 2022). In the lens of social presence, conference participants need the feeling of belonging, the challenges of which in the case of a virtual or hybrid format can be overcome with appropriate webcams. They enable direct interactions within online or hybrid conferences. In this way, they increase enjoyment, connection to the group and trust, and the focus on the meeting itself (Olson et al., 2012). They support open communication, personal and closer relationships. Wenger (2023) summarized the findings of several studies that besides being often more sustainable, virtual conferences are also more inclusive than in-person ones. On the other hand, however, Fauvile et al. (2023) exposed that participating in online meetings can be more draining than in in-person ones; they report a higher sense of exhaustion when participants experienced higher nonverbal overload, because of seeing their self-image, feeling watched by many faces, and increasing efforts in producing nonverbal cues and in monitoring others' nonverbal cues.

To overcome troubles such as keeping mutual eye contact via webcam, and the feel of higher visibility, it is crucial to use appropriate webcams. Technical possibilities of a webcam can help improve digital well-being. In the research of Reimann et al. (2023), webcams play an important role in examining active video conferencing behavior, which they operationalized through, among others, the activation of one's webcam and talking to other attendees.

Regardless of the video conferencing platform used, we need a webcam, even for an invited or plenary session, for social aspects such as coffee breaks which are fruitful not only at in-person conferences. Webcams are crucial not only in traditional sessions, together with discussion, but can support also pre-conference events, keynote sessions, roundtables, and networking and social events. Because they are portable, they are suitable for an additional screen, and so participants can be seen from the front, as opposed to the view from the side, which improves direct communication. Existing professional reviews (e.g., Jacobsson Purewal & Ehrhardt, 2023; Prospero & Meikleham, 2023; Rae Uy, 2023) and specifications (e.g., Dell Inc., 2023; Logitech, 2023a, 2023b, 2023c; Plantronics, Inc., 2023) enable the valuation of alternatives with respect to individual criteria. Sometimes they even compare existing alternatives, but – again – with respect to individual criteria, and not with respect to multiple criteria. In this paper, we intend to fill this gap. To get the aggregate values of alternatives with respect to upper-criteria and with respect to all criteria included in the model, the multi-criteria assessment of the alternatives should be undertaken.

The main aim of this paper is therefore to present the multi-criteria approach for the comparison of appropriate webcams for online conference participants. The paper aims to answer the following research questions:

1. Which criteria are relevant for the comparison of appropriate webcams?
2. What are the main strengths and weaknesses of the first and the second-ranked webcams?

The structure of the rest of the paper is as follows. The next section introduces the methodology used, followed by the presentation of the real-life multi-criteria comparison process and results. The concluding part of the paper answers the research questions and discusses the results, limitations, and further research possibilities.

2. METHODOLOGY

A frame procedure for multi-criteria decision-making (Čančer & Mulej, 2010) based on the analytic hierarchy process (AHP; Saaty, 2008) was used to compare appropriate webcams: from problem definition and structuring, through criteria weighting, measuring the local and global alternatives' values, ranking and sensitivity analysis.

Data about alternatives – webcams were gathered from the publicly available web pages. In this paper, special attention was given to the description of the main characteristics of acceptable alternatives and the measurement of alternatives' values with respect to relevant criteria. First, the values of alternatives with respect to the lowest level criteria, i.e., the local alternatives' values, were measured. With respect to qualitative criteria, preferences for alternatives were expressed by pairwise comparisons based on a ratio scale. In this way, they were also expressed with respect to those quantitative criteria in which differences on the interval scale do not reflect the strength of preferences. Since under the AHP method it is not possible to obtain a value of zero by pairwise comparisons, alternatives' values were measured also directly and by value functions. Judgments about the criteria's importance were elicited by using pairwise comparisons. As the criteria hierarchy was structured in two levels, the judgments on criteria's importance were elicited with respect to the global goal and with respect to the first level criteria. The verbal meaning of the 9-point scale used in pairwise comparisons is as follows (Saaty, 2008): 1 – criteria are equally important, none of both alternatives compared pairwise is preferred, 3 – a criterion is moderately more important than the compared one, an alternative is moderately more preferred than the compared one, 5 – strongly more important/preferred, 7 – very

strongly more important/preferred, and 9 – extremely more important/preferred. Intermediate values can be used as well, for example, 4 – a criterion is from moderately to strongly more important than the compared one, and an alternative is from moderately to strongly more preferred than the compared one. When judged to be appropriate, we can also use more precise values of the importance or preference levels expressed to decimal places. When a criterion is less important than the compared one or an alternative is less preferred than the compared one, we use inverse values. The consistency of the judgments and preferences expressed was checked with a consistency ratio (Saaty & Sodenkamp, 2010). Based on the eigenvalue method (see, e.g., Choo & Wedley, 2004; Ishizaka, 2019), the weights with respect to the upper criterion, i.e., the local criteria weights, and with respect to the global goal, i.e., the global criteria weights, were obtained.

In synthesis, the aggregate values with respect to the global goal, i.e., the global alternatives' values, were obtained by the additive model, and so were the aggregate alternatives' values with respect to the first level criteria. Because the decision process is based on the comparison of acceptable alternatives, the distributive mode of synthesis, as opposed to the ideal one (Saaty and Sodenkamp, 2010), was used. Based on the aggregate alternatives' values obtained by the additive model, the alternatives were ranked. Gradient and dynamic sensitivity analyses were used to verify the sensitivity of the final ranking and consequently, the stability of the comparison of appropriate alternatives, and performance sensitivity analysis was used to determine the strengths and weaknesses of acceptable alternatives.

3. REAL-LIFE EXAMPLE WITH RESULTS

The multi-criteria approach for the comparison of appropriate webcams for online conference participants is presented. For business users, including scientists and researchers, it is important that they allow good visual and audio contact with other participants and that they are affordable. A narrower range of acceptable alternatives, which were assessed with respect to the relevant criteria, was made based on existing reviews (Jacobsson Purewal & Ehrhardt, 2023; Prospero & Meikleham, 2023; Rae Uy, 2023), the help of IT experts and knowledge of the needs of potential users. The following webcams were included as alternatives: Dell pro Webcam – WB5023 – 2K QHD (Dell Inc., 2023) – Alternative 1, Logitech StreamCam (Logitech, 2023a, 2023b) – Alternative 2, C922 Pro HD Stream Webcam (Logitech, 2023c) – Alternative 3, and Poly Studio P5 (Plantronics, Inc., 2023) – Alternative 4. The relevance of the criteria that were included in the model was judged based on the above-mentioned existing reviews, the help of IT experts and knowledge of the needs of potential users. Video Resolution, Field of View, Microphones, Price, and some extra features are considered in several guides. We could not consider criteria for which data were not available for all acceptable alternatives included the model – such as Aperture. Furthermore, we did not include criteria with respect to which there were no visible differences in the data for the alternatives under consideration in the model; this would only increase the model without ensuring differentiation between alternatives – such as Field of View. The criteria hierarchy is presented with Fig. 1.

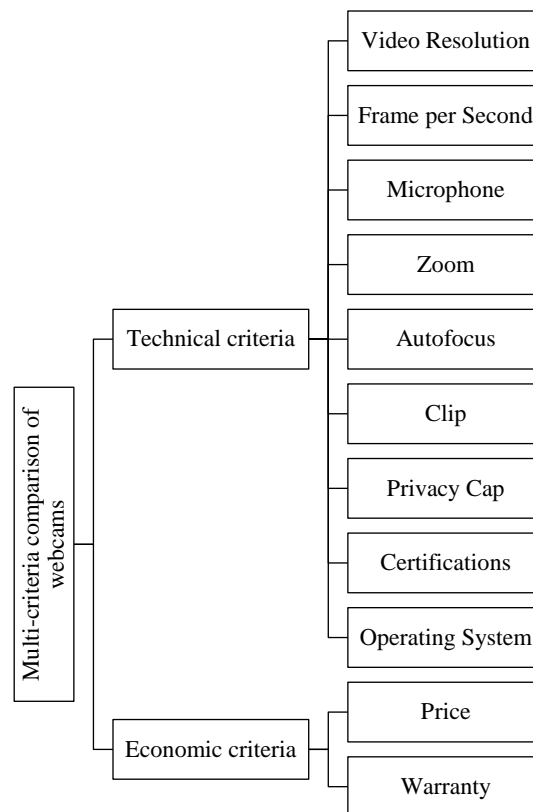


Fig. 1. Criteria hierarchy

All judgments on criteria’s importance were made by pairwise comparisons. With respect to the global goal ‘multi-criteria comparison of webcams’, ‘technical criteria’ were judged moderately more important than ‘economic criteria’. With respect to the ‘economic criteria’, ‘price’ was judged moderately less important than ‘warranty’. In addition, Table 1 shows pairwise comparisons of the judgments expressed on the importance of ‘technical criteria’.

Table 1. Judgments on technical criteria’s importance

Technical criterion	Frame per Second	Microphone	Zoom	Autofocus	Clip	Privacy Cap	Certifications	Operating Systems
Video Resolution	3	1	1	4	7	4	7	8
Frame per Second		1/3	1/3	1	2	1	2	3
Microphone			1	4	7	4	7	8
Zoom				4	7	4	7	8
Autofocus					2	1	2	2
Clip						1/2	1	1
Privacy Cap							2	2
Certifications								1

To illustrate, Table 1 shows that ‘video resolution’ is moderately more important than ‘frame per second’, equally important as ‘microphone’ and ‘zoom’, from moderately to strongly more important than ‘autofocus’ and ‘privacy cap’, very strongly more important than ‘clip’ and ‘certifications’, and from very strongly to extremely more important than ‘operating systems’. It also shows that ‘frame per second’ is moderately less important than ‘microphone’ and ‘zoom’. The inconsistency ratio is 0, therefore the judgments presented in Table 1 are perfectly consistent.

Table 2 presents the local and global criteria weights based on the expressed judgments.

Table 2. Local and global criteria weights

Level	Criterion	Local weight	Global weight
1	Technical	0.750	0.750
2	Video Resolution	0.236	0.177
2	Frame per Second	0.073	0.054
2	Microphone	0.236	0.177
2	Zoom	0.236	0.177
2	Autofocus	0.063	0.047
2	Clip	0.033	0.025
2	Privacy Cap	0.063	0.047
2	Certifications	0.033	0.025
2	Operating Systems	0.030	0.023
1	Economic	0.250	0.250
2	Price	0.250	0.063
2	Warranty	0.750	0.188

According to the results in Table 2, ‘video resolution’, ‘microphone’, and ‘zoom’ are the most important technical criteria, and ‘warranty’ is the most important economic criterion.

The characteristics of alternatives according to the second-level criteria were judged based on the data obtained by the providers' specifications (Dell Inc., 2023; Logitech, 2023a, 2023b, 2023c; Plantronics, 2023):

- Video Resolution. The progressive scan (p) as opposed to the interlaced scan (i) was the benchmark for an acceptable video resolution that is 1440p for Alternative 1 and 1080p for other alternatives.
- Frame per Second. Alternative 1 is characterized with 24, Alternative 2 with 60, and alternatives 3 and 4 with 30 frames per second.
- Microphone. Alternative 1 has noise reduction microphone. Alternative 2 has dual omnidirectional microphone with noise reduction filter, stereo or dual mono channel. Alternative 3 has stereo microphone and Alternative 4 single directional microphone optimized for personal workspaces.
- Zoom. Alternative 4 has 4x optical and digital zoom, Alternative 2 optical and digital, Alternative 1 4x digital, and Alternative 3 has 1.2 digital zoom.
- Autofocus. All considered alternatives have autofocus, with Alternative 2 distinguished by 10 cm to infinity face-based autofocus with Logitech Capture.
- Clip. Alternative 1 is fixed with universal mounting clip, Alternative 2 with monitor mount tripod, Alternative 3 with tripod-ready universal mounting clip that fits laptops, LCD, or monitors, and Alternative 4 with adjustable monitor clamp that is also tripod-ready.
- Privacy Cap. While Alternative 4 excels with Integrated Privacy Shutter and Alternative 1 with external privacy cap, there is no privacy cap for alternatives 2 and 3 in the considered provider’s specifications.
- Certifications. While alternatives 1 and 4 are Microsoft Teams and Zoom certified, there is no information about certifications for alternatives 2 and 3 in the considered provider’s specifications.
- Operating System. Alternative 1 is compatible with Win11/10 64 Bit, MacOS 13 Ventura, MacOS 12 Monterey and MacOS 11 Big Sur, Alternative 2 with Windows 10 and later, MacOS 10.14 and later, Alternative 3 works with popular calling and streaming platforms including Open Broadcasting Software and XSplit Broadcaster, and Alternative 4 is compatible with Windows 8, 10 and later, and MacOS 10.7 and later.

- Price. The price of one piece of Alternative 1 is 159.99 \$, of Alternative 2 169.99 \$, of Alternative 3 99.99 \$, and of Alternative 4 129.00 \$.
- Warranty. Alternative 1 has 3-year limited hardware with advanced exchange service warranty, Alternative 4 has 2-year limited warranty included Poly+ enhanced support available, and alternatives 2 and 3 have 1-year limited hardware warranty.

For measuring alternatives' values with respect to each criterion, pairwise comparisons, direct method and value functions were used. Pairwise comparisons were used to measure the local values of alternatives with respect to 'video resolution', 'frame per second', 'microphone', 'zoom', 'autofocus', 'clip', 'operating system' and 'warranty'.

To illustrate, Table 3 shows that with respect to 'microphone', Alternative 1 is from equally good to moderately less preferred than Alternative 2, moderately more preferred than Alternative 3 and from equally good to moderately more preferred than Alternative 4. Moreover, Alternative 2 is very strongly more preferred than Alternative 3 and from moderately to strongly more preferred than Alternative 4. Finally, Alternative 3 is equally good to moderately less preferred than Alternative 4. The inconsistency ratio of the expressed preferences is 0, therefore preferences in Table 3 are perfectly consistent.

Table 3. Preferences to alternatives with respect to 'microphone'

	Alternative 2	Alternative 3	Alternative 4
Alternative 1	1/2	3	2
Alternative 2		7	4
Alternative 3			1/2

The local alternatives' values with respect to 'privacy cap' and 'certifications' were determined directly, as shown in Table 4. The linear value function with the lower bound 90 and the upper bound 170 was used to measure the local values of alternatives with respect to 'price'. Since the higher the price, the worse it is for the buyer only in terms of price, the decreasing value function was used.

Table 4 presents the obtained local alternatives' values with respect to each second-level criterion.

Table 4. Local alternatives' values

Criterion	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Video Resolution	0.500	0.167	0.167	0.167
Frame per Second	0.117	0.639	0.122	0.122
Microphone	0.256	0.531	0.076	0.137
Zoom	0.121	0.214	0.069	0.596
Autofocus	0.167	0.500	0.167	0.167
Clip	0.249	0.134	0.401	0.216
Privacy Cap	0.300	0	0	0.700
Certifications	0.500	0	0	0.500
Operating Systems	0.194	0.133	0.399	0.274
Price	0.124	0.062	0.497	0.317
Warranty	0.429	0.143	0.143	0.286

With synthesis based on the additive model, the aggregate alternatives' values with respect to the first-level criteria, as well as with respect to the global goal were obtained. They are presented in Table 5.

Table 5. Aggregate alternatives' values

	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Technical criteria	0.275	0.301	0.118	0.307

Economic criteria	0.352	0.123	0.231	0.293
Global goal	0.294	0.256	0.146	0.304
Rank	2.	3.	4.	1.

The overall inconsistency ratio is 0, therefore consistency is excellent.

Table 5 shows that with respect to the global goal, i.e., multi-criteria comparison of appropriate webcams, Alternative 4 achieved the highest aggregate value. It is followed by alternatives 1, 2 and 3. Alternative 4 is also the best alternative with respect to ‘technical criteria’, but it is closely followed by Alternative 2; alternatives 1 and especially 3 have considerably lower values with respect to ‘technical criteria’. With respect to ‘economic criteria’, on the other hand, Alternative 1 achieved the highest aggregate value, followed by alternatives 4, 3 and 2.

Gradient and dynamic sensitivity analysis showed that the weight of ‘technical criteria’ must be reduced by more than 0.105 (from 0.75 to 0.645 and less) for Alternative 1 to replace Alternative 4 in the first place. We also checked the stability of the obtained solution by changing the weights of the second-level criteria. For example, the weight of ‘price’ must be reduced by more than 0.124 (from 0.250 to 0.126 and less) for Alternative 1 to replace Alternative 4 in the first place.

4. DISCUSSION AND CONCLUSIONS

During the first step of the frame procedure of the multi-criteria decision-making – problem definition – we answered the first research question: the criteria that are relevant for the comparison of appropriate webcams are ‘video resolution’, ‘frame per second’, ‘microphone’, ‘zoom’, ‘autofocus’, ‘privacy cap’, ‘clip’, ‘certifications’, and ‘operating systems’ – these second-level criteria were included as ‘technical criteria’ in the model for the comparison of the most appropriate webcam, and ‘price’ and ‘warranty’ that were included as ‘economic criteria’ in the above-mentioned model. This list is in line with recommendations of renowned reviews (Jacobsson Purewal & Ehrhardt, 2023; Prospero & Meikleham, 2023; Rae Uy, 2023) and considered products’ specifications (Dell Inc., 2023; Logitech, 2023a, 2023b, 2023c; Plantronics, 2023). It can be concluded that detailed products’ specifications that are publicly available on the world websites are crucial because they allow the formulation of a list of relevant criteria. For example, in the real-life example presented in this paper we could not include ‘aperture’ as a relevant criterion as the data were not available for all acceptable alternatives in the model. On the other hand, we excluded ‘field of view’ that is considered relevant in several guides because there were no significant differences in the data for the alternatives under consideration in the model. In this way we followed the rule of requisite holism (Mulej & Kajzer, 1998) when structuring the criteria and the problem hierarchy (Čančer & Mulej, 2010).

Performance sensitivity let us answer the second research question what the main strengths and weaknesses of the first and the second-ranked webcams are. On the first criteria hierarchy level, Alternative 4 that has the highest aggregate value with respect to the global goal is distinguished by technical characteristics and Alternative 1 that has the second highest aggregate value with respect to the global goal is distinguished by economic characteristics. On the second criteria hierarchy level, performance sensitivity analysis only with respect to ‘technical criteria’ shows that the strengths of Alternative 4 are zoom, privacy cap and certifications, and its weakness is video resolution, while autofocus improvements are possible; the strengths of Alternative 1 are video resolution and certifications, its weakness is frame per second, and autofocus improvements are recommended, too. Only with respect to ‘economic criteria’ on the second criteria hierarchy level, Alternative 4 has no strengths nor weaknesses; the strength of Alternative 1 is warranty, but it has no weaknesses with respect to ‘economic criteria’.

Gradient and dynamic sensitivity analyses showed that particularly the first-ranked solution, i.e., Alternative 4 is stable. It was possible to draw this conclusion because with small changes of criteria weights that are acceptable for competent decision makers, i.e., up to 0.1, the order of the first-placed alternative would not be changed. Moreover, the opinion of the participating IT experts and potential users was that greater weight changes would be unacceptable.

The multi-criteria approach based on the frame procedure for multi-criteria decision-making can be used for the comparison of acceptable webcams that can help the conference participant to choose the most appropriate one. As opposed to individual criteria, this is possible considering all criteria structured in the criteria hierarchy. Expert judgments on criteria importance and preferences to alternatives are crucial to provide a quality decision basis.

This paper is limited to the comparison of appropriate webcams for conference participants that are participating online, virtually. At the conference participants’ end, a similar procedure can be performed to compare and consequently select and integrate other necessary elements for direct online communication in quality working

environments. Because hybrid conferences are a reality, it makes sense for conference organizers to take a similar approach to select the most appropriate video-conferencing system to be installed onsite, at the conference location.

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Circular Economy Performance Assessment of EU Countries Using Network DEA

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Abstract

The efforts aiming to find solutions for worldwide problems such as resource scarcity and waste management accelerate the implementation of circular economy (CE), which is seen as a critical framework to support the achievement of Sustainable Development Goal (SDG) 8 on economic growth, SDG 12 on sustainable consumption & production and SDG 13 on climate change. The increasing importance assigned to sustainable development agendas of countries promotes the use of sound performance management tools that can be employed for measuring CE performance on country-level. The CE systems of countries can be plausibly modelled as network structures including multiple stages. As conventional data envelopment analysis (DEA) models fall short of accurately conducting the performance evaluation of multi-stage CE systems due to their inability to account for the network structure inherent in these systems, this study proposes to employ network DEA for comparing the CE performance of member states of the European Union. The data regarding performance indicators used in efficiency analysis are obtained from the CE monitoring framework published in Eurostat 2020 database. The proposed methodology employing network DEA yields the complete ranking of countries from CE perspective.

Keywords: Circular economy, performance evaluation, two-stage system, network DEA, sustainability.

1. INTRODUCTION

The circular economy (CE) refers to an economic framework that aims to achieve the closure of material and energy loops within production and consumption systems. This framework may be defined as a comprehensive system in which the disposal of materials is eliminated, and the natural environment is restored and revitalized. By employing this system, the useful life of goods is prolonged, and waste is minimized in production and consumption stages. The concept of CE has been addressed in academic works as a strategic approach that contrasts with the conventional linear system and aims to address the issues of limited resources and waste management [1]. Hence, CE is identified as a framework to accelerate the achievement of various Sustainable Development Goals (SDGs), most effectively the SDG 8 on economic growth, SDG 12 on sustainable consumption & production and SDG 13 on climate change [2]. CE relies on business models that shift away from the notion of "end-of-life", and instead prioritize the reduction, reuse, recycling, and recovery of materials throughout the various stages of production, distribution, and consumption [3]. Thus, these R-principles are seen as key solutions that operationalize CE in countries [4].

In recent years, a number of research works used data envelopment analysis (DEA), which is a linear programming based decision making methodology, as a means of quantifying CE performance on country-level. Mavi and Mavi [5] evaluated the energy and environmental performance of OECD countries in terms of CE with the Malmquist

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productivity index under the common-weight approach. Halkos and Petrou [6] assessed the environmental efficiency of national waste generation systems in European Union (EU) countries with directional distance based DEA. In their study, three different frameworks including undesirable outputs were evaluated for 2008, 2010, 2012 and 2014. The complete ranking of OECD countries was provided and undesirable outputs were integrated to the efficiency analysis. Giannakitsidou et al. [7] applied a weight-restricted common-weight DEA approach to fully rank European countries in terms of municipal solid waste management performance. Huang and Hu [8] presented a cooperative game network DEA approach to evaluate the performance of two-stage recycling systems in EU countries. Furthermore, a factor analysis of inputs and outputs was conducted to interpret subsystem efficiency scores. Lacko et al. [9] applied slack-based DEA models to compare the CE performance of Visegrad group countries and truncated regression to evaluate the influence of some performance indicators on CE efficiency scores.

Lately, Lu et al. [10] analyzed the food waste recycling performance of EU countries with a three-stage dynamic DEA model including food production, food consumption and food waste stages. Milanović et al. [11] developed a DEA-based Waste Management Composite Index (WMCI) for the CE performance evaluation of 26 European Union countries. Although the results provided information about the current situation of the countries in terms of circular waste management, the complete ranking of the countries could not be obtained. Nazarko et al. [12] applied the super-efficiency BCC model integrated with the factor analysis to evaluate the progress of EU member states towards CE. The full ranking of EU countries was obtained while the weight dispersion of performance indicators was not interpreted. More recently, Guo et al. [13] evaluated the agricultural CE performance of China’s provinces with the input-oriented CCR model and Malmquist Index from 2017 to 2020. The factors influencing agricultural CE performance in terms of China’s rural revitalization strategy were analyzed with tobit regression approach. Liu and Hu [14] applied network DEA with fuzzy cooperative game approach to evaluate the waste management performance in recycling systems of EU countries.

This study proposes to employ network DEA approach to evaluate CE performance of EU countries with a two-stage system that covers various dimensions of CE at country-level. Conventional DEA models are inadequate for accurately representing the performance evaluation of multi-stage systems due to their inability to consider the internal structure of these systems. The network DEA model initially proposed by Kao and Hwang [15] not only enables to consider the internal structure of two-stage systems but also yields the complete ranking of countries resulting from overall efficiency scores, which are calculated as the multiplication of stage-level efficiency scores.

The rest of the paper is organized as follows. Section 2 delineates the basics of the proposed methodology, whereas Section 3 presents the case study evaluating the CE performance of EU countries. Concluding remarks and directions for future work are given in Section 4.

2. METHODOLOGY

Data Envelopment Analysis (DEA) is a linear programming technique developed by Charnes et al. [16] to measure efficiency scores of homogenous decision-making units (DMUs) using multiple inputs and producing multiple outputs. DEA considers n DMUs to be evaluated, whereby each DMU uses m distinct inputs to generate s distinct outputs. The relative efficiency score (E_k) of the evaluated DMU equals to the ratio of its total weighted output to its total weighted input. The model is completed with normalizing constraints that ensure to obtain efficiency scores less than or equal to 1. The linear form of the CCR model is as follows:

$$E_k = \max \sum_{r=1}^s u_r y_{rk} \tag{1}$$

s.t.

$$\sum_{i=1}^m v_i x_{ik} = 1,$$

$$\sum_{r=1}^s u_r y_{rj} - \sum_{i=1}^m v_i x_{ij} \leq 0, \quad \forall j,$$

$$u_r, v_i \geq \varepsilon, \quad \forall r, i.$$

Here, y_{rj} represents the quantity of output r produced by DMU_j and x_{ij} is the quantity of input i used by DMU_j , whereas u_r and v_i are the weights for output r and input i , respectively. ε is a small positive scalar, which is set as 0.000001 in this study.

The conventional DEA model (a.k.a. the CCR model) neither considers the internal structure of a multi-stage system nor provides the complete ranking of DMUs. In order to deal with these limitations, Kao and Hwang [15] proposed the network DEA model considering a two-stage system.

The network DEA model is solved n times, where n is the number of DMUs. The model is formulated for the evaluated DMU (DMU_k) as follows:

$$\begin{aligned}
 & \max \sum_{r=1}^s u_r y_{rk} \tag{2} \\
 \text{s.t.} \quad & \sum_{i=1}^m v_i x_{ik} = 1, \\
 & \sum_{r=1}^s u_r y_{rj} - \sum_{i=1}^m v_i x_{ij} \leq 0, \quad \forall j \\
 & \sum_{p=1}^q w_p z_{pj} - \sum_{i=1}^m v_i x_{ij} \leq 0, \quad \forall j \\
 & \sum_{r=1}^s u_r y_{rj} - \sum_{p=1}^q w_p z_{pj} \leq 0, \quad \forall j \\
 & u_r, v_i, w_p \geq \varepsilon, \quad \forall r, i, p.
 \end{aligned}$$

Here, z_{pj} is the quantity of intermediate measure p produced in the first stage and then consumed in the second stage of the system by DMU_j , while w_p represents the weight assigned to intermediate measure p .

Hence, the optimal solution (u_r^*, v_i^*, w_p^*) of the model is obtained for the evaluated DMU_k . The overall efficiency of the system is calculated as

$$E_k = \frac{\sum_{r=1}^s u_r^* y_{rk}}{\sum_{i=1}^m v_i^* x_{ik}} \tag{3}$$

The first stage efficiency (E_k^1) and second stage efficiency (E_k^2) scores are calculated as follows:

$$E_k^1 = \frac{\sum_{p=1}^q w_p^* z_{pk}}{\sum_{i=1}^m v_i^* x_{ik}} \tag{4}$$

$$E_k^2 = \frac{\sum_{r=1}^s u_r^* y_{rk}}{\sum_{p=1}^q w_p^* z_{pk}} \tag{5}$$

Therefore, the following is ensured for the overall system efficiency score;

$$E_k = E_k^1 * E_k^2 \tag{6}$$

3. CIRCULAR ECONOMY PERFORMANCE ASSESSMENT

In this study, the network DEA model is employed to compare the CE performance of EU countries. The data concerning the performance indicators is extracted from the CE monitoring framework of EU countries for 2020, which is published in Eurostat database [17]. Due to lack of data for Greece, 26 countries are considered for the efficiency evaluation.

A network system including two stages is represented for the CE performance evaluation of EU countries. Inputs and outputs are selected considering the relevant literature. The inputs of the study are generation of municipal waste (kg per capita) and consumption footprint (index 2010=100) while the intermediate measures are recycling rate of municipal waste (percentage), private investment to CE (percentage of GDP at current prices), and persons employed in CE sectors (percentage of total employment). Here, the intermediate measures are considered as the outputs of the first stage while they are regarded as the inputs of the second stage. Two outputs are employed in the study. The first one is real GDP per capita, which is a desirable output, while the second one is greenhouse gases emissions (kg per capita) considered as an undesirable output (UD). The two-stage system for the CE performance evaluation of EU countries is illustrated in Figure 1.

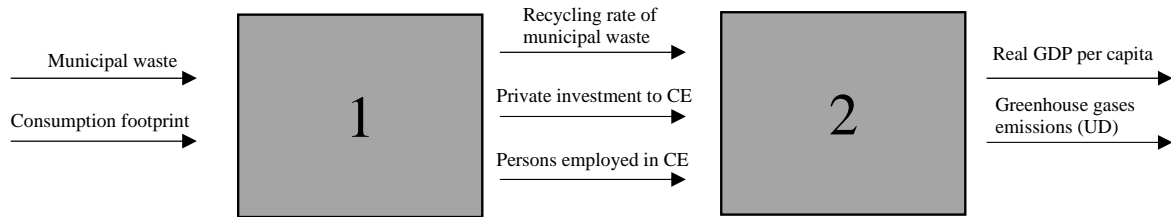


Figure 1. Two-stage system for the CE performance evaluation of EU countries

Linear normalization scheme is used for inputs, intermediate measures, and outputs. Input data is normalized as x_{ij}/x_i^* , where $x_i^* = \max_j(x_{ij})$ for $\forall i$, while the normalized intermediate measure values are obtained with z_{pj}/z_p^* , where $z_p^* = \max_j(z_{pj})$ for $\forall p$ [18]. The distinction between the desirable output and undesirable output is made at the data normalization stage. The desirable output data is normalized with y_{rj}/y_r^* , in which $y_r^* = \max_j(y_{rj})$ for $\forall r$, whereas the normalization of undesirable output is performed via y_r^-/y_{rj} , in which $y_r^- = \min_j(y_{rj})$. The raw dataset used in the analysis for 26 EU countries is presented in Table 1.

Table 1. Data for the CE performance evaluation of EU countries [17]

EU countries	Municipal waste	Consumption footprint	Recycling rate of municipal waste	Private investment related to CE	Persons employed in CE sectors	Real GDP per capita	Greenhouse gases emissions
Belgium	729	106	51.4	1.5	1.3	34,020	7,070.82
Bulgaria	408	108	35.2	0.6	1.5	6,410	6,691.66
Czechia	543	100	40.5	0.4	2.3	17,400	8,380.75
Denmark	814	109	45.0	0.9	1.2	47,680	12,086.46
Germany	641	104	70.3	0.9	1.7	34,550	6,996.29
Estonia	383	103	28.9	0.7	2.2	15,260	8,052.89
Ireland	644	94	40.8	0.6	1.5	63,120	10,261.00
Spain	464	97	40.5	0.5	2.3	22,250	4,592.49
France	538	92	41.7	0.9	1.8	30,630	4,320.55
Croatia	418	108	29.5	0.8	3	11,680	4,441.64
Italy	487	100	51.4	0.7	2.5	24,910	4,928.93
Cyprus	609	100	16.6	0.2	1.9	24,360	7,628.59
Latvia	478	95	39.7	0.8	2.7	11,940	4,916.99
Lithuania	483	105	45.3	0.8	2.8	14,060	8,055.70
Luxembourg	790	120	52.8	1.1	0.4	82,040	13,067.56
Hungary	403	99	32.0	0.7	2.3	12,730	5,134.66
Malta	643	132	10.9	1.2	1.9	20,840	3,829.51
Netherlands	533	99	56.9	1	1.1	40,130	8,702.37
Austria	834	99	62.3	1.4	1.1	35,390	6,094.50
Poland	346	114	38.7	0.7	2.7	12,810	8,945.24

Portugal	513	107	26.8	0.9	1.8	17,100	4,815.72
Romania	290	107	11.9	0.5	1	9,020	4,964.32
Slovenia	487	92	59.3	0.2	1.5	19,770	6,233.40
Slovakia	478	109	45.3	0.5	2.1	15,400	5,535.98
Finland	609	95	42.1	0.3	1.6	36,220	7,885.27
Sweden	431	92	38.3	0.5	1.7	42,910	3,786.84

The efficiency scores and ranking of EU countries resulting from the network DEA model are presented in Table 2. According to the results, Sweden is identified as the best performing country in terms of CE, followed by Luxembourg and Ireland. Among EU countries, Sweden possesses the smallest figures for consumption footprint and greenhouse gases emissions. Luxembourg is the best performer according to real GDP per capita, and Ireland has the second lowest consumption footprint figure and second highest real GDP per capita. Although countries such as Austria, Germany, Italy, Latvia and Netherlands are identified as efficient DMUs in the first stage, they are among the laggards in the overall ranking due to their poor performance in the second stage.

Table 2. Efficiency scores and ranking of EU countries obtained from the network DEA model

EU countries	First stage efficiency scores	Second stage efficiency scores	Overall efficiency scores	Overall ranking
Belgium	0.908	0.477	0.433	18
Bulgaria	0.746	0.522	0.389	21
Czechia	0.809	0.376	0.305	25
Denmark	0.662	0.687	0.455	16
Germany	1.000	0.447	0.447	17
Estonia	0.880	0.395	0.348	23
Ireland	0.708	1.000	0.708	3
Spain	0.804	0.687	0.552	7
France	0.897	0.688	0.617	5
Croatia	0.942	0.611	0.576	6
Italy	1.000	0.510	0.510	10
Cyprus	0.508	0.732	0.372	22
Latvia	1.000	0.506	0.506	12
Lithuania	0.998	0.302	0.302	26
Luxembourg	0.715	1.000	0.715	2
Hungary	0.914	0.576	0.526	8
Malta	0.765	0.621	0.475	14
Netherlands	1.000	0.519	0.519	9
Austria	1.000	0.506	0.506	11
Poland	1.000	0.321	0.321	24
Portugal	0.827	0.570	0.471	15
Romania	0.691	1.000	0.691	4
Slovenia	0.748	0.564	0.422	20
Slovakia	0.680	0.623	0.424	19
Finland	0.618	0.778	0.481	13
Sweden	0.814	1.000	0.814	1

4. CONCLUDING REMARKS

In this study, CE performance of countries is evaluated with a network structure including two stages. Considering its advantages such as evaluating the internal structure of two-stage systems and obtaining the complete ranking of DMUs, the network DEA model proposed by Kao and Hwang [15] is employed for CE performance evaluation on country-level.

The CE performance of 26 EU countries is assessed with generation of municipal waste and consumption footprint employed as the inputs while recycling rate of municipal waste, private investment to CE and persons employed in CE sectors considered as the intermediate measures. Real GDP per capita and greenhouse gases emissions are regarded as the outputs while the second one is an undesirable output. According to the results obtained from the CE performance evaluation methodology, the complete ranking of EU countries is obtained. Sweden is identified as the best performing country in terms of CE, followed by Luxembourg and Ireland. Sweden that possesses the smallest figures for consumption footprint and greenhouse gases emissions is placed first in the overall ranking among EU countries.

The network DEA model used in this study is solved separately for each DMU, and therefore, cannot provide a common set of weights for all DMUs. In order to deal with this limitation, common-weight DEA models can be considered. Common-weight DEA approach not only yields objective weights for inputs and outputs but also improves the discriminating power of the analysis through avoiding impractical weight distribution. As a future research direction, common-weight network DEA models can be employed to enhance the robustness of the performance analysis. Finally, it is worth noting that the ranking obtained from the proposed CE performance evaluation methodology may differ employing different inputs, intermediate measures and outputs.

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Occupational Health and Safety in Remote Working

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Abstract

As a result of the economic, technological, and social developments in the changing world, new working methods have emerged. New working methods that do not conform to the classical type include flexible working forms in terms of time and workplace. Nowadays, the most common flexible working method is remote working. As a matter of fact, remote working, which was not widely practiced at the beginning, has become almost a mandatory form of work, especially with the COVID-19 pandemic that emerged in 2019. In 2016, Turkey enacted a law on remote working, allowing employees to perform his/her work outside the employer's workplace. Remote working is regulated to include working from home and teleworking in the Turkish Labour Law No. 4857. As in a typical employment relationship, the employer must ensure occupational health and safety at work within the scope of the obligation to protect and surveillance the employee in a remote working relationship, which is atypical work. On the other hand, the nature of remote working makes it difficult to control the remote worker. In other words, occupational health and safety rules will not be as applied to a classical employee. Several legal problems in the employment relationship arise from this situation. In our study, the concept of remote working, occupational health and safety rules, and to what extent they can be applied, as well as the obligations of employers and employees in this regard, will be explained. Subsequently, the issues related to occupational health and safety in remote working will be discussed within the scope of Turkish Law.

Keywords: Remote working, working at home, teleworking, occupational health, occupational safety.

1. INTRODUCTION

Changes in the world as a result of economic, technological, and social developments have had a profound impact on working life. This interaction does not accord with the classical employment model. Flexible working models such as working at home, teleworking, part-time work, and on-call work have emerged because of this interaction. In the classical employment model, the employee depends on the employer and works full-time in a specific workplace with an open-ended employment contract.

In remote work, a flexible working model, the employee fulfills the performance of work outside the employer's workplace. The work-at-home model, a type of remote work in which the employee fulfills work outside the workplace, at home, or another place of his or her choice, is the oldest form of atypical work. As a result of developments in information and communication technologies, this manner of work has changed, and two sub-groups have been formed as traditional home working and home-based teleworking in later times.

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In the way of labour law, working at home envisages a working arrangement in which the employee is dependent on the employer but which differs from the traditional (classical) working environment in terms of time and place (see also Homeworking Convention. (No. 177) Art. 1).

Teleworking, on the other hand, is work carried out away from the workplace and within the scope of an employment contract, using the possibilities offered by information and communication technologies. Nowadays, teleworking has become widespread, and even the term remote working has been replaced by teleworking.

Remote working, which was not widely applied at the beginning, has become almost a mandatory way of work, especially with the Covid-19 pandemic emerging in 2019 (Alp, 2020: 105). The measures taken were gradually canceled with the end of the pandemic, but the situation has not changed. So much so that a variety of industries now use the remote working model as a standard method of operation. In particular, the opportunities offered by technological developments save time for employees by providing convenience and speed in doing the work and provide employees more freedom by allowing them to work independently of a fixed location. It should be remembered that the impact of the changes and transformations these opportunities bring to dependent work is not always positive for the employee.

Although the obligations of the employee and the employer towards each other continue, the dependency, the distinctive feature of the employment contract, is considerably weakened, and the employee's working life and private life are intertwined in remote working. Therefore, occupational health and safety are significant in remote working. The occupational health and safety rules to be applied to the employee in remote working cannot be the same as those applied to the employee performing work at the workplace. Owing to the employer's control over the employee is considerably reduced in this employment relationship. The employer cannot adequately fulfill its occupational health and safety obligations. This contradiction causes some legal problems in the employment relationship.

Therefore, it is necessary to focus on issues such as what the occupational health and safety rules are and how they can be applied to remote working, as well as the obligations of employers and employees in this regard. In this context, the issues regarding occupational health and safety in remote working will be assessed from a legal perspective, and an attempt will be made to clarify the problems encountered and likely to be encountered by the parties to the employment contract, the employee, and the employer.

2. THE CONCEPT AND ELEMENTS OF REMOTE WORKING

The elements of work, wage payment, and dependency continue to exist between the employee and the employer, as in a typical employment contract, in remote work, and it is only the employee fulfills the act of working in a different place outside the workplace (Özer: 2018:198). In this respect, remote working is, in the most basic terms, the performance of work by the employee outside the employer's workplace (Güzel, 1997:109). The fulfillment of work outside the boundaries of the traditional workplace is the most essential element that qualifies remote working as atypical.

Therefore, remote working is an atypical flexible working model in which the employee performs his/her work in an environment away from the classical workplace and the employer. Remote working is an atypical working model based on the concept of flexibility in Turkish law. It is possible to implement remote working in many business lines in Turkey, as in many countries worldwide.

As amended by Law No. 6715 in 2016, remote working was defined in the fourth paragraph of Article 14 of Turkish Labour Law No. 4857 (Official Gazette, 10.06.2003). Remote work is defined in Art. 14/4 of Law No. 4857 as "an employment relationship established in writing based on the principle that the employee fulfills his/her work at home or outside the workplace with technological communication tools within the scope of the work organization created by the employer." According to the above definition, all working models performed outside the workplace are grouped under remote working. In other words, performing the work from home and working outside the workplace with technological communication tools (teleworking) are subject to the same principles, and remote working term encompasses both cases (Süzek, 2021:280; Çelik et.al, 2022:215; Alp, 2020:104; Baycık et.al, 2021:1687).

Remote working is divided into two main parts: working at home and outside the workplace using technological communication tools. Due to the use of information technologies in working life, working models have gone beyond this binary distinction. Although they are based on this binary distinction, it has led to the formation of many remote working models that sometimes have standard features and sometimes differ from each other (Beytar, 2023:6). It

should be noted that the fact that the employer's orders and instructions are given through information and communication technology tools does not lead to a result that excludes the dependency element (Alp, 2011:817).

The key elements of remote working are the organization element and the distance element.

2.1. Distance element (fulfillment of the work at the employee's home or outside the workplace)

The most important and distinctive element of the remote working model is that the work is performed outside the geographical area characterized as the classical workplace (Dulay Yangın, 2016:150). The existence of the distance element depends on the fact that the work is performed in a different place from where it is expected to be performed (Güven & Aydın, 2020:124; Dulay Yangın, 2016:150). It is stated in the relevant article of the law that remote working can be implemented in two ways. These are the home working model and the teleworking model performed outside the workplace with technological tools.

According to Art. 14 of Law No. 4857, one of the two elements required for remote working is that the employee performs the work at home (Günay, 2018:91). The relevant provision does not include any regulations or criteria regarding the home where remote work is to be performed (Özer, 2018:201). Another element of remote work is that the work is performed outside the workplace with technological tools (Aydın, 2008:353; Mollamahmutoğlu et al., 2021: 150).

The distinctive elements of teleworking are that the employee fulfills the work at a place other than the central workplace and with technological tools, provided that it is within the scope of the employer's work organization (Kandemir: 2011:41; Civan, 2010:533). As a result of developing technology, working can be performed in whole or in part anywhere outside the workplace. As a matter of fact, there is no restrictive provision in the law (Çelik et al., 2022:218). Therefore, it is possible to perform the work at home, in the park, in transport vehicles, or cafes (Özer, 2018:202; Kandemir, 2011:41). It should be noted that in teleworking, the means of communication must be an element of the fulfillment of work performance (Çelik et al., 2022:219).

2.2. Organization element (fulfillment of work within the scope of the work organization created by the employer)

The organization element of telework signifies that the employee performs the work by being included in the employer's work organization (Güzel, 1997:110; Mollamahmutoğlu et al., 2021: 149-150; Dulay Yangın, 2016:150-151). The concept of workplace within the work organization does not mean that it is located within the boundaries of the workplace, but rather that it is under the control and authority of the employer (Güzel, 1997:111; Özer, 2018:202). The concept of workplace within the work organization does not mean being within workplace boundaries; instead, it mainly means being subject to the management and authority of the employer (Güzel, 1997:111; Özer, 2018:202).

As a matter of fact, according to Art. 2 of Law No. 4857, the workplace is no longer a "place" and is considered as a whole within the scope of the work organization. In this context, the workplace means "an organization freed from its physical components." Work organization infers the connection that allows different units to be gathered under the same roof of the elements of unity of purpose and management and to be qualified as a "single workplace" (Doğan Yenisey, 2007:31, 82, 397). This connection must be continuous (Süzek, 2021:198-199; Doğan Yenisey, 2021:181).

The fact that a remote worker fulfills his/her work performance by following the instructions and the orders received from and under the direct or indirect inspection of the employer requires the acceptance of the employer's work organization (Dulay Yangın, 2016:150-156). The workplace, in the case of remote working, is the place where the employee performs his or her work under the orders and instructions of the employer.

This is important for detecting occupational accidents. It should also be noted that the employer's right to manage does not carry the authority to determine via strict rules on the place of work performance by the remote worker. If the employee works in a place other than his/her home, any place where an employee performs work is a workplace (Çelik et al., 2022:218).

2.3. Remote work contract shall be established in written form

According to Art. 14/4 of Law No. 4857, as the last element of remote working, in jobs where remote work can be done, employment contracts for remote work must be made in written form. In the Remote Work Regulation, the fifth article of the Regulation, remote work was defined in the same way as it was defined in the Act. (Remote Work

Regulation, awaited since 2016, to be issued as per Art. 14/7 of Law no. 4857 has come into force on 10 March 2021, i.e. date of publication in the Official Gazette). In Article 5/2 paragraph of the relevant Regulation, the issues that should be included in the contract are mentioned.

According to Art. 14/4 of Law No. 4857, as the last element of remote working, in jlt states, "The contract shall include the provisions regarding the definition of the work, the manner of work, method of execution, the duration and place of the work, the issues regarding wage and payment of wage, the equipment provided by the employer and the obligations for their protection, the employer's communication with the employee, and the provisions regarding general and special working conditions.". The fact that the relevant article needs to mention the employer's obligations regarding occupational health and safety stands out as a deficiency. The time period and duration of the work can be determined according to the mutual agreement of the parties. Employees in remote work arrangements cannot be treated differently than other employees who provide service at the company's workplace under Art. 14/6 of Law No. 4857, where remote work can be done, employment contracts for remote work must be made in written form. In the Remote Work Regulation, the fifth article of the Regulation, remote work was defined in the same way as it was defined in the Law. (Remote Work Regulation, awaited since 2016, to be issued as per Art. 14/7 of Law no. 4857 has come into force on 10 March 2021, i.e. date of publication in the Official Gazette). In Article 5/2 paragraph of the relevant Regulation, the issues that should be included in the contract are mentioned.

It aims to prevent unregistered employment by requiring a written employment contract in remote work (Aydınöz, 2014:28). Due to the nature of work in remote work, the possibility of employing uninsured workers or not reporting work accidents is higher than in typical employment contracts. The doctrine is controversial as to whether the written form requirement stipulated in the Law is a condition of validity or a condition of proof. According to the majority of the doctrine, the written form requirement is a condition of proof. This is because the legislator has not used a mandatory expression in written form (Mollamahmutoğlu et al., 2021:103-104; Özdemir, 2021:16; Kandemir, 2011:94).

In this regard, the party claiming that remote working has been performed will have to prove this issue (Özdemir, 2021:17). On the contrary, the doctrinal opinion, which we agree with, believes that the requirement to be in writing is a "condition of validity" for employment contracts based on remote working (Sümer, 2022a:47; Dulay Yangın, 2016:157). According to the explicit provision of the law, the remote working agreement must be concluded in written form (Sümer, 2022a:47).

3. OBLIGATIONS OF THE PARTIES REGARDING OCCUPATIONAL HEALTH AND SAFETY IN REMOTE WORKING UNDER TURKISH LAW

Remote working should be primarily evaluated in terms of occupational health and safety. On the one hand, the employee works away from the employer's workplace and beyond the employer's inspection and authority. However, on the other hand, he/she works within the employer's work organization and often with the tools and equipment provided by the employer. Suppose the work is carried out in the employee's home. In that case, it is difficult for the employer to intervene in the employee's home due to constitutionally guaranteed rights such as the immunity of residence or the right to privacy. When an employee works remotely from home, the employer needs to have a way of regulating and directly supervising the employee. (Kandemir, 2011:132; Çelik et.al, 2022:225).

Considering such features, the Law stipulates in Article 14 of Law No. 4857 that the employer shall take occupational health and safety measures by taking into account the nature of the work performed by the employee employed by the employer in a remote working relationship. However, the Occupational Health and Safety Law No. 6331 (OG. 30.6.2012, 28339) regulates the obligations of the employer and employees regarding occupational health and safety in detail. For this reason, the parties' obligations to the employment relationship regarding occupational safety and health will first be briefly mentioned.

3.1. Obligations of the employer regarding occupational health and safety

The employer's obligations to ensure occupational health and safety arise from the obligation to protect and surveillance the employee (Sümer, 2022b: 117). The general obligations of the employer within the scope of occupational health and safety were first enacted by the Turkish Code of Obligations No. 6098, and the obligations have been concretized by the enactment of detailed provisions in the Occupational Health and Safety Law No. 6331 (Çelik et al.: 2022:379; Güven&Aydın, 2020:217).

According to Article 417/f.2 of the Turkish Code of Obligations, the employer is obliged to take all kinds of occupational health and safety measures that can be expected from him/her in equity and is obliged to protect the employee from the prospective dangers that may arise due to work. The rules accepted as legal sources of the employer's obligation to take occupational health and safety measures are entered in both the Turkish Code of Obligations and the Occupational Health and Safety Law No. 6331, which was enacted for compliance with European Union legislation (cf. Alpagut, 2014:32; Caniklioğlu, 2012:78; Ertürk, 2012:13-14).

Article 4 of Law No. 6331 is entitled "General responsibility of the employer" and states that the employer's obligations are regulated. Accordingly, the employer's obligations are generally regulated in the triangle of precautions, training, and supervision. (Alpagut, 2014:33).

3.1.1. The obligation of the employer to take precautions and surveillance

According to Article 4 of Law No. 6331, the employer must take all necessary measures to protect the health and safety of workers (Law No. 6331 includes the term "workers, not employees"). Article 147/2 of the Turkish Code of Obligations No. 6098 also obliges the employer to "take all necessary precautions and keep the tools and equipment in full working order." The employer must take all occupational health and safety measures required by scientific and technological developments for these reasons, even if they are not obviously regulated by the legislation (Süzek, 2021:910-911; Sümer, 2020:118). The employer has no exclusion of liability by claiming to have taken all the precautions required by legislation (Sümer, 2020:118). However, the employer must monitor and inspect whether the employees comply with the measures taken in the workplace and ensure that any non-conformities are eliminated (Sümer, 2022:121).

3.1.2. The obligation of the employer to provide training and information

According to Art.17/1 of Law No. 6331, "The employer shall ensure that each worker receives safety and health training. This training shall be provided on recruitment, in the event of a transfer or a change of job, in the event of a change in equipment or introduction of any new technology. The training shall be adapted to account for new or changed risks and repeated periodically if necessary.". The relevant article is aimed to raise awareness of employees, to warn them against possible risks, and to ensure that necessary measures are taken (Özdemir, 2014: 288; Sümer, 2022: 170). Unlike training, information is one-sided and does not include any element of measurement and evaluation (Özdemir, 2020:148). Due to the importance of training in occupational health and safety, three separate regulations have been issued in this regard: "Regulation on the Procedures and Principles of Occupational Health and Safety Training of Employees, Regulation on Hygiene Training, and Regulation on Vocational Training" have been issued.

3.1.3. The obligation of the employer to establish occupational health and safety organization

Law No. 6331 obliges the employer to employ an occupational safety specialist, and Article 6 specifies the duties of the occupational safety specialist (qqv. Özdemir, 2014:149 ff.) and obliges the employer to establish a workplace organization in order to concretize the measures and precautions taken regarding occupational health and safety in the workplace. Another obligation of the employer within the framework of an occupational health and safety organization is the obligation to set up an occupational health and safety unit. The further obligation of the employer within this scope is to ensure occupational health and establish a safety committee. Occupational health and safety committees, employees also participate in the management. They must participate, have a say, and make suggestions (Sümer, 2022:162). In addition, Law No. 6331 authorizes the employer, under certain circumstances, the obligation to employ safety experts, occupational physicians, and other health personnel.

3.1.4. The obligation of the employer to perform a risk assessment

In Article 3/1, subparagraph ö of Law No. 6331, risk assessment is defined as "activities required for identifying hazards which exist in or may arise from outside the workplace, analyzing and rating the factors causing these hazards to turn into risks and the risks caused by hazards and determining control measures." Risk assessment is essentially a tool for determining the measures to be taken. Risk assessment aims to prevent occupational accidents and occupational diseases by identifying hazards in advance through various assessments carried out in the workplace, thus ensuring occupational health and safety (Özdemir, 2014: 234; Tulukçu, 2014: 713). Article 10 of

Law No. 6331 stipulates that “the employer shall conduct an assessment of risks to health and safety of workers or get one carried out” without any discrimination. The risk assessment carried out in workplaces is only a determination. The employer is required to take the necessary measures by these determinations (Kılıç, 2018:105).

3.1.5 The obligation of the employer to carry out health surveillance, record keeping and reporting

Another obligation imposed on employers by Law No. 6331 is the obligation to ensure the health and safety of employees by carrying out regular surveillance. In Article 15 of Law No. 6331, accordingly, "The employer shall ensure that workers receive health surveillance appropriate to the health and safety risks they incur at work. Workers employed in enterprises classified as hazardous and very hazardous shall receive a medical report before employment.". According to Article 14 of Law No. 6331, the employer is obliged to keep a record of occupational accidents and occupational diseases and report them to the Social Security Institution. According to the provision, "(1)The employer shall: a) keep a list of all occupational accidents and diseases suffered by his workers and draw up reports after required studies are carried out. (2) The employer shall notify the Social Security Institution of the following situations within a prescribed time as follows: a) within three work days of the date of the accident. b) Within three work days after receiving the notification of an occupational disease from health care providers or occupational physicians."

3.1.6. The Obligation of the employer regarding emergency situations

The employer must draw up an emergency plan, take preventive and protective measures, and designate the persons participating in matters such as first aid and firefighting. Article 11, entitled "Emergency Plans, Fire Fighting, and First Aid," and Article 12, entitled "Evacuation," of Law No. 6331 regulate these obligations.

3.2. Obligations of the employee regarding occupational health and safety

Although Law No. 6331 has given the employer the most critical role in ensuring occupational health and safety in workplaces, it also envisages some obligations to the employee. Employees are obliged to fulfill the obligations regulated under the Occupational Health and Safety Law No. 6331. The employment contract of an employee who does not fulfill these obligations shall be terminated for just cause under Article 25 of the Labour Law. Article 19 of Occupational Health and Safety Law No. 6331 regulates the employee's obligation. In the first paragraph of the provision, it is stated that the general obligation of the employee is not to jeopardize occupational health and safety. In the following paragraphs, special obligations are included (Baysal: 2019: 24). These obligations are concrete examples of the obligation not to endanger occupational health and safety (Ekmekçi et al., 2021: 361).

Special obligations of the employee (worker) regarding occupational health and safety are below:

3.2.1. The obligation of the employee to Compliance with Occupational health and safety instructions and participate in training

The same provision states that the obligations of the employee listed in Article 19 of Law No. 6331 are consistent with the training and instructions provided by the employer in the field of occupational. The legislator has both imposed an obligation on the employee(worker) with this provision to comply with occupational health and safety instructions and to participate in training and limited the occupational health and safety obligations of the employee to the training and instructions to be provided by the employer on this subject (Özdemir, 2014: 435; Ekmekçi et al., 2021: 365).

3.2.2. The obligation of the employee use production tools and personal protective equipment correctly

The obligation of the employee to use the means of production and personal protective equipment correctly is essentially regulated by Article 396/2 of the Turkish Code of Obligations No. 6098, which requires the employee (worker) to use the machinery, tools, and equipment, technical systems, facilities, and vehicles properly belonging to the employer and to take care of the materials provided to him for the performance of his work. In addition, it is the extension of the obligation to take care of the material delivered to him/her to perform the work in occupational health and safety. The employee must act under the occupational health and safety training and instructions given by the employer and use the production tools and personal protective equipment correctly.

3.2.3. The obligation of the employee to inform the danger

The employee (worker) is exposed to a severe and imminent danger in terms of health and safety at the workplace. The employee (worker) must inform the employer immediately if he/she encounters or sees a deficiency in the protection measures. The obligation to inform is essential in practice (Sümer, 2022:201; Özdemir, 2014:439; Ekmekçi et al., 2021: 369-370.). It should be noted that in order for the employee (worker) to fulfill this obligation, the employer must create a transparent and democratic structure and pave the way for employee (worker) participation (Özdemir, 2020: 262-263).

3.2.4. The obligation of the employee to cooperate

Another obligation of the employee (worker) is the obligation to cooperate. According to Article 19/2, subparagraph ç of Law No. 6331, the employee (worker) is obliged to "cooperate with the employer and/or workers' representative to enable any tasks or requirements imposed by the competent authority to protect the safety and health of workers at work to be carried out" and according to Article 19/2, subparagraph d; "to cooperate with the employer and/or workers' representative for occupational health and safety of workers within their field of activity.". The employer must provide the necessary information to the employee (worker) in order for the employee to cooperate with the employer on the issues mentioned above (Kılıkış: 165-166; Ekmekçi et al., 2021: 370-371).

4. OCCUPATIONAL HEALTH AND SAFETY IN REMOTE WORKING UNDER TURKISH LAW

The Remote Working Regulation also arranges jobs that cannot be performed remotely to ensure occupational health and safety. According to Article 13/1 of the Regulation, "working with hazardous chemicals and radioactive materials, processing these materials or working with the wastes of these substances and working which involves processes that are at risk of exposure to biological factors cannot be done by remote working." In our opinion, the prohibition of these activities, which can lead to unavoidable dangers in the case of remote working, even if the employer fulfills his/her obligation to control and take precautions, is justified.

Due to the characteristics of the place where the work is performed as remote work, the occupational health and safety measures to be taken acquire a different quality compared to the work performed in the classical (traditional) workplace (Dulay Yangın, 2016: 162). The employer has no exclusion of liability because the work is performed outside the workplace in remote work. This situation is only decisive in determining the scope of responsibility (Engin, 2000: 283; Civan, 2010: 563).

The primary legal regulation on occupational health and safety in remote working is entered in Article 14/6 of Labour Law No. 4857. It states that the employer must inform the employee about health and safety measures, provide the necessary safety training and health surveillance, and take the necessary occupational safety measures for the equipment it provides, taking into account the nature of the remote work, as stated in the same provision. Employer, in short, ensures that the conditions under which remote employees will be working are safe and without risks to the health of the employees. The employer's obligations to inform, train, provide health surveillance, and take measures regarding the equipment are mentioned in the article of the Law. Article 12 of the Remote Working Regulation refers to the occupational health and safety obligation and is stipulated in parallel with the Labour Law.

Although it seems that a limited number of obligations are listed in Labour Law No. 4857 and the related regulation, the employer is also responsible for other obligations listed in the Occupational Health and Safety Law No. 6331, depending on the nature of the work (Çelik et.al:2022:225; Özer, 2018:207. Contrary opinion, Kandemir, 2011:132).

4.1. Important obligations of the employer in remote working

Inspection of the Workplace and Work Materials: Especially the fact that remote working is mainly carried out at the employee's home might cause many problems, such as the right to privacy and the inviolability of domicile in terms of inspection (Çelik et al., 2022:225). Therefore, it is essential to maintain a balance between conflicting interests.

It is stated in the Labor Law No. 4857 and the Remote Working Regulation that the employer is "obliged to take the necessary occupational safety measures regarding the equipment provided." However, the employer's precautionary obligations would not be limited only to the equipment. This is because the environment in which the work takes place, from the lighting in the workplace to the electrical installations and even the possible effects of the chemicals used (Engin, 2000:283) on the household, are within the scope of occupational health and safety (Özdemir, 2021:35; Dulay Yangin, 2016:221).

It is crucial to state that it would not be equitable to make the employer responsible for all supervision obligations in remote work, as in the classical workplace. However, the employer is obliged to take all measures by conducting a risk assessment according to the nature of the work performed by the employee and in the place where the work is performed (Baycık et.al, 2021:17-13; Özdemir, 2014:81-99; Kandemir, 2011:131).

The employer should inspect according to the nature of the work to be performed within the scope of the obligation to take required precautions. In this context, for example, issues such as the electrical infrastructure in the house, whether other household members living in the house are affected by this work, the ergonomic conditions of the employee such as the desk and chair if there is a computer-based work (Dulay Yangin, 2016:211). In addition, the employer should check the reliability of the tools and equipment provided to the employee (Alp, 2011:836). In this context, they should ensure they are installed and used correctly.

It is important to note that the employer must not violate the employee's right to privacy and the inviolability of domicile while conducting such inspections. The employee's consent must be obtained prior to any inspection for this reason. The employee must be informed in advance about the day and time of the inspection and the principles of proportionality and honesty must not be violated during the inspection (Alp, 2008:835-836; Engin, 2000:284; Kandemir, 2011:134; Civan, 2010: 563; Bozkurt Gümrükçüoğlu, 2020:188-189, Dulay Yangin, 2016:163). If the employee does not permit the inspection, the employer or labour inspectors will not be able to inspect the house. Even in such a case, the employer's duty of care and duty of inspection are still in force. The employer has to fulfill the supervision obligation even indirectly by using technological tools such as telephones, computers, and video chats (Kandemir, 2011:135; Çelik et al., 2022:226).

Minimum health precautions in working with display screen equipment: The use of technological tools is necessary for remote working, except for manual work. As such, the employer's occupational health and safety measures include damages caused by display screen equipment. As for Turkey, the Regulation regarding the harms caused by screened equipment to employees is the Regulation on Health and Safety Measures in Work with Display Screen Equipment (OG., 16.04.2013, 28620), which was enacted concerning the adaption process to the European Union. The provisions of the Regulation apply to all remote workers (Art. 4). Article 6 of the relevant Regulation regulates the provision of information and training to employees. It is stated that the employee should be informed of "the risks of working with display screen equipment, the possibilities of protection, correct posture, eye protection, reducing eye fatigue, resting the eyes at intervals, resting the musculoskeletal system, breaks and exercises" in the training in question.

Preventing social isolation: One of the negative aspects of working remotely is social isolation. In fact, remote workers are left alone during working hours, and a psychological burden is created due to the absence of colleagues. The individual becomes antisocial due to this situation (Aydın, 2008:358; Özdemir, 2021:35; Baycık et al., 2021:1710). As a result, the employee might experience some mental health problems, especially stress. Therefore, the employer must eliminate the damage of social isolation, a situation specific to the remote working model, within the scope of occupational health and safety (Dulay, 2016: 215). Mental and psychological disorders caused by social isolation fall within the scope of occupational health.

Therefore, in working relationships where remote work is carried out from home, it is possible to prevent the social isolation that the employee is exposed to through various methods such as alternating remote work between employees, bringing employees together at certain intervals, and ensuring the flow of information, organizing events by the company (Blanpain, 2010: 117; Dulay, 2016: 215; Kandemir, 2011: 133). The introduction of a provision on this issue in the Regulation is essential for the protection of employees against psychosocial risks. It is essential to ensure a provision on this issue in the Regulation to protect the employee against psychosocial risks.

4.2. Obligations of the employee regarding occupational health and safety in remote working

Both the employer and the employee must fulfill their responsibilities in order to ensure occupational safety and health in a working relationship fully. We have mentioned above the general and specific obligations of the employee regarding occupational health and safety. The employer needs direct supervision and control over the

employee due to the nature of the remote working relationship. Therefore, this control must be ensured by the employee himself/herself. The employee must inform his/her employer immediately if he/she notices any problem, if there is a malfunction in the equipment used, or if he/she feels that his/her health or safety is in danger.

The employer's inspection of the employee's home might lead to problems such as a violation of the inviolability of domicile violation of the right to privacy. For this reason, in the case of an inspection at the employee's home, it is mandatory to obtain the employee's consent. Undoubtedly, these fundamental rights of the employee take precedence over the employer's benefits. However, the employer's justified benefits should also be protected because of the employee's fundamental rights. The employee working from home should also allow inspections that do not exceed the limits of the principle of honesty within the scope of occupational health and safety obligations in view of the employer's obligations (Alp, 2008:835-836; Dulay, 2016:215-216). If the employee avoids the inspection, which is mandatory and under the rule of good faith in his or her home, the employer shall be entitled to terminate the contract (Alp, 2011: 836; Dulay, 2016: 215).

Even though the employer has taken all measures regarding occupational health and safety, an illness or accident might occur due to the employee not complying with the measures and not fulfilling his obligations. In this case, the employer's liability might be reduced or eliminated depending on the employee's defect (Dulay, 2016: 217; Alp, 2011: 837; Kandemir, 2011: 133). For this reason, an appropriate causal relation between the work performed and the accident should be sought (Alp, 2011:837).

5. CONSEQUENCES OF BREACH OF OCCUPATIONAL HEALTH AND SAFETY OBLIGATIONS

5.1. Legal, administrative, and criminal liability of the employer

Legal liability: In cases where the employer does not take adequate safety measures and does not fully comply with its obligations regarding occupational health and safety, the employer is legally liable in cases such as death, disability, and injury of the employee. The legal liability of the employer is generally in question when an occupational accident or disease occurs. There needs to be a doctrinal consensus on the nature of the employer's legal liability. Opinions on this issue are generally divided into two: fault liability and strict liability (Sümer, 2022:213-214; Özdemir, 2014:485). The employer's strict liability is not mentioned in both the Turkish Code of Obligations and the Occupational Health and Safety Law, as well as the regulations issued within the framework of this Law. In our opinion, the employer's legal liability is a fault liability arising from a breach of contract. (For the doctrinal opinions that it is a fault-based liability, see Süzek, 2021:432; Çelik et al., 2022:402; Sümer, 2022:215.

On the contrary, see Eren, 1974:83 etc). The employer must be at fault for the damage caused to the employee in order to the existence of the employer's legal liability. The Supreme Court has also ruled that the employer's liability is fault liability (Court of Cassation HGK. 20.03.2013, E. 2012/21-1121, K. 2013/386). Although the employer's liability is fault liability, it is an objectified fault liability.

Administrative Liability: The administrative dimension of the employer's liability arising from the violation of occupational health and safety obligations may be manifested through suspension of work or imposition of administrative fines or - in mining workplaces where fatal accidents occur - prohibition from public tenders (Law No. 6331 on Occupational Health and Safety, Art. 25/1; 25/2; 26/4).

Criminal Liability: The criminal liability of the employer should be evaluated separately in terms of the natural person employer and the legal person employer. The legal person's employer has no criminal liability, according to the Turkish Criminal Law system. It is not possible to punish the legal person's employer under the principle of individual criminal responsibility. Even security measures cannot be applied to them regarding occupational health and safety. Suppose an occupational accident or occupational disease occurs due to the natural person's employer's failure to comply with the obligations mentioned above. In that case, criminal liability may also arise by her/his fault (Özdemir, 2014:595 et seq.).

The main principle of criminal law is the principle of individual criminal and punishment responsibility. Therefore, since the employer has an obligation to take precautions in an occupational accident, the fault of the employer should be investigated first. If the employer's representative is found to be at fault in an occupational accident, criminal liability is imposed under the principle of individual criminal responsibility (Sümer, 2022:266, 272). Occupational safety specialists and occupational physicians are also subject to this liability if they are at fault (Özdemir, 2014:615).

5.2. Legal and criminal liability of the employee

Legal liability: The legal liability of the employee is regulated by Article 400 of the Turkish Code of Obligations. According to this provision, "the worker is liable for all kinds of damages given to the employer by fault. In determining this liability, it shall be taken into account whether the work is dangerous or not, whether it requires expertise and training or not, and whether the skills and qualifications of the worker known or should be known by the employer are taken into consideration. As the provision clearly states, the (employee's) worker's liability is fault liability. It should be noted that if the work is dangerous, the worker should not be held liable for the damage caused by his/her slight negligence. The worker should not be expected to show more care than is expected of him/her based on his/her expertise, training, and qualifications (Ekmekçi et al., 2021:375-376.). As clearly stated in the provision, the liability of the worker is a fault liability. It should be noted that if the work is dangerous, the worker should not be held liable for the damage caused by his/her slight negligence. The worker should not be expected to show more care than expected from him/her due to his/her expertise, training, and qualifications (Ekmekçi et al., 2021:375-376.).

Criminal liability: If the employee does not fulfill his/her occupational health and safety obligations, depending on the circumstances and conditions, he/she may be held criminally liable. The crimes that may be in question are generally bodily injury crimes and murder crimes (Ekmekçi et al., 2021:376-377). However, the employee may also be held criminally liable in the event of the occurrence of any other situation defined as a crime in the Penal Code. The employee held criminally liable is subject to the criminal sanctions the law provides for the offense in question.

5.3. Rights of the parties to the employment contract

Rights of the employer: If the employee does not fulfill his/her occupational health and safety obligations, the employer shall terminate the employment contract of the employee for just cause or valid reason, as the case may be, and may also impose a disciplinary punishment. The employer shall immediately terminate the employment contract based on the just cause provided for Article 25/II-1 of the Labour Law No. 4857. The reason in question is "If either wilfully or through gross negligence, the employee imperils safety." If the employee's misconduct is not a sufficient burden enough to comprise a just cause, the employer shall terminate the employment contract based on a valid reason (Süzek, 2021:950; Sümer, 2022a:279-281). It is not obviously specified by law that the employer's authority to impose disciplinary punishment on the employee. These punishments must be designated in the employment contract in order for the employer to impose disciplinary punishments such as caution and doom.

Rights of the employee: If the employer does not fulfill his/her occupational health and safety obligations, the employee shall immediately terminate the employment contract based on Article 24/II, f of the Labour Law No. 4857 for just cause of "failure to implement the working conditions." According to Article 13 of the Occupational Health and Safety Law No. 6331, employee (worker) exposed to severe and imminent danger at the workplace shall file an application to the committee or the employer in the absence of such a committee requesting an identification of the present hazard and measures for emergency intervention. The employee may abstain from work until necessary measures are put into practice (Süzek, 2021:944-947). Where the employer does not take the necessary measures despite the requests by employees, employees under labour contracts might terminate their employment contract following the provisions of the law applicable to them.

6. CONCLUSION

Remote working is regulated by the paragraphs added to Article 14 of the Labour Law No. 4857 in 2016 and the Remote Working Regulation, which entered into force in 2021 in Turkish law. The obligations of the parties regarding occupational health and safety are enacted in the Occupational Health and Safety Law No. 6331, dated 2012, the fundamental law regarding occupational health and safety. The regulation of these obligations is based on a specific physical unit where the work is performed and assumes that the employer is free to determine the place where the work is performed. However, this does not apply to remote working, an atypical employment relationship where the work is performed at the employee's home or any other place.

It is mentioned in Article 14 of the Labour Law No. 4857 that the employer's obligations to inform, train, provide health surveillance, and take measures regarding equipment concerning occupational health and safety obligations. The legislator has evaluated some occupational health and safety obligations in the specific case of remote work by

selecting them from the general, occupational health and safety obligations stipulated for the employer in Law No. 6331.

The obligations stipulated in the Labour Law for the employer in remote working do not require direct control over the working environment of the employee; in general, in remote working, obligations that might be possible to be fulfilled. However, in our opinion, the employer's occupational health and safety obligations should not be limited to these. Although it prescribes by Labour Law No. 4857 a limited number of obligations on the employer, the employer is also responsible for other obligations prescribed by the Occupational Health and Safety Law No. 6331, depending on the nature of the work.

Therefore, all occupational health and safety obligations of the employer within the scope of the obligation to protect and surveillance the employee endure place to the extent appropriate to the nature of the work being performed remotely. However, it has to be accepted that the nature of remote working away from the employer makes it difficult for the employer to fulfill many of his/her obligations. This is because the employer's occupational health and safety obligations are generally based on the employer's management rights. Although there are no provisions regarding the occupational health and safety obligations of the employee in the legal regulations on remote working, the general health and safety obligations of the employee should be accepted that occupational health and safety obligations are also in question in remote working, which is a type of employment relationship.

There is a distance between the obligation to perform work and the place where the result of that obligation is expected to be fulfilled in remote working. The employer is physically deprived of the opportunity to supervise and control the fulfillment of the performance. However, the employer must have the power to supervise the employee and the working environment in order for the employer to fulfill the obligations stipulated in the occupational health and safety legislation. However, the employer only has the authority to carry out surveillance or inspections at the employee's home with the employee's consent. Nevertheless, employers still owe a duty to protect the health and safety of their employees, both physical and psychological. The right to privacy and the inviolability of domicile are the fundamental rights of the employee to be protected. If the employer encounters a wall built with the fundamental rights of the employee, he/she will not be able to fulfill the duty of supervision obligation imposed on him /her by the primary legislation on health and safety at work. After that, he/she may be legally, administratively, and even criminally responsible for the event of an occupational accident and/or occupational disease.

The current legal regulations need to be revised to provide the rules required by the atypical nature of remote work. The fact that no separate rules should be ensured specifically for remote working in the legislation and that remote working is evaluated as a typical employment relationship causes a conflict between the fundamental rights of the employee and the benefits of the employer, the parties to the employment contract. This conflict should be resolved by regulating the occupational health and safety obligations of the parties in the remote working model precisely and in detail in the legislation. However, no matter how many legal arrangements are legislated, the important thing is that both the employer and the employee fulfill their obligations completely. Foremost, no matter how many legal provisions are legislated, it is crucial that both the employer and the employee fully fulfill their obligations.

However, it should be noted that since the provisions regarding remote work in Turkish legislation are relatively new, certain practices still need to be clearly defined. It is essential to apply the existing laws and regulations and seek expert opinions in such cases. Furthermore, employers must develop an application within the framework of general labour law principles. These regulations do not directly address this issue and the court practice, just like they did in the past.

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The Assertion of the Exchange in Arbitration Proceedings

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Abstract

In accordance with the principle of concentration in civil procedure law, the claim or defense cannot be expanded or changed after the petitions are mutually submitted (Law of Civil Procedure Article 141). Since the judge is bound by the facts and claims put forward by the parties, the prohibition on expanding or changing the case or defense begins when these stages are completed. Exchange is the defendant's means of defense regarding substantive law and an innovative right that terminates the debt. As a rule, the prohibition of expanding or changing the defense regarding the claim of exchange begins only with the submission of the second response petition to the court. In arbitration proceedings, the parties may change or expand their claims and defenses, unless they have agreed otherwise. The arbitrator or arbitral tribunal may refuse to allow such a change or extension, considering that the action is delayed or would cause unfairly great hardship on the other party and other facts and circumstances. In arbitration, there may be means of claim or defense, objections and claims (result of the claim and cause of the case). However, raising an exchange objection in arbitration is not within this scope. Because for this purpose, the receivable to be exchanged must first be within the scope of the arbitration agreement. This is because the claim and defense cannot be changed or expanded to take them outside the scope of the arbitration agreement. On the other hand, in order to file a counterclaim due to exchange in arbitration, this case must be within the scope of the arbitration agreement.

Keywords: The arbitration proceeding, expanding or changing the defense, the principle of concentration, exchange, the scope of the arbitration agreement, counterclaim.

1. EXPANDING OR CHANGING THE DEFENSE IN ARBITRATION PROCEEDING

1.1. In General

In arbitration, the general principles applied in the contentious jurisdiction are valid to the extent appropriate to its nature. In this context, the principle of saving and the principle of preparation by the parties are valid in arbitration, unless otherwise agreed (Rosenberg/ Schwab/ Gottwald, 2010: 1048, § 179, Rn. 2; Pekcanitez/ Atalay/ Özekes, 2013: 1079; Yeşilirmak, 2017: 2704; Görgün/ Börü/ Kodakoğlu, 2023: 771; Atalı/ Ermenek/ Erdoğan, 2020: 745). On the other hand, the principle of concentration, which is a principle of jurisdiction in arbitration, does not apply (Küçük, 2021: 210). Within the period agreed upon by the parties or determined by the arbitrator, the claimant shall submit the arbitration clause or agreement, the articles of association, if any, and the facts on which he bases his claim and his

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request; the defendant submits his defense and the facts he relies on to the arbitrator or arbitral tribunal with a petition (Code of Civil Procedure Article 428/1). Unless the parties have previously agreed otherwise, the parties may change and expand their claims and defenses until the end of the arbitration proceedings (CCP, Article 428/2). In arbitration, the prohibition on changing or expanding the claim and defense does not apply unless otherwise agreed (Umar, 2011: 1179; Nomer/ Ekşi/ Öztekin Gelgel, 2013: 26). Therefore, the claim or defense cannot be changed or expanded to go outside the arbitration agreement. Because, in case of any change or expansion in this direction, a new arbitration agreement will be in question.

As a rule, expansion or modification of the case is not prohibited within the scope of the Uncitral Arbitration Rules (UAR). In this context, the party may change or add to its claim or defense, including a counterclaim claim or a claim based on the purpose of exchange. However, it will not be possible to change or add to a claim or defense if the claim or defense that is requested to be changed or added falls outside the jurisdiction of the arbitral jurisdiction. This scope will also include counterclaim and declarations based on the purpose of exchange (UAR, Article. 22).

Within the scope of the International Arbitration Law (IAL), expansion or modification of the claim and defense is possible unless the parties agree otherwise (IAL, Article 10 D).

1.2. Permission Of The Arbitrator Or The Arbitrator Tribunal

The arbitrator or arbitral tribunal may not allow such a change or expansion, considering that the action has been made late or caused undue great hardship to the other party and taking into account other circumstances and conditions. The claims or defenses cannot be changed or expanded beyond the scope of the arbitration agreement (CCP, Article 428/3). The Code of Civil Procedure provides the arbitral tribunal with the discretion to allow expansion of the claim and defense. The arbitrator or arbitral tribunal must not allow malicious requests for extension, in particular to prolong the proceedings (Government Reason).

Under the Uncitral Arbitration Rules, during the arbitral proceedings, a party may change or add its claim or defense, including a counterclaim or a claim based on an exchange, unless the arbitral tribunal, taking into account the delay or prejudice to the other parties caused by the change or add, or other facts and circumstances, determines that the change or add is not appropriate (UAR, Article. 22).

The International Arbitration Law has the same regulation as the Code of Civil Procedure (IAL, Article 10 D, 2). The relevant article of the International Arbitration Law did not intend to subject the parties to any limitation in the presentation of their claims or defenses. What is important here is that the claims or defenses are within the scope of the arbitration agreement. In fact, it has been accepted that even if the decision given as a result of the arbitral proceedings relates to a claim or defense that is not within the scope of the arbitration agreement, the cancellation or enforcement of the arbitral decision will not be possible and such a claim should be rejected (Akinci, 2003: 131).

1.3. The Parties' Agreement

Unless the parties have agreed otherwise, it is possible to expand and change the claim or defense. The parties may eliminate the prohibition on expanding or changing the claim and defense, or they may prefer a stricter regulation as in civil procedure law (Pekcanitez, 2022: 1645). If the parties decide to expand the claim and defense, it is as if a new arbitration agreement has been concluded between them. If the parties agree, the arbitrator or arbitral tribunal must review and decide on the changed or expanded claim or defense. However, the arbitrator is not obliged to continue this dispute in its new form and may use the right of abstention (Pekcanitez, 2022: 1646).

In accordance with the obligation to treat both parties equally, both parties have the opportunity to defend themselves within the scope of the right to be heard regarding the expanded and changed claim or defense (CCP, Article 27) (Rosenberg/ Schwab/ Gottwald, 2010: 1048, § 179, Rn. 3).

1.4. The Time Of Claim

Expansion or modification of the claim or defense may be made until the end of the arbitration proceedings, in other words, until the investigation is completed (Pekcanitez, 2022: 1642). The arbitrator or arbitral tribunal should consider whether assertion of a claim or defense at a later stage would result in a delay or modification of the arbitration agreement. Since this issue can be regulated by the parties and is not mandatory, it may be considered as a new arbitration agreement (Pekcanitez, 2022: 1643).

In international arbitration, another limitation of the expansion of the claim or defense is that a new claim or defense is asserted at a late stage and this may cause difficulties for the other party. It is not acceptable to raise claims

or defenses after all the hearings have been completed and the evidence has been evaluated, in other words, at the decision stage, as it would put the other party in a difficult situation and would also delay the arbitrator's decision (Akıncı, 2003: 132).

In our opinion, in an arbitration proceeding arising from the same arbitration agreement, the assertion of new claims or defenses should be carried out until the oral hearing stage, if the parties' will is in that direction, taking into account the procedural economy.

2. THE ASSERTION OF THE EXCHANGE IN ARBITRATION

2.1. *The Assertion As A Defense*

Exchange is not clearly regulated in the Code of Civil Procedure for both civil and arbitration proceedings. The International Arbitration Law also does not have a clear regulation on exchange.

Within the scope of the Code of Civil Procedure, exchange is a means of defense that is an objection to the defendant's on the substantive law and terminates the debt. Exchange, in the sense of substantive law is the termination of mutual and due receivables in the proportion of the lesser amount by the unilateral declaration of one of the persons who have mutual debts of the same kind to each other (Aral, 1994:1). The exchange claimed before the lawsuit and the exchange claimed for the first time in the lawsuit are grounds for objection that terminate the debt in terms of procedural law and conclude the case on its merits (Ercan Özler, 2020: 156-157). Whether this can be taken into consideration by the court depends on whether it is understandable from the case file (Research for discussions: Üstündağ, 1967: 136 vd.; Tanrıver, 2016: 673).

On the other hand, the Uncitral Arbitration Rules clearly include the concept of exchange in the case of expansion or modification of the claim or defense. In this context, the party may change or add to its claim or defense, including a counterclaim claim or a claim based on the purpose of exchange. However, it will not be possible to change or add to a claim or defense if the claim or defense requested to be changed or added is outside the jurisdiction of the arbitral jurisdiction. This scope will also include counterclaims and declarations based on the purpose of exchange (UAR, Article. 22). As can be seen, the defense of exchange is clearly included in the Uncitral Arbitration Rules. However, with this regulation, without departing from the main rule; It is regulated that no set-off or counterclaim can be claimed in a way that would go beyond the scope of the arbitration agreement.

The exchange objection is not an objection and defense tool that is included within the scope of expanding or changing the defense in arbitration (Corpare: While an exchange objection can be raised before the arbitrator, a counterclaim cannot be filed (Ansay, 1957: 416)). Because for this to happen, first of all, the claim to be asserted through exchange must be within the scope of the arbitration agreement (Rosenberg/ Schwab/ Gottwald, 2010: 1048, § 179, Rn. 20; Can/ Tuna, 2021: 422; Özbay/ Korucu, 2016: 102; Yazıcı, 2021:331). Provided that it is included in the same arbitration agreement, it is possible to claim the exchange without being subject to the prohibition of expanding or changing the defense. Although this rule is not subject to an explicit regulation as in the Uncitral Arbitration Rules, it is a rule that should be and should be accepted in terms of the characteristics of arbitration proceedings.

2.2. *The Assertion In The Counterclaim*

Although there is a regulation regarding counterclaim in the Code of Civil Procedure (CCP, Article. 132); there is no positive regulation regarding the possibility of filing a counterclaim in arbitration jurisdiction. The existence of an exchange or offset relationship between the counterclaim and the main case is a condition of connection for the counterclaim. Therefore, exchange is an important condition for counterclaim.

The ability to file a counterclaim against a case filed before the arbitrator depends on whether the counterclaim is related to the dispute subject to arbitration (Rosenberg/ Schwab/ Gottwald, 2010: 1048, § 179, Rn. 19; Pekcanitez/ Atalay/ Özekes, 2013: 1080; Can/ Tuna, 2021: 420; Yazıcı, 2021: 331). Otherwise, it is not possible to file a counterclaim for a dispute that is not related to the arbitration agreement.

Uncitral Arbitration Rules also accept that a counterclaim and a claim based on exchange may be asserted, provided that it remains within the scope of the arbitration agreement (UAR, Article. 22).

Even if the claims in the main case and the counterclaim are bound by different arbitration agreements, if it is possible for the claims to be decided by the same arbitrators, a decision should be made by taking into account the characteristics of the arbitration agreements (Can/ Tuna, 2021: 420-421; Yazıcı, 2021: 333).

3. CONCLUSION

Unless otherwise agreed by the parties, the principle of concentration and the prohibition on the expansion and modification of claims or defenses shall not apply in arbitration proceedings. However, with the consent of the parties or by the arbitrator or arbitral tribunal, such a change or expansion may not be allowed, considering that this transaction has been made late or has caused undue hardship to the other party and other conditions and situations. In terms of time, expansion or modification of the claim or defense can be made until the oral hearing stage, but requests that will put the other party in a difficult situation or delay the arbitrator's decision should not be accepted. Whether the receivable that is intended to be asserted through exchange can be asserted both as a defense and as a counterclaim depends on the exchange being within the scope of the arbitration agreement. Provided that it is included in the same arbitration agreement, it is possible for the exchange to be asserted without being subject to the prohibition of expanding or changing the defense or in a counterclaim.

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China's Common Prosperity Goal and the Land Prices: An Empirical Study of State Ownership's Role

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Abstract

China has undergone fast economic growth over the last 40 years, while there is still much to be done to achieve the goal of common prosperity. The process of achieving common prosperity is central to China's public ownership economic system, and state-owned enterprises (SOEs) have been given more political tasks. In the field of land economics, numerous studies have used firm-level data to analyze the role of state ownership of real estate companies. Still, little attention has been paid to the social dimension of land prices and general prosperity. This study contextualizes its research within China's common prosperity policy framework to identify the gaps in current research using bibliometrics and highlight the areas that require further investigation concerning land bidding by real estate SOEs. The empirical findings support the initial research hypothesis that real estate SOEs can acquire land at lower prices than private firms but are also more responsive to the shared prosperity policy by actively participating in the construction of subsidized housing and supporting public construction projects. The policy implications of these findings are also discussed.

Keywords: SOEs; Common Prosperity; Land prices; Housing development

1. INTRODUCTION

Over the past four decades of reform and opening up, China's tremendous economic growth has generated a significant middle-income population. China has accomplished its first century-long objective and gradually focus on fostering shared prosperity through high-quality growth. Common prosperity is a strategy that contributes to a more balanced, inclusive, and sustainable development, whose pillars are continuous and consistent income growth and high-quality development. In China, housing is a significant social issue not only affecting macroeconomic growth but also affecting residents' well-being. While China's housing market prospered and contributed significantly to China's economic progress, it sparked other issues, such as the over-financialization of housing, the over-reliance on land finance by local governments, and the severe housing unaffordability issue (Yu & Hui, 2018). Therefore, the reallocation of capital and industry structure has been a key source of achieving common prosperity in the housing market and this study presents a solution to this issue by focusing on the supply side.

In the Chinese housing industry, the 2016 Central Economic Work Conference set the future developing tone of "housing without speculation." Improving the housing supply and protection system is necessary for achieving equity in fundamental public services and prosperity for all. The 14th Five-Year Plan and the three-year action plan for SOEs reform should serve as a model for income distribution reform at SOEs. SOEs should actively participate in the third cycle of distribution reform, investigate new mechanisms for SOE's involvement in public welfare and

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charity, and uphold their social obligations in the new era. Under the context of special institutional features, the development of subsidized housing should take precedence with the help of SOEs to realize the Chinese common prosperity in the housing market, because Chinese SOEs function as mainly providers of social welfare by constructing economic housing for the poor (Zhang & Rasiah, 2014). This piqued our curiosity as to whether the engagement of SOEs in the land market is helpful in accomplishing the common prosperity objective.

SOEs carry non-commercial objectives driven by national political interests, including social, political, and economic objectives. As the economy accelerates, SOEs are investing heavily in fixed assets, increasing employment in many industries, such as manufacturing, steel, cement, and other areas, while increasing the danger of inflation and housing bubbles. SOEs were once regarded as monopolies in strategic industries both in developed countries and China, particularly the housing market (Li et al., 2014). Due to their political connections and multiple-goal role, SOEs have better access to bank loans (Ru, 2018) and secure implicit government guarantees even during periods of sluggish economic growth (Cong et al., 2019).

Extensive research demonstrates that corporate bids at land auctions are equivalent to private enterprises in the land auction process. Most serious empirical investigations demonstrate that the pricing premium for wholly SOEs is significantly greater (Wu et al., 2011; Deng et al., 2015). Two probable explanations have been presented for the premium paid by SOEs. First, SOEs' budgetary flexibility or financial wealth enables them to overbid for the subject land (Deng et al., 2015). Second, the Chinese government allocates land with informal preferences, and politically connected enterprises can win land auctions by winning them (Wu & Yang, 2020).

Other studies have discovered the reverse result: SOEs bid less on land. The literature demonstrates that local governments tend to provide implicit land price subsidies to SOEs, hence reducing land purchase prices (Zhang et al., 2021). This study proposes another rationale for the reduced land acquisition costs of SOEs: the promotion of shared prosperity by providing more subsidized housing and public construction facilities. In response to the common prosperity program, SOEs are paying more for subsidized housing and public building packages. SOEs allocate project monies to various regions to enhance the nation's economic growth. By regulating land concessions, limiting the economic wealth effect of SOEs, and creating guaranteed housing in housing enterprises, the shared prosperity policy aims to improve the industrial structure and the populace's quality of life. Government, business, academia, and the general public emphasize examining the disparity of corporate housing investment and its driving mechanism in the new era to give a basis for residential market management, urban planning, and spatial governance.

The remaining sections of this work are structured as follows: Section 2 of the literature review presents the context of the investigation into the nature of housing business ownership in English and Chinese land economics. Section 3 is the theoretical basis and research hypothesis. The data and descriptive analysis are presented in Section 4. Section 5 outlines the empirical findings. Section 6 explores the policy consequences.

2. LITERATURE BIBLIOMETRICS ANALYSIS

Bibliometrics is a quantitative evaluation technique based on the study of literature and statistics. Scientific knowledge mapping is an image that takes a field of knowledge as an object of study and illustrates its development process and structural relationships, illustrating both the connections, structure, and interactions between knowledge units and the evolution of new knowledge within a large body of knowledge, using mathematical, statistical, and bibliographic methods to quantify the characteristics of research in a given field, such as the number of publications, citation counts, and a number of citations per publication. Increasing numbers of studies are employing this strategy to examine qualitative and quantitative research patterns and trends in a certain sector.

On 18 November 2022, the CNKI library searched the Chinese literature for this document using the search terms "real estate enterprise" OR "real estate enterprise" AND "ownership." 745 CSSCI journal articles, WOS core literature library, Boolean search for (hours* or real estate* or realty* or property *) AND (enterprise* or company* or firm* or develop*) AND (ownership*) AND (land*) yielded 2,358 English core journals. Next, a visual representation of the literature studies' structure, pattern, and distribution is shown. The examination of the annual distribution in China and globally clarifies the direction of future research on this topic.

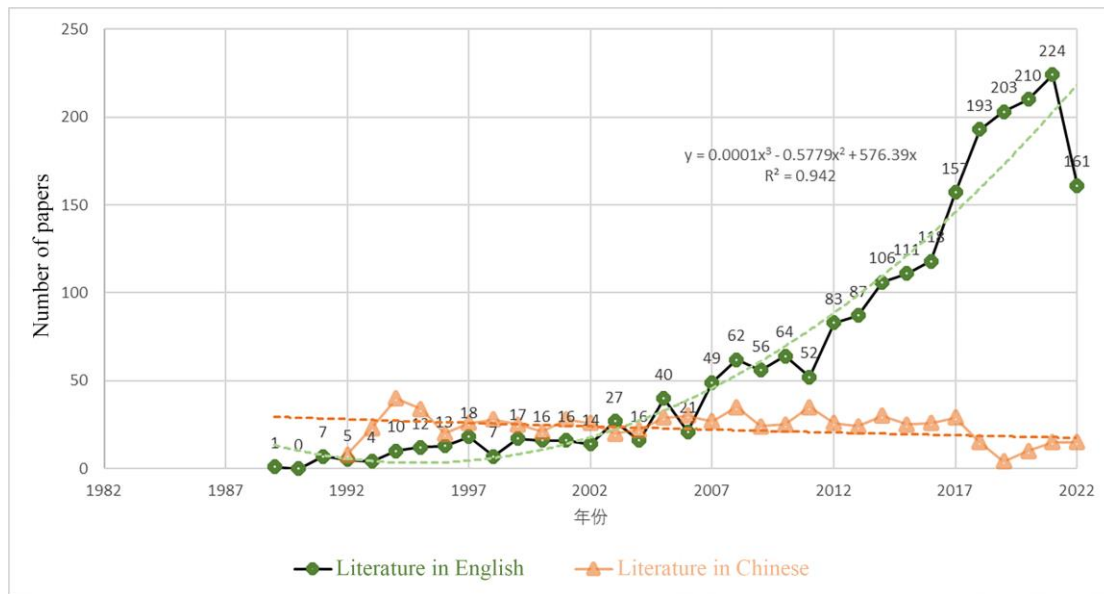


Fig. 1 Annual distribution of literature studies

2.1. Research topics of different periods

Initially, some early influential studies placed greater emphasis on the development of a market economy to allocate land (Davies, 1971; Silver, 1983; Pope et al., 1984), which was not included in the English core collection and therefore not shown in our graphic presentation. As shown in Figure 1, the annual distribution of English literature regarding the interrelationship between company ownership and land use demonstrates a gradual growth, while the Chinese literary canon exhibits consistent growth and a minor decline in this research.

Specifically, the period 1989-1997 was the beginning of research on this topic in English literature. The majority of researchers conducted theoretical and empirical research from the perspective of land as a kind of spatial resource, and the discussion of state ownership was limited to agricultural land (Coxhead et al., 1991; Ferens, 1992). This topic has grown steadily from 1998 to 2003. Much of the research during this period focused on the influence of corporate ownership on urban construction, urban revitalization, and the living environment (Dawkins & Nelson, 2002). The geographical scope of these papers centered on rapidly urbanizing regions, such as Hong Kong, the Chinese mainland, and Latin American nations (Adams & Hastings, 2001). After 2004, research in this field entered a period of tremendous expansion and has reached a peak in recent years. This phase has witnessed an increase in the quantity of China-related studies (Quigley, 2005; Nurses, 2013; li et al., 2014; Geltner et al., 2017) and the use of corporate equity structure or ownership (Cvijanovic, 2014; Bastian, 2019; LaPoint, 2020).

2.2. Change of the most prominent topics

In this study, a co-word network was constructed using CiteSpace to examine the most prominent subjects in the field of land information management from 1982 to 2022. The selection of keywords was based on the top 5% of terms identified in the relevant papers. Cluster analysis was applied to the co-word network to identify the key research directions for each year. The results of this analysis are depicted in an inter-year alluvial diagram, with each block representing a cluster. The height of each block reflects the PageRank value of the cluster, with the blocks sorted in descending order of PageRank value. As shown in Fig. 2, the alluvial diagram illustrates the dynamic evolution of research in the field, with clusters peaking between 2007 and 2011 before declining through 2022. The five clusters with the highest PageRank values were identified as "3D land management," "livelihood health," "income distribution," and "land reform." These clusters represent important areas of focus within the study of land pricing and real estate firms. As the field of information science continues to grow and evolve, research on complex networks, including land information management, is expected to receive increasing attention.

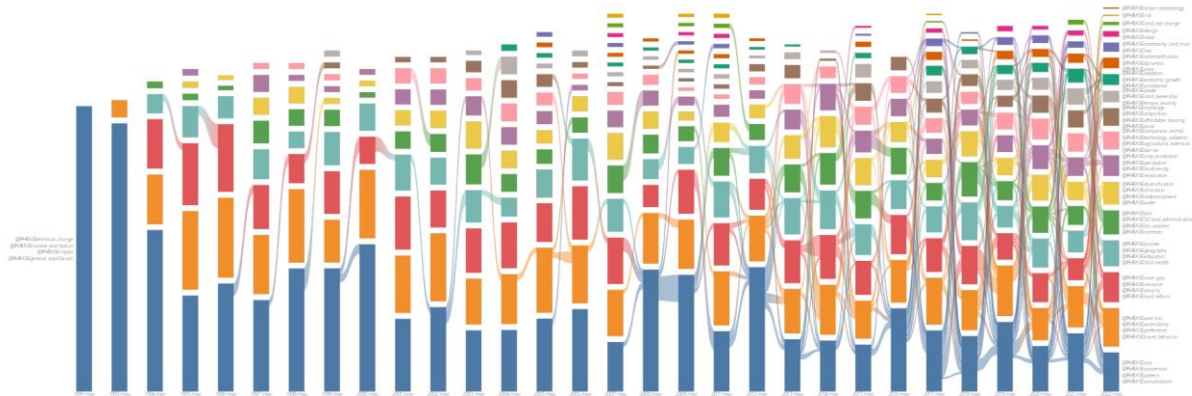


Fig. 2 English literature keyword alluvial map

2.3. Distribution of literature published by different countries

The distribution of national and regional cooperation in the publication of articles on this topic is illustrated in Fig. 3. An analysis of the national and regional collaborations under examination revealed a collaboration density of 0.3977 in this field. As shown in Fig. 3 and Table 1, the United States ranks first in the number of published articles on the subject, with a total of 636 articles and a centrality index of 0.36. These values surpass those of other countries. The United States has established itself as a leader in this field by providing a foundational reference and scientific basis for further research. In addition to the United States, other countries with a significant number of published articles on this topic include China (287), England (210), Australia (165), and Canada (110). However, China's centrality index is relatively low at 0.05, indicating a need for the expansion of international influence in this area of research despite the country's high priority on the study of real estate enterprise ownership.

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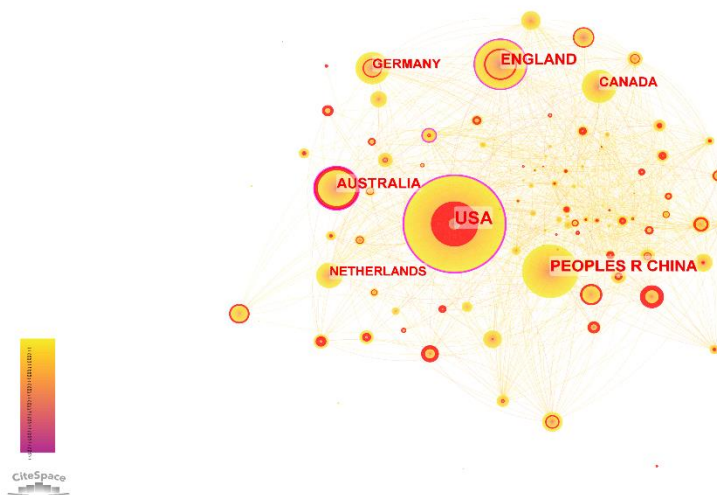


Fig. 3 Country and regional cooperation analysis

Table 1 Distribution of literature published by different countries

Circulation	Centrality	Burstiness Year	Country
636	0.36	1995	USA
165	0.14	1991	AUSTRALIA
29	0.12	2005	ITALY
210	0.1	1993	ENGLAND
86	0.08	1994	NETHERLANDS
36	0.08	2001	SWITZERLAND
42	0.07	2000	SPAIN
110	0.06	1995	CANADA
102	0.06	1995	GERMANY
287	0.05	2001	PEOPLES R CHINA

2.4. Cited journals and citing journals

In Fig. 4, a journal biplot overlay visualization was applied to the Global Science Map in order to clarify the network of investigated citations and corresponding scientific fields. This visualization is based on 2255 Web of Science articles and utilizes the Journal Citation Reports (JCR) journal map as its foundation. The figure includes two graphs at the bottom, one for cited journals on the left and one for citing journals on the right. Each sample curve in these graphs represents the citations of a source article, beginning at the cited journal and pointing in its direction. The journals on the base map are grouped, with significant groupings labeled using terms from the titles of the journals in those categories. The scientific fields with the highest number of cited publications include economics, political science, and sociology, followed by econometrics, environmental science, and so on. *Land Economics* and *Journal of Real Estate Economics and Finance* are the leading publications for these subjects. By the distribution results, most citations are concentrated in the topic area represented on the base map.

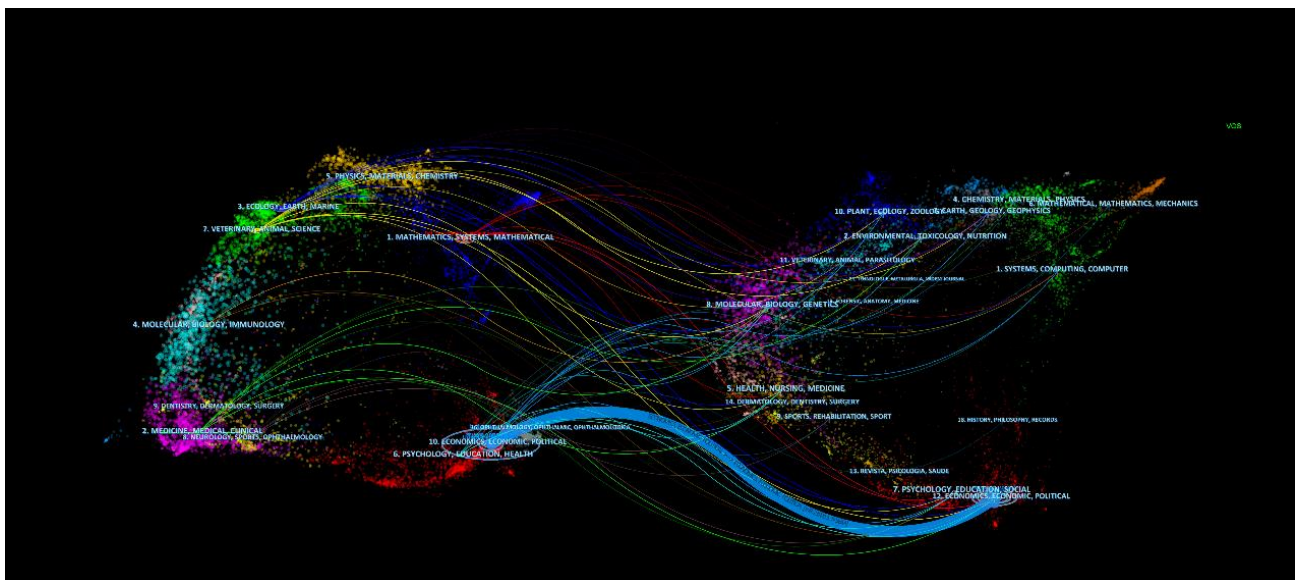


Fig. 4 Literature Overlay Analysis

In conclusion, international study on the nature of ownership of real estate firms is still in its infancy. However, the current research primarily focuses on housing inequality between individuals of different classes, races, generations, ages, educational backgrounds, and community environments. There is a need for a comprehensive examination of the phenomenon of inequality in the enterprise dimension of the housing market. This study will

combine the common prosperity theory to expose the characteristics of land investment by real estate firms and its development trend, which has significant practical and theoretical relevance.

3. THEORETICAL BASIS AND RESEARCH HYPOTHESIS

The concept of "common prosperity" encompasses both the expansion of social welfare and its equitable distribution. To fully comprehend the role of state-owned enterprises (SOEs) in the land market, it is necessary to examine the rent-seeking hypothesis first. In summary, the theoretical framework of this paper is shown below :

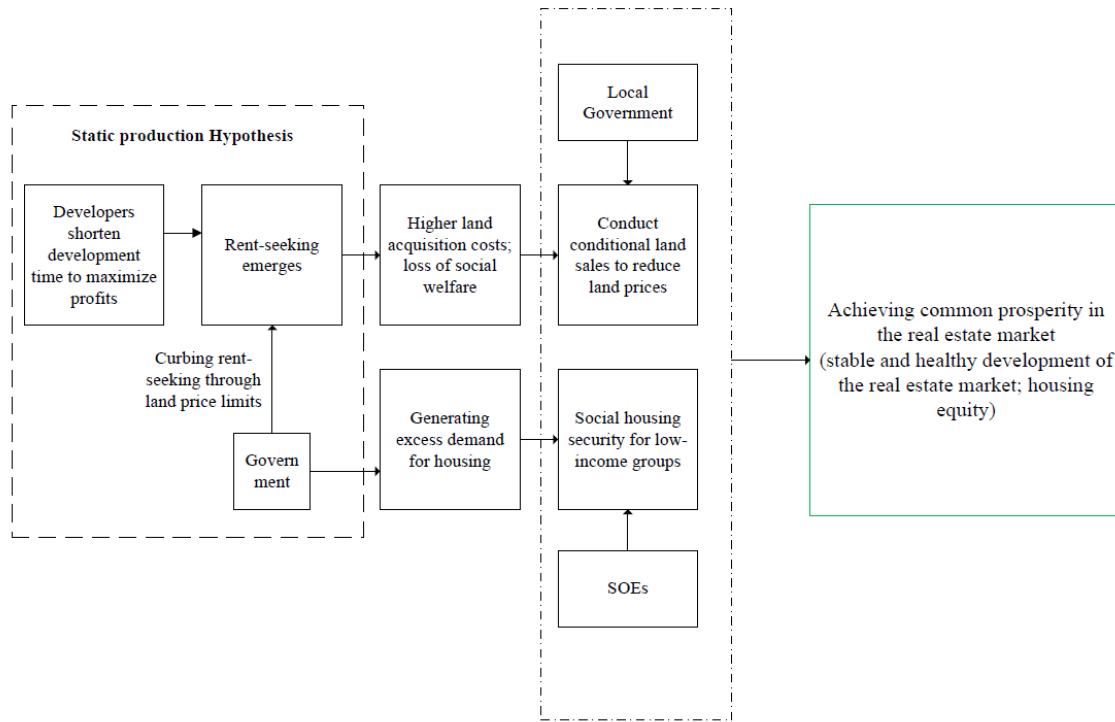


Fig.5 Theoretical framework

3.1. Static production theory and rent-seeking theory

The model posits a single-period real estate market with no asset qualities for houses, in which higher housing prices result in a higher quality housing supply. Simplifying real estate development as a combined land and building input production process, home prices exceed the independently determined costs of land and building inputs. In terms of annual flows, the profit on any new housing π is all rent S_r minus the interest on the input costs $(S_l + S_c)i$. Therefore, profits are greatest when the real estate development cycle is the shortest.

$$\pi = S_r - (S_l + S_c)i \tag{1}$$

Of these, S_l is the cost of land acquisition, S_c is the construction cost, and i is the interest rate. In equilibrium, as depicted in the graph below, all profitable real estate development choices have been exhausted and there is no more supply. When the demand curve swings to the point where new viable real estate development choices arise, additional residential construction happens, the equilibrium stock of land shifts, and surplus demand emerges. As soon as $S_r > (S_l + S_c)i$, the land market will push to a new equilibrium and more land supply appears in the primary land market.

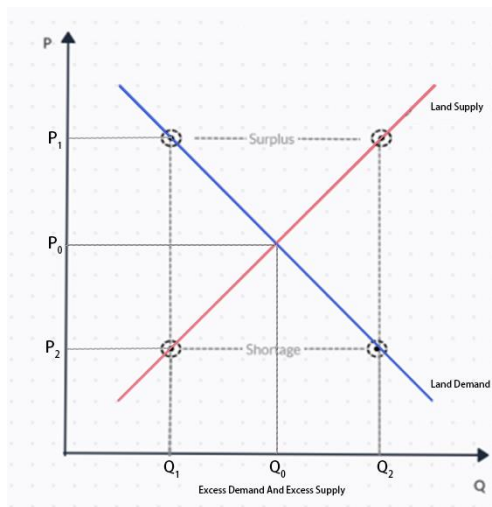


Fig. 6 Residential land supply and demand equilibrium curve

However, the increase in land prices is not attributable to a demand-supply imbalance. Then, there must be an artificial intrinsic desire to encourage the irrational rise in land prices, i.e., intentionally, an artificial pattern of distribution of interests in the land market drives up land prices, i.e., the rent-seeking phenomenon. There are three sorts of social costs associated with rent-seeking behavior:

- corruption and legal penalties brought about by opaque information ;
- the cost of identification spent by local governments to avoid departure ;
- opportunity costs.

Rent-seeking in the land market further inflates land prices, and land developers are compelled to absorb the cost of rent-seeking by increasing selling prices. Extremely high rent-seeking expenses increase the market prices of real estate developers. Rent-seeking in the land market results in a net loss of societal welfare since it is an unproductive competitive activity.

As seen in the graph below, the equilibrium market for land is disrupted by the emergence of rent-seeking and the upward shift of the supply curve, raising the price of land P_0 by P_1 , with the demand for land at the bottom of the price P_1 lower than the number of sellers that the government decides to bear the preferred cost to offer the land more efficiently. Among these rent-seekers, the random assignment does not choose low-cost vendors, resulting in an additional cost increase. Thus, government selection is less effective than it would have been in the absence of rent-seeking, and rent-seeking does eliminate certain high-cost suppliers. Nevertheless, the direct social cost of rent-seeking (the welfare loss squared) is sufficient to make the market for land with rent-seeking less efficient than the market for land without rent-seeking.

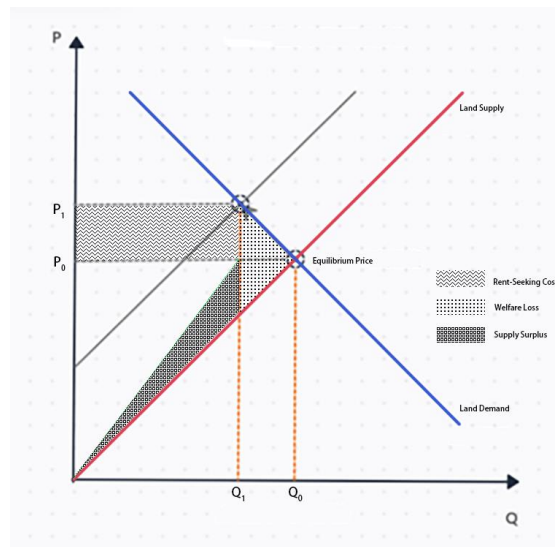


Fig. 7 Rent-seeking in the residential land market

The resulting rent-seeking costs at this point are:

$$S_{rent-seeking} = [P_1 - P_0]Q(P_0) \tag{2}$$

The Fig.7 shows the wavy line rectangular area, whose width $Q(P_0)$ is equal to the number of units sold at the price P_0 number of units sold at and the height $[P_1 - P_0]$ is the price cost margin of the marginal rent.

China's current land development approval, management system, and rules exhibit a number of flaws and gaps that may benefit from improvement. The process of obtaining government approval for real estate construction in China is a critical factor in the final revenue of real estate developers. The timing and manner in which the relevant approval departments approve a project can significantly impact the profitability of the development. Real estate development is a high-risk, high-reward investment that involves significant one-time expenditures and the potential for long-term value creation through various connections. A range of construction-related indicators, including building spacing, building area, and plot ratio, strongly correlate with real estate's final revenue. The approval department must certify these indicators for the developer to realize a profit. This incentivizes developers to engage in rent-seeking behaviors to obtain approval.

The processes of land transfer, home development, land financing, and government taxation also involve rent-seeking activities. Real estate developers may seek to dominate the government land transfer sector and gain a monopoly on land resources through rent-seeking techniques. This wastes resources on monitoring and punishment and consumes significant time and energy on the part of government regulators. When rent-seeking operations are successful, the market becomes saturated with rent-seekers, which can hinder the long-term sustainable development of land market-related businesses. In addition, when rent-seeking occurs and the government and developers split the monopoly profits, connected manufacturers and homebuyers often end up paying a higher price than the rent-seekers earnings. The land market industry is unique in its high potential returns and associated risks. Due to the unique nature of the real estate industry and the national situation in which the government monopolizes land supply, there are a large number of potential economic rents in the industry; therefore, some interest groups related to the development of the industry will exploit rent-seeking opportunities and rent-seeking conditions. The government monopolizes the high-barrier-to-entry primary land supply sector. Thus only a few large developers, primarily state-owned businesses, are active. Those developers who have achieved monopoly status are fully capable of controlling the supply of commercial housing, leaving the market in an unbalanced state in which supply exceeds demand, causing the price to be significantly higher than the market's equilibrium price and allowing them to earn excessive profits. Motivated by monopoly earnings, developers look for rents and collaborate with the government to achieve monopoly status. Local governments and real estate developers form a common interest group to acquire monopoly profits once rent-seeking is successful, resulting in a net loss of societal welfare. In addition to reducing social benefits, rent-seeking also increases demand. Significant numbers of metropolitan people, especially low-income groups, cannot afford the expense of commercial housing. The private sector cannot supply public construction

support services and subsidized homes on its own. Local governments deem it appropriate to have a monopolistic local real estate development firm.

In contrast to the private sector, many SOEs may engage in public policy initiatives through local government financing platforms (LGFVs), which do not often yield considerable economic returns due to the public policy purpose of their investments. Urban infrastructure, land-level development, shantytown rehabilitation projects, affordable or resettlement housing, and municipal and utility services are examples of typical public policy projects undertaken by SOEs in this manner (e.g., public transportation infrastructure and services, water supply, sewerage, shipping infrastructure, public education, cultural and sports, and health care facilities). The aforementioned land uses are within the scope of this investigation. Nonetheless, maintaining infrastructure and providing public services are government obligations and should be reflected positively in the social scores of these SOEs and local government financing platforms.

3.2. Common prosperity theory

Like the West starting in the 1970s, China's reform and opening up have developed in the direction of marketization, privatization, internationalization, and also financialization. In addition to the profits of capitalist enterprises, the owners of marketized land, natural resources, and natural monopolies also receive economic rents¹. This is because they have a monopoly, not many of them, and they have a distinct advantage over everyone else. Therefore, the market value of their land use exceeds their production costs.

Rents are added to real estate capital and financialized in capitalist economies:

- Assets are pledged as collateral for loans from the financial sector.
- Owners assume debt.
- Income from rental income assets is converted into compound interest payments.

Credit increases asset prices, but debtors who cannot repay are expropriated, resulting in a higher concentration of wealth in the financial sector. Profit eaters, the relative rise in financial income and asset values, and capital market liberalization permit capital outflows without effective control. In financialized economies, the debt grows faster than the production of goods and services, and financial and real estate interests use credit creation and quantitative easing to gain control over money. Under such conditions, inequality grows substantially.

In addition, China's real estate investment is spatially fixed and heterogeneous in terms of supply and demand, resulting in substantial regional disparities and spatial inequalities. With the transition of China's urbanization, industrialization, and globalization, the structure and management policies of the real estate market have entered a period of accelerated adjustment, and residential inequality, impressive spatiality, has grown more apparent. As depicted in the image below, the geographical distribution of land investment by region in 2021 indicates that a significant amount of capital is moving into the southeastern coastal provinces, including Guangdong, Jiangsu, and Zhejiang. The "common prosperity" policy is not a Robin Hood-style plan to steal from the rich and give to the poor, but rather a call for better governance and a balanced economy, where the governance of real estate investment will make livelihood security a critical economic multiplier, as opposed to promoting the land- and capital-intensive investments of the past.

¹ Economic rent is a portion of factor income that subtracts from all income of the factor that portion of factor income that does not affect the total supply of the factor. It is similar to producer surplus and is equal to the difference between the income of the factor and its opportunity cost.

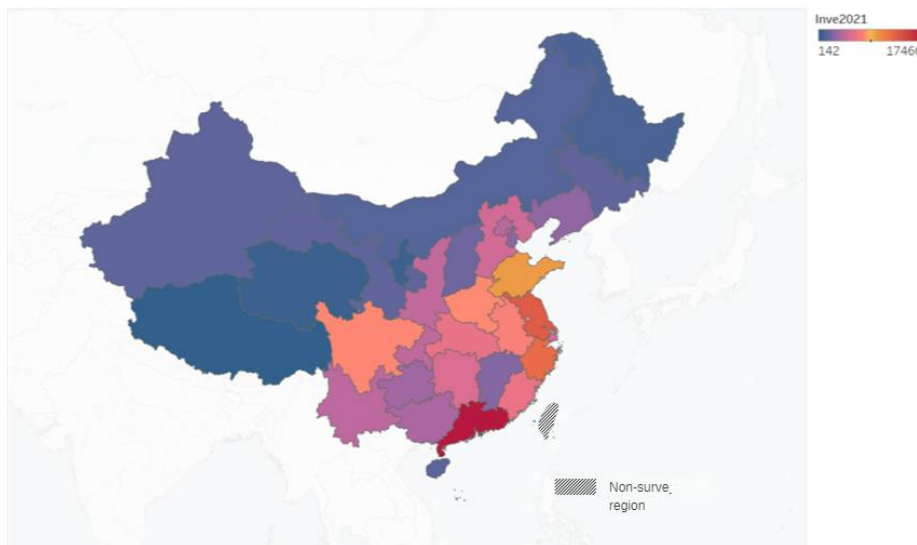


Fig. 8 Distribution of land investment provinces in China in 2021

As depicted in the graph below, many Chinese cities have set upper limits on the price of land concessions and the price of commercial housing for sale to avoid potential risks to the economy from fluctuations in the real estate market and mortgage financing and to improve the imbalance in land investment, the upper limit price $P_{floor} < P_0$. When the ceiling price is set, there is excess demand (green rectangle) as the land market is bound by lower values when demand exceeds supply. However, the land market also has an opportunity cost, so if housing demanders are given with cheaper homes than market demand, they are likely to receive lower-quality houses, provided there are no government welfare construction services. To meet this urban housing need, the government must construct and develop subsidized housing in partnership with real estate development firms. Therefore, from the onset of planning, the government has strictly controlled the residential construction index, either through a detailed control plan to control the quality of housing or by tying commercial housing plots to support construction to encourage real estate development firms to develop subsidized housing.

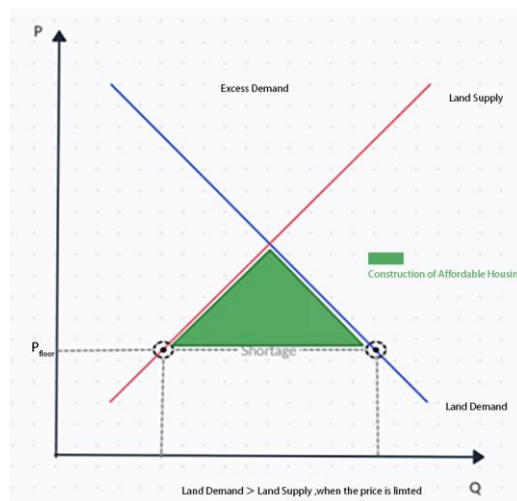


Fig. 9 Equilibrium curve at land price limit

At the same time, SOEs are subject to increased corruption-related risks. Some of these markets have weaker regulatory structures and frameworks, which could increase real estate companies' political and financial risk. A real estate market decline will only worsen local governments' declining fiscal health, which was already in bad financial shape before the real estate market decline. Chinese SOEs are crucial in directing various government activities and are essential to accomplish national objectives. China's reforms of state-owned enterprises (SOEs) have consistently

pushed the sector to improve its governance and procedures, opening the way for the country to achieve its social, economic, and financial objectives.

In order to maintain fiscal stability and prevent overheating in the real estate market, local governments in China have implemented measures to make housing more affordable and generate a steady revenue stream. These measures include increased government funding for housing, healthcare, and education. Additionally, the Chinese government aims to eliminate implicit guarantees and reduce the leverage of state-owned enterprises (SOEs). As the graph below illustrates, government-owned firms have a significantly lower default rate compared to private corporations, although this rate has increased significantly in recent years.

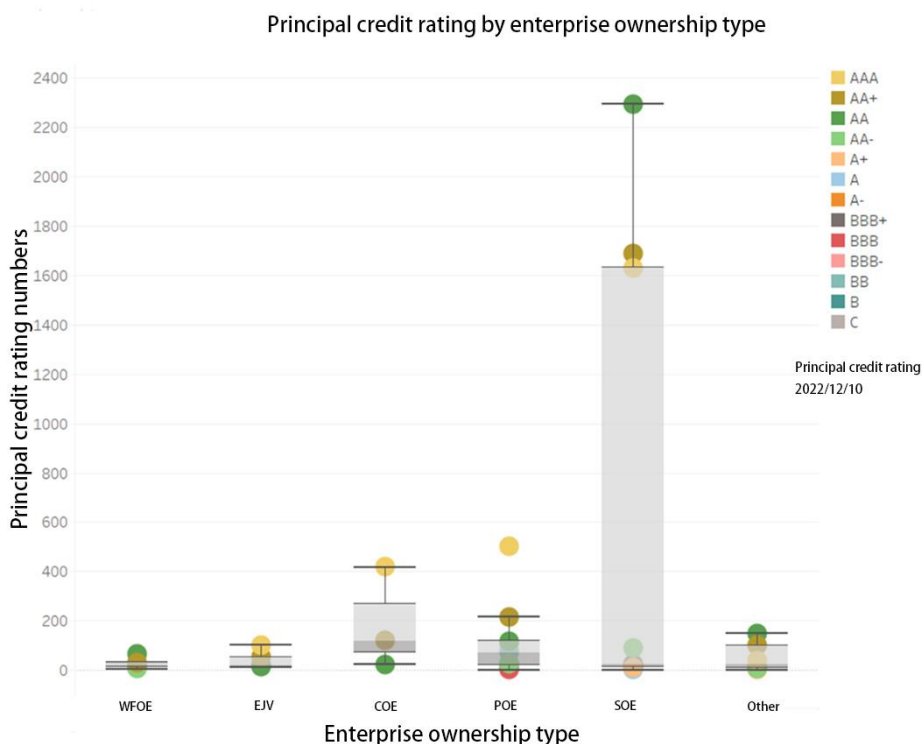


Fig. 10 Principal ratings by nature of business ownership

High housing costs, which contradict the principle of "common prosperity," are nevertheless the foundation for household wealth accumulation. To address this issue and promote widespread prosperity, the Chinese government intends to implement measures related to social security, affordable housing, and household registration. The dual-cycle development of a country, in which domestic and international markets are mutually reinforcing, necessitates a stable real estate market. As a result of reforms implemented in 1994, local governments are primarily responsible for providing social safety nets and public services. Consequently, land sales have become a significant source of revenue for financially constrained local governments, with land concessions constituting approximately one-third of local government revenues. Local governments can regulate land transfers or land planning to incentivize state-owned enterprises (SOEs) to construct housing and public infrastructure. These measures can ensure the quality of construction, enhance the profitability of enterprise development, and boost the motivation of SOEs to participate in such projects.

All of this has far-reaching ramifications for the development of China's "common prosperity," which focuses on enhancing the lives of the poor and middle classes. Strengthening China's social security system and key public services is an efficient means of promoting social mobility. Based on the aforementioned theoretical background, this paper presents the following research hypotheses:

- Real estate SOEs can purchase land parcels at a lower price than private enterprises;
- Real estate SOEs can purchase land parcels at a lower price with CEO's political connections;

- Real estate SOEs are more sensitive to the common prosperity objective than private enterprises by purchasing more land parcels for security housing and public facilities.

4. DATA DESCRIPTION AND DESCRIPTIVE ANALYSIS

4.1. Data Resources

We utilized the API from the China Land Market website to collect land transaction data, including land construction usage, average market price, supply and demand, and location. The Ministry of Natural Resources of the People's Republic of China supervises this platform. This study used a Python-based web scraper with the BeautifulSoup library to efficiently process the information from the API. The collected data enabled a detailed analysis of various factors impacting land prices and transactions, contributing to a better understanding of land market dynamics and informing policy-making in China.

In this study, we analyze land transaction samples from 2000 to 2021, a period marked by several critical developments in China's land market. First, the pursuit of common prosperity significantly influenced land management policies, with the government implementing measures to improve living conditions and ensure fair resource distribution (Ma, 2009; Wu et al., 2014). Second, this period coincides with the rapid development of China's land circulation system, which has played a crucial role in optimizing land resource allocation, promoting urbanization, and boosting economic growth (Li et al., 2012; Deng et al., 2015). Lastly, the involvement of state-owned and private enterprises in the real estate market has evolved during this period, with private enterprises gaining increasing importance (Song et al., 2011; Jiang et al., 2019). By investigating land transactions within this context, we provide valuable insights into the efficiency and effectiveness of land circulation mechanisms and the evolving roles and strategies of different enterprise types in China's land market.

Then, economic issues like residential and industrial policy, land price regulation, macroeconomic regulation, and the potential for regional development are addressed. Therefore, the dataset includes public auction and enterprise information gathered from the CSMAR database, more accurately reflecting the land's market value. Following the data collection through web scraping, we conducted a tail-trimming process to minimize the impact of outliers on our analysis. Our dependent variable is the transaction price of every land parcel, while the control variables include conventional economic indicators related to real estate enterprises. This approach allows us to comprehensively examine the relationship between enterprise types and land prices, accounting for other relevant factors in the real estate market.

4.2. Variables and Models

To compare the difference between state-owned enterprises and private enterprises in land price, we use a standard hedonic pricing model. The specification is given as follows:

$$\ln(\text{Price}_i) = \alpha + \beta \text{SOE}_i + \eta \text{FirmSize}_i + \gamma X_i + \text{Month} + \text{District} + \text{Landusage} + \varepsilon_i \quad (3)$$

Where $\ln(\text{Price}_i)$ is the natural logarithmic of the transaction price for land parcel i . SOE is a dummy that takes value 1 if the buyer is a state-owned enterprise and 0 otherwise. FirmSize is the buyer's firm size. X is a vector that captures a land parcel's key characteristics, such as land size, land grade, and auction type. We also include the month fixed effect Month , the district fixed effect District , and the land-use types fixed effect Landusage . ε is the random error term.

Table 2 and 3 list the descriptions and descriptive statistics of variables, respectively.

Table 2 Variable descriptions

Variables	Description
<i>ln(Price)</i>	the natural logarithmic of the unit price of the permitted housing floor space
<i>SOE</i>	a dummy variable that takes value 1 if the buyer is a state-owned enterprise, and 0 otherwise
<i>Landsize</i>	the natural logarithmic of the land parcel's size
<i>Landgrade</i>	the land parcel's quality level evaluated by the officials
<i>Auctiontype</i>	the sales method employed
<i>Firmsize</i>	the natural logarithmic of the firm's total assets

Table 3 Summary Statistics

Variables	N	Mean	Sd	Min	P50	Max
<i>ln(Price)</i>	3971	7.509	1.226	4.506	7.517	10.275
<i>SOE</i>	3971	0.430	0.495	0.000	0.000	1.000
<i>Landsize</i>	3971	1.777	0.662	0.119	1.833	3.090
<i>Landgrade</i>	3971	4.046	3.166	0.000	4.000	12.000
<i>Auctiontype</i>	3971	4.385	0.941	2.000	5.000	5.000
<i>Firmsize</i>	3971	25.137	1.589	19.712	25.246	27.855

5. EMPIRICAL RESULTS

5.1. The effect of buyers' ownership type on land parcels' price

Table 4 reports the results of our model (1), estimated by ordinary least squares with standard errors clustered at the district and firm levels. Column (1), which uses the full sample, shows that the coefficient of *SOE* is -0.185 and statistically significant at the 1% level, indicating that state-owned enterprises purchase land parcels at lower prices than private enterprises. Moreover, state-owned enterprises get 16.89% ($1 - \exp(-0.185)$) land price discounts compared with private enterprises. The result supports our Hypothesis.

How robust are our results? We perform three robustness checks. First, to deal with the possible selection bias arising from state-owned enterprises attempting to purchase land of a lower market value and better control the observable characteristics of land parcels, we turn to the matched sample generated by a Propensity Score Matching approach. As shown in Column (2), the regression coefficient of *SOE* is -0.160 and significant at the 5% level. Second, we use the *Stateshare* as an alternative measurement of *SOE*, which is the proportion of the firm's total shares owned by the central or local government or authorities. The results are reported in Column (3). The regression coefficient of *Stateshare* is -0.263 and is significant at the 10% level, which is larger than the coefficient in Column (1). Third, we change the measurement method of the dependent variable in the model (1). Specifically, *ln(Price2)* is measured as the natural logarithmic of the unit price of the transaction size. As shown in Column (4), the regression coefficient of *SOE* is -0.167, and it is significant at the 5% level. Overall, our main estimation results are robust.

Table 4 Effect of buyers' type on land parcels' price

	(1)	(2)	(3)	(4)
Samples	full sample	matched sample	full sample	full sample
Dep. Variable	$\ln(\text{Price})$	$\ln(\text{Price})$	$\ln(\text{Price})$	$\ln(\text{Price}2)$
<i>SOE</i>	-0.185*** (-2.680)	-0.160** (-2.290)	- -	-0.167** (-2.544)
<i>Stateshare</i>	- -	- -	-0.263* (-1.925)	- -
<i>Landsize</i>	-0.133*** (-4.516)	-0.144*** (-4.647)	-0.133*** (-4.559)	-0.189*** (-4.247)
<i>Landgrade</i>	-0.016 (-0.975)	-0.006 (-0.387)	-0.016 (-1.042)	-0.022 (-1.149)
<i>Auctiontype</i>	0.017 (0.316)	0.065 (0.950)	0.015 (0.277)	0.057 (1.190)
<i>Firmsize</i>	0.131*** (5.500)	0.113*** (4.256)	0.127*** (4.803)	0.135*** (5.916)
Constant	4.527*** (7.135)	4.766*** (6.813)	4.623*** (6.667)	5.118*** (8.331)
<i>Month FE</i>	YES	YES	YES	YES
<i>District FE</i>	YES	YES	YES	YES
<i>Landusage FE</i>	YES	YES	YES	YES
<i>N</i>	3971	2103	3971	3971
<i>Adj. R²</i>	0.727	0.726	0.713	0.730

* for $p < 0.05$, ** for $p < 0.01$, and *** for $p < 0.001$.

5.2. The moderating role of political connections

Chinese government commonly exhibit significant preferences in different fields. These firms with political connections could obtain price discounts in land purchasing, which is driven by the exchange of personal benefits and some political objectives (Chen et al., 2019). Naturally, we wonder if these firms with political connections might purchase land parcels at lower prices than those firms without political connections. To address this question, we examine the moderating role of political connections in the land market. We define political connections as those firms employing politicians as their chairman or CEO. In our regression model, *PC* is a dummy variable equal to 1 if the buyer have political connections, and 0 otherwise.

Table 5 reports the test results of the moderating role of political connections. Firstly, we examine the individual impact of political connections before the heterogeneity analysis. As shown in Table 5 (Column 1), the regression coefficient of *PC* is -0.237, significant at the 1% level, which indicates that political connections help buyers purchase land parcels at lower prices. Secondly, we further divide political connections for regression and examine the moderating role of political connections with different groups based on the model 3. Specifically, the full sample is divided into buyers with political connections ($PC=1$) and buyers without political connections ($PC=0$). As shown in Table 5, column 2 and 3 are namely the regression results. The regression coefficient of *SOE* is -0.421, significant at the 1% level in the subsample of $PC=1$, while the coefficient of *SOE* is -0.098, statistically not significant in the subsample of $PC=0$, which indicates that SOEs with political connections could purchase land parcels at lower prices than others.

Additionally, we use a time-varying difference-in-difference (DID) methodology to compare the land prices between before and after establishing political connections for SOEs. After establishing political connections, we argue that SOEs could purchase land parcels at lower prices than before. As shown in Table 5 (Column 4), interaction term *TREAT*POST* is the DID estimator that we closely focused on, which equals 1 if a SOE establishes political connections in the year, and 0 otherwise; *TREAT* refers to an indicator for the treated group, and 0 for

control group; *POST* is dummy variable, which equals 1 after a SOE establishing political connections and 0 before establishing political connections. Table 5 (Column 4) presents the results, finding the coefficient of *TREAT*POST* is -0.663, significantly negative at the 10% level, which supports our argument and the findings about the moderating role of political connections.

Table 5 Moderating role of political connections

	(1)	(2)	(3)	(4)
	full sample	PC=1	PC=0	SOE sample
Dep. Variable	<i>ln(Price)</i>	<i>ln(Price)</i>	<i>ln(Price)</i>	<i>ln(Price)</i>
<i>PC</i>	-0.237*** (-2.795)	-	-	-
<i>SOE</i>	-	-0.421*** (-3.301)	-0.098 (-1.562)	-
<i>TREAT*POST</i>	-	-	-	-0.663* (-1.932)
<i>TREAT</i>	-	-	-	0.000 (0.000)
<i>POST</i>	-	-	-	0.482*** (2.722)
<i>Landsize</i>	-0.130*** (-4.355)	-0.081** (-2.542)	-0.171*** (-2.939)	-0.148*** (-4.791)
<i>Landgrade</i>	-0.018 (-1.268)	-0.031 (-1.632)	-0.021 (-0.851)	-0.005 (-0.229)
<i>Auctiontype</i>	0.013 (0.251)	-0.039 (-0.682)	0.116* (1.809)	0.124* (1.696)
<i>Firmsize</i>	0.134*** (5.346)	0.206*** (8.700)	0.084*** (2.707)	0.090*** (4.280)
Constant	4.511*** (6.777)	2.703*** (3.693)	5.589*** (7.392)	5.070*** (8.083)
<i>Month FE</i>	YES	YES	YES	YES
<i>District FE</i>	YES	YES	YES	YES
<i>Landusage FE</i>	YES	YES	YES	YES
<i>N</i>	3971	2112	1859	1708
<i>Adj. R²</i>	0.728	0.763	0.749	0.757

* for p<0.05, ** for p<0.01, and *** for p<0.001.

5.3. Additional tests

The aim of programs for low-income housing is to improve the quality of life of poor people. The third question raised by this paper is whether state ownership helpful to achieve common prosperity by purchasing more land parcels for affordable housing and public facilities than private enterprises. In other words, dose the government offer lower land prices for SOEs to drive them to achieve the goal of common prosperity? Based on the regression of land prices, we further construct model (4) to test the second empirical question. The model is set as follows:

$$\ln(\text{Collective}_{j,t}) = \alpha + \beta \text{SOE}_{i,t} + \gamma Y_{i,t} + \text{Year} + \text{District} + \varepsilon_{j,t} \quad (4)$$

Where the dependent variable ($\ln(\text{Collective}_{j,t})$) represents the natural logarithmic of the total area of land parcels for security housing and public facilities purchased by firm buyer j in year t . Y is a vector that captures a firm buyer's key characteristics such as firm size, firm age, profitability, leverage ratio, the proportion of tangible assets and cash holdings. We also include the year fixed effect *Year* and the district fixed effect *District*. ε is the random error term.

The results are reported in Table 6. Column (1) shows that the coefficient of *SOE* is 0.982, is statistically significant at the 5% level and also very large, which means that state-owned enterprises purchase more land parcels for security housing and public facilities than private enterprises. We also use *Collective_dummy* as an alternative measurement for a robustness test, which is measured as a dummy variable that takes value 1 if the firm buyer *j* purchase at least one land parcel for security housing and public facilities in year *t*, and 0 otherwise. Column (2) reports the results. The regression coefficient of *SOE* is 0.040 and it is significant at the 5% level, suggesting that our results in column (1) are robust.

Table 6 Effect of buyers' type on land parcels for security housing and public facilities

	(1)	(2)
Dep. Variable	<i>ln(Collective)</i>	<i>Collective_dummy</i>
<i>SOE</i>	0.982** (2.267)	0.040** (2.271)
<i>Firmsize</i>	-0.030 (-0.086)	0.032*** (2.786)
<i>Firmage</i>	1.716 (1.233)	-0.038 (-0.738)
<i>ROA</i>	8.309 (0.394)	-0.849** (-2.019)
<i>LEV</i>	-2.833 (-1.085)	0.698*** (4.502)
<i>Tang</i>	2.961 (0.729)	-0.104 (-0.618)
<i>Cash</i>	-5.945* (-1.849)	-0.159 (-1.125)
<i>Constant</i>	-1.331 (-0.172)	-0.798** (-2.524)
<i>Year FE</i>	YES	YES
<i>District FE</i>	YES	YES
<i>N</i>	68	584
<i>Adj. R²</i>	0.519	0.734

* for p<0.05, ** for p<0.01, and *** for p<0.001.

6. CONCLUSIONS AND IMPLICATIONS

The primary objective of the public ownership economic system, as well as the original purpose of the state ownership system, is to promote widespread prosperity. There is a strong logical connection between the system of state ownership and overall prosperity. The goal of this study is to investigate whether or not state ownership may be important in the land market when achieving China's common prosperity goal. Our results are based on land transaction data from the China Land Market website. The empirical findings of this research support the basic research hypothesis that state ownership in real estate enterprises is useful in the construction of guaranteed housing and public construction support in accordance with the requirements of the common prosperity policy. Specifically, real estate enterprises with state ownership are more likely to purchase land parcels at lower prices and purchase more parcels for security housing and public facilities than private enterprises; and the political connections play a positive role in the process of achieving the goal of China's common prosperity.

In conclusion, this study's empirical findings corroborate previous literature (Zheng et al., 2010; Wu et al., 2012; Lin et al., 2013) on the competitive behavior of state-owned enterprises (SOEs) in the land market. By building upon the urban agglomeration research conducted by Fang et al. (2017), this investigation re-evaluates the influence of SOEs on the pursuit of common prosperity through the lens of affordable housing provision and SOEs'

responsibilities. The government plays a pivotal role in guiding the urban gentrification process and the negotiation of rights during urban village transformation.

The results reveal that the competitive edge of SOEs in the land market could potentially elevate land prices, consequently impeding the achievement of common prosperity. Nevertheless, the government demonstrates a strong commitment to fairness in the urban transformation process, as evidenced by its decision to make affordable housing construction a prerequisite for SOEs to secure land. This approach guarantees equitable competition within the land market and protects the welfare of the populace.

Moreover, the study's additional empirical findings indicate that enterprises' political connections persistently affect the efficiency of the land market. Therefore, it is essential for the government to revise land policies to minimize the impact of SOEs on the land market, fostering a more open environment and facilitating the realization of common prosperity in urban areas.

These findings have significant policy implications for future reforms of real estate SOEs:

1. Local State-owned Assets Supervision and Administration Commissions (SASACs) and real estate SOEs can play a crucial role in fostering infrastructure integration between urban and rural areas and regions, reducing the regional public service gap.
2. Improving the state ownership system, protecting the legitimate rights and interests of all people as substantial owners and beneficiaries of state-owned property, and placing the development of subsidized housing and public construction support under administrative supervision and authority can help to achieve a proper order of residential resources, maximize economic benefits, and ultimately safeguard the interests of all people.
3. By establishing various funds or capital investment organizations, they can participate in real estate or urban construction businesses with high growth potential through equity investment, increasing subsidies for emerging sectors, and industrial land for innovative technology and business models.
4. By reallocating resources through the market, SOEs and private businesses can collaborate on constructing infrastructure and public welfare facility systems, promoting the integrated development of urban and rural public services.

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Evaluating the Net Zero Policy Performances of South American Countries through an Integrated Approach

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Abstract

The aim of this study is to investigate how well the South America countries can comply with the aims of the Paris Agreement. To measure performance, the Data Envelopment Analysis (DEA) method is used. In order to use this method, decision-making units (DMUs), inputs and outputs are determined. DMUs are selected from the countries that signed the Paris Agreement. Input is identified as Primary Energy Consumption. Outputs are selected as Gross Domestic Product (GDP), Carbon dioxide Emission (CO₂), Nitrous Oxide (N₂O). The data are obtained from <https://ourworldindata.org/>. For each selected country, the data are forecasted in R Studio using the Arima method with a 95% confidence interval until 2050. Performance measurements are conducted employing DEA method.

Keywords: ARIMA, Data Envelopment Analysis, Net zero goals, Performance management.

1. INTRODUCTION

The net zero goal lays the foundation for a sustainable future. It is in question to keep global warming under control since at least carbon dioxide emissions are balanced with the net zero target. In order to avoid severe climate impacts, global greenhouse gas emissions should decrease by half by 2030 and reach zero by 2050.

As a result of industrialization, rapid urbanization and global lifestyles, we are currently facing the climate crisis. In order to avoid the negative effects of climate change, it is necessary to reduce environmental pollution and reduce the amount of greenhouse gases that enter the atmosphere. For this reason, it is possible to control greenhouse gas emissions by taking individual or institutional measures.

Kyoto Protocol was organized between 40 countries in 1997 in order to reduce green-house gases such as carbon dioxide, methane etc. As a result of the inadequacy of the Kyoto protocol, the Paris Conference was organized in 2015. After the conference, Paris Agreement was signed but it entered into force in 2016. The target of agreement is limit global mean temperature rising less than 2°C, even intended to rise less than 1.5 degrees [1].

The aim of this study is to investigate how well the South America countries can comply with the aims of the Paris Agreement. The input and output data of South America Countries are predicted for the year 2050 using ARIMA forecasting method. Then, data envelopment analysis is employed to measure the performances of countries. The rest

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of the study is organized as follows. Data envelopment analysis is explained in Section 2. Case study is illustrated in the third Section. Finally, conclusions are provided in the last Section.

2. DATA ENVELOPMENT ANALYSIS

DEA is a nonparametric technique to measure the relative efficiency of performance measure within a set of homogeneous decision units (DMUs) with inputs, desirable outputs and undesirable outputs [2]. The first DEA model, which named as CCR (Charnes, Cooper and Rhodes), developed by Charnes et al. [3]. There are two CCR DEA methods according to the change in objective functions. These are input-oriented and output-oriented which have desirable inputs and desirable outputs. The input-oriented CCR-DEA model evaluate the relative efficiency of DMUs. This evaluation is done by maximizing the ratio of the total weighted output to the total weighted input, This model constraint is output-to-input ratio of each DMU should be less than or equal to unity.

The input-oriented CCR-DEA model can be represented as follow;

$$\max E_j = \frac{\sum_{k=1}^s u_k y_{kjo}}{\sum_{i=1}^m v_i x_{ijo}}$$

Subject to

$$\frac{\sum_{k=1}^s u_k y_{kj}}{\sum_{i=1}^m v_i x_{ij}} \leq 1, \quad \forall j, \tag{1}$$

$$u_k, v_i \geq \epsilon, \quad \forall k, i$$

On the other hand, Outputs or inputs can be undesirable like CO₂ Emission or GHG Emission. The economic justification for using undesirable output variables as inputs in DEA models. Inputs and undesirable outputs cost a DMU money, therefore DMUs often try to minimize both sorts of variables. To deal with undesirable outputs, new mathematical models have been developed by changing the constraints. For example, Tyteca [4] developed model which name is Pure Environmental Performance Index.

$$\max \theta$$

Subject to

$$\begin{aligned} \sum_{k=1}^K z_k x_{nk} &\leq x_{n0} && \forall n, && (2) \\ \sum_{k=1}^K z_k y_{mk} &\geq y_{m0} && \forall m, \\ \sum_{k=1}^K z_k u_{jk} &= \theta u_{j0} && \forall j, \\ \sum_{k=1}^K z_k &\leq 1 \\ z_k &\geq 0, \quad k = 1, \dots, K. \end{aligned}$$

In above linear model is consist of an input vector x_k whose n th component x_{nk} is the amount of input n consumed by DMU _{k} , output vector y_k whose m th component y_{mk} is the amount of desirable output m yield by DMU _{k} , an output vector u_{jk} whose j th component u_{jk} is the amount of undesirable output j yield by DMU _{k} .

3. CASE STUDY

In this study, input indicators are chosen as Primary Energy Consumption and output indicators are chosen as Nitrous Oxide Emission, CO₂ emissions and GDP. CO₂ emissions, primary energy consumption, GDP and Nitrous Oxide Emission data have been found from Our World in Data (OWID) website [5]. This website has open-access data tools.

In order to evaluate the performance of 2050, these data should be estimated for the year 2050. There are many time series forecast methods such as Exponential Smoothing, Auto-Regressive Integrated Moving Average (ARIMA)

etc. In this study, ARIMA method is chosen to forecast these data. For each input and output, the data of the countries have been taken from the same year. All forecasts are obtained using R Studio v.2022.12.0.

An ARIMA (p, d, q) model is created when the parameters are merged with the integration (differencing) term, where $p, d,$ and q stand for the orders of autoregression, differencing, and moving average, respectively [6]. The concept can be expressed numerically as :

$$(1 - \beta)^d X_t = \frac{\lambda(\beta)}{\phi(\beta)} \pi_t \tag{3}$$

After finding the “ p, d and q ” values, the data sets have been estimated until 2050 with the forecast function in R Studio. The confidence interval has been taken as 95%.

The case study is performed in 11 South America countries such as Argentina, Brazil etc. Forecasts have been made for each input and each output until 2050. Forecasts for 2050 are given in Table 1.

To measure performance, Pure Environmental Performance Index mathematical model has been coded in General Algebraic Modeling System v.42.5.0 (GAMS). In this model, it was run by putting normalized values. Models results are shown in Table 2.

Table 1. South America Input&Output 2050 Forecast Data

Countries	K(Twh)	D	U	N
Argentina	1199,4	22066,1	234037143	64316297
Bolivia	146,7181	12430,039	37330067	23806721
Brazil	5358,412	19144,82	693732962	298465444
Chile	779,9786	41128,13	1481153048	10181286
Colombia	816,1198	21240,17	137981294	29193096
Ecuador	348,4132	14519,68	60773801	8143041
Guyana	11,15125	22165,4	2730134	1455151
Paraguay	226,1752	17040,82	12870042	16333575
Peru	725,0964	20583,21	84399631	14656207
Suriname	14,03193	18911,89	2682870	381911
Uruguay	98,56587	34805,63	6489942	7840000

K:Primary Energy Consumption D:GDP U:CO₂ Emmision N:N₂O Emmision

To measure performance, Pure Environmental Performance Index mathematical model has been coded in General Algebraic Modeling System v.42.5.0 (GAMS). In this model, it was run by putting normalized values. Models results are shown in Table 2.

Table 2. South America Performance Measurement

Countries	Results
Argentina	0.0222
Bolivia	0.0433
Brazil	1
Chile	0.0395
Colombia	0.0361
Ecuador	1
Guyana	1
Paraguay	1
Peru	0.0640
Suriname	1
Uruguay	1

4. CONCLUSIONS

According to performance results, Argentina is the country with the lowest performance. The result is an indication that the desirable output of the Argentina is not good enough compared to the undesirable input. Although Bolivia, Chile, Colombia And Peru have higher performances than Argentina, their results were not good. Brazil, Ecuador,

Guyana, Paraguay, Suriname and Uruguay seem to have paid more attention to the Paris Agreement in 2050 than other countries on their continents. However, this assessment is made only among countries. All South America countries should continue to take precautions for a sustainable world.

Future researchers can do this study specific to continents. Thus, the performance of countries in other continents can be measured. Necessary measures can be taken according to these measurements.

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The Human Factor to Organizational Success: Investigating the Influence of People-centric Leadership and Culture in Creating a Meaningful High-performing Company

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Abstract

This paper aims or focuses on understanding and assessing the impacts of human factor to oganizational success with the focus on people-centric leadership towards organizational success and creating a meaningful well performing company. This research will be done through a research assesment based on analysis and thorough literature review to give an in depth understanding of critical concepts related to people-centred leadership's role in creating a well-performing company. The study employed a qualitative methodology to collect data in a thorough manner, allowing for a deeper comprehension by readers. This research is interdisciplinary, incorporating principles from management, leadership, and organizational psychology. By taking a comprehensive approach, the study effectively captures intricate nuances that enhance our understanding of the subject. Through qualitative research methods, the researcher focused on analyzing and extensively reviewing relevant literature to provide a detailed understanding of the essential concepts pertaining to the influence of people-centered leadership on organizational performance. At the outset, the investigator will employ diverse databases as a means to identify scholarly articles that are relevant to the subject of research. The investigator will employ a scholarly framework for analyzing academic literature with the aim of comprehensively comprehending the subject matter and its corresponding research. The investigator will assess the secondary data from multiple sources to ascertain its reliability and accuracy.

Keywords: People - centered leadership, organizational performance, organizational culture, high performing organization

1. PROBLEM STATEMENT & INTRODUCTION

Leaders have influence and authority and they set the organizational culture tone. Leaders hold people accountable and also reinforce values. Based on the strategy execution and leadership style, leaders positively or negatively influence others (Renko et al., 2015). Traditional leadership styles have been based on an authoritarian approach, where leaders make all the decisions and employees are expected to follow without question. This type of leadership often leads to a culture of fear and lack of trust between managers and their employees. Both practical and ineffective leadership build and impact a workplace's organizational culture. Although, it is advisable to create a culture that gives employees room to thrive, there is little evidence to suggest that people are passionate about their work. It is revealed that only 13% of employees are passionate about their work. A weak culture is unfavourable to employees

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(Barbera, 2014). Leaders assume that what is referred to as a best practice is the best for their organization. Instead, it is essential to assess, survey, rationalize and integrate the critical steps in developing the business's conceptual milestones (Hesselbein & Goldsmith, 2009) and appropriate strategies, vision, culture, and mission (Herman, 2016). Leaders face the challenge of creating an environment where the top priority is meeting the psychological needs of their employees as humans. When employees don't feel comfortable, heard, appreciated, and allowed to advance in their work increases turnover and absenteeism cases. It also lowers motivation, commitment and profitability. The lack of open dialogue and leader-employee relationship negatively affect trust, decrease sense of belonging and purpose. It is, thus clear that there is a demand for a greater emphasis on human-orientated behavior and the implementation of more adaptive leadership styles. Such approaches should involve connecting with individuals, making efforts to ensure psychological safety, exhibiting empathy, and promoting positive relationships. Furthermore, it is essential to create opportunities for learning and developing relevant skills, as well as encouraging self-reflection in order to cultivate a mindful leadership style.

2. LITERATURE REVIEW

Leaders exert an influential role in the operations of an organization. They emphasize work, establish the organization's plans, assign responsibilities, and direct. Effective heads of authority impart mentorship, direction, vision, and motivation to those whom they lead. When organizational leaders cultivate a culture that emphasizes the value of their employees, allowing them to be involved in the decision-making process and providing the resources necessary to reach their fullest potential, employees often display increased effort and creativity in their work (Drucker, 2018). The result of this is an improvement in customer service, an increase in productivity, and a higher financial return. Employee engagement is associated with meeting excellence and quality standards and promoting workplace wellbeing (Albrecht et al., 2015). They demonstrate a capacity for reasoned judgement, exhibit conscientiousness, and exhibit a meticulous attention to detail. Highly regarded staff members possess remarkable client service capabilities and are proficient in responding to issues, inquiries and resolving difficulties, thus contributing to a significant increase in business revenue. Additionally, valued employees feel comfortable in their work hence maintaining a greater retention rate in the organization (Morgan, 2017). Once employees are provided with opportunities to be heard, appreciated, and promoted, they are more likely to remain within the organization (Cloutier et al., 2015). Finally, increases in profitability have been observed as a result of the collective efforts of the personnel, leading to an improvement in productivity (Black & Venture, 2017).

Organizational leaders foster employee development through the implementation of recognition systems and goal-setting practices. Employees benefit from regular feedback, both in terms of giving and receiving. When there is continual communication and open dialogue between employees and their leader, there is a greater likelihood of trust being established (Black & Venture, 2017). It is essential for leaders to recognize the accomplishments and professional milestones of their highest-performing employees to demonstrate appreciation. Acknowledgement of an employee's work can increase their sense of worth. It is paramount to guarantee that the health of the workforce is optimal, encompassing physical health, as well as social and emotional wellbeing. Slemp, Kern, and Vella-Brodrick (2015) highlighted the importance of establishing and maintaining a healthy lifestyle within an organization, as well as providing a comprehensive support system for its employees (Slemp, Kern & Vella-Brodrick, 2015). The utilization of social media platforms has been linked to heightened levels of burnout and isolation within the workplace. Baldoni (2011) highlights the importance of cultivating an atmosphere of connectivity within an organization in order to foster collaboration, bolster the meaning and value of work, and bolster a sense of community and belonging (Baldoni 2011). Maier et al. (2015) suggest that an effective leader is one who is able to effectively communicate and foster growth amongst young people, who often rely upon coaching to reach their full potential (Maier et al., 2015). The leader-employee relationship is essential as it is a critical connection determines a business's success. Once the link is negative, weak employees even disconnect from other cultural aspects (Mikkelsen, York, & Arritola, 2015). Leaders are role models who epitomize the culture they preach without exceptions. Goleman (2013) also posited that a leader must possess the ability to manage diversity in order to effectively remain focused and persist through difficult times. Having the capacity to exercise sound judgement in the face of adversity endows an individual with the skill to effectively manage a diverse workforce. The vision of diversity management should articulate the desired accomplishments of leadership (Turner & Kalman, 2014).

A people-centric company outperforms its competitors since they prioritize employees and are proactive in the growth and development of associates. Building a solid relationship with an employee creates a better and more conducive workstation (Rupp & Mallory, 2015). Valuing an employee makes them feel energized and excited about their work and contributes to their best. Gond et al. (2017) assert that effective leaders possess skills which enable them to provide their subordinates with clear objectives, as well as facilitate problem-solving through coaching. The organization also assigns employees primary duties and provides them with the necessary support to ensure that they reach the required standards of quality in their results (Gond et al., 2017). Pioneering researcher Drucker (2017) postulates that a leader who promotes conscious consideration will foster an attentive leadership style (Drucker (2017). Similarly, Schneiderman (2020) argues that such an approach will foster relationships that make team members aware of their value, fostering a sense of camaraderie and recognition of the importance of their contributions to the organization (Schneiderman (2020) . Leaders that prioritize the professional growth and development of their personnel have fewer mistakes and incidents in the workplace. The organization enhances its efficiency and profitability. The development of positive relationships between employees and employers has been found to be a key factor in fostering employee loyalty and ultimately leading to business growth and success (Bin & Shmailan, 2015).

When personnel are permitted to thrive in their job environment and their allegiance is fostered through constructive relationships, the enterprise expands and achieves prosperity. Maintaining a focus on the team's professional and personal welfare is of paramount importance (Gabriel, 2015). A leader focused on the wellbeing of their team fosters an environment of satisfaction and productivity, resulting in favourable outcomes. When personnel are given the opportunity to thrive in their environment and form strong connections with their employer, the organization can achieve prosperity. Leadership involves attending to the needs of others while not necessarily assuming a position of authority. Every leader should demonstrate concern for and exhibit engagement with their followers. Goleman (2018) argues that, due to the challenges inherent in life, it is essential for leaders to possess empathy (Goleman 2018). John C. Maxwell (2013) suggests that managers should strive to cultivate meaningful connections with their staff in order to gain a deeper understanding of their fears, desires, problems, and dreams, and to approach the situation with empathy (John C. Maxwell 2013). The Boston Consulting Group (2020) has conducted research that suggests that people-oriented leadership is the wave of the future, involving a combination of "head, heart and hands" leadership approaches (Boston Consulting Group 2020).

Human-centered leaders learn in their lifetime. Given that learning is a purposeful, continual, and tactical process, it is essential for leaders to invest in their development and practice purposefully. It has been suggested that in order to foster autonomy and enable employees to reach their full potential, leaders provide them with the tools necessary to self-advance (Tintoré, 2016). Furthermore, leaders possess an aptitude for recognizing potential. The organization encourages its personnel to make a willing effort in order to reach the desired goals without the need for a hierarchical structure. Ultimately, human resources are essential to any organization as they promote safety, effectiveness, and efficiency in the workplace. (Longo, Nicoletti, & Padovano, 2017). When an employee is content with their work environment, they are likely to contribute to the organization's prosperity. Leaders provide employees with the necessary information, education, and abilities to enhance the organization's competitive edge (Karta and Asalari, 2016). An effective leader strives to maintain a balance between satisfying employees' needs and expectations while simultaneously facilitating the attainment of the organization's goals and objectives through capitalizing on its capabilities and profitability.

3. HYPOTHESIS AND RESEARCH QUESTIONS

3.1. General Hypothesis

People-oriented leadership is not about being too lenient or disregarding profits. It means understanding how leadership affects employees and behaving in a way that brings out their full potential. This involves creating an environment of mutual respect and trust, where employees are motivated to give their best for the company. The connection between how a company treats its employees and its financial success is unquestionable. Companies that offer excellent benefits, cultivate a positive work atmosphere, and acknowledge hard work tend to inspire loyalty and

commitment. This, in turn, leads to higher productivity, improved morale, better customer service, and ultimately, greater profits.

The general hypothesis is operationalized through the following special hypotheses:

- People - centered leadership creates psychological safety at work. Satisfying and addressing the human needs of valuable employees is the key for organizations in 21st century. When leaders foster an environment in which employees are appreciated, heard, and enabled to reach their highest capabilities, they become more devoted to the organization.
- Valued people strive to provide customers with the highest level of service possible in order to enhance productivity and achieve impressive financial success.
- Companies that prioritize their employees, offering them growth and development opportunities, competitive salaries, providing health and wellness benefits, implementing flexible work hours, and encouraging open communication and collaboration between all team members consistently outperform their competition.
- Creating an atmosphere of appreciation and respect amongst team members can have a tremendously positive effect on the work environment. Providing employees with a sense of worth and meeting their needs is essential for success in the modern business world. This can lead to a decrease in absenteeism, turnover and workplace incidents.
- By fostering strong interpersonal relationships and communication skills, employees will be more passionate about work, committed and produce higher quality work.
- People are drawn to organizations that have a clear mission, purpose, and vision.

3.2. Research questions

1. Research question: What are the critical attributes of people centered leadership and culture and its benefits to the company, employees and customers?
2. Research question: How people centered leadership and culture influence and contribute to creating a meaningful well-performing organization?
3. Research question: How people centered leadership foster high employee commitment and performance that outperform its competitors?

4. RESEARCH METHODS

Using the qualitative research method, the investigator focused on analyzing and reviewing relevant literature to gain an in-depth understanding of key concepts related to the role of people-centered leadership in creating a high-performing company. Initially, the researcher searched various databases to identify peer-reviewed articles relevant to the research topic. The researcher employed an academic methodology to examine scholarly literature, ensuring a thorough understanding of the subject matter and its associated research.

The researcher critically evaluated secondary data from multiple sources to ensure its validity and accuracy. The research conducted was a qualitative study, meaning that data was collected in a detailed and thorough manner to provide readers with a comprehensive understanding. This research draws upon multiple fields of study, such as management, leadership, and organizational psychology, making it multidisciplinary. By taking a more comprehensive approach, the research is able to capture intricate details that enhance our understanding of the topic. According to Denzin and Lincoln (2000), qualitative research is an interpretive and naturalistic approach that

examines phenomena in their natural settings, aiming to understand the significance that individuals attribute to them. This process involves interpreting these phenomena based on the meanings individuals assign to them.

5. RESULTS

Literature shows that leadership is what shapes an organizational culture, which in turn influences individuals and eventually affects the organization efficiency. According to the literature, it has been shown that people-centered leadership plays a critical role in fostering emotional safety at the place of work (Maxwell, 2013; Boston Consulting Group 2020). Psychological safety is a crucial idea that makes workers feel valued, able to express themselves, and empowered. The findings imply that when managers consider the welfare and emotions of their subordinates; enhanced loyalty and commitment of employees towards an organization exist. If employees are well appreciated, they will be willing to work beyond their normal duties hence leading to increased production, better customer care hence high returns for the businesses. There is evidence to suggest that employees who feel valued will put their best effort in a bid to offer maximum customer satisfaction for increased productivity and high returns. According to literature, an employee who is recognized for their contribution tends to have a sense of motivation and commitment (Albrecht et al., 2015). Based on findings, there is a robust relationship between employee satisfaction and quality of service delivery. It is evident that organizations with great concern on employees are bound to experience increased customer's satisfaction, higher productivity and consequently better financial results (Albrecht et al., 2015)

Organizations investing in their employees by providing growth and development opportunities, competitive salaries, health and wellness benefits, flexible work arrangements, and open communication are successful in the long-term because they consistently outperform their competitors. Literature supports the fact that these actions improve morale, reduce absenteeism and turnover, and increase workplace safety (Vance, 2006). This, however, can be confirmed by the outcomes of these researches which assume that organizations, orienting their leaders' style and corporate culture to people-centeredness, demonstrate successful financial performance because they manage to lure the most qualified personnel and sustain the competitive advantage. Results asserts that making employees feel appreciated and respected within their working environment is very important for the work performance (Cloutier et al., 2015). Workplace incident, absenteeism, and turnover will be reduced by meeting the employees' needs as shown in the literature. Organizations with emphasis placed upon human resources are characterized by fewer internal conflicts for greater motivation of employees, which in turn improves organizational performance.

Research reveals that good interpersonal relationships and effective communication enhances employees' passion, dedication and the quality of work. The literature review indicates that leaders who promote empathy and develop strong relationships with their teams encourage comradeship and recognition of employee's achievements (Goleman, 2018; Maxwell, 2013). This can be justified through the fact that employees working in organization with excellent interpersonal relations and effective communication are more passionate regarding their duties, they are committed and produce desirable outcomes thus supporting the above argument. People tend to associate themselves with organization having a clear mission, purpose and vision. A clear organizational mission, as depicted in the literature review, helps enhance motivation among employees alongside providing them with meaning (Herman, 2016). This is supported by the research findings that show companies that have clear missions and purposes attract and retain not only their employees but also their clients that contribute to continued success and growth of an organization.

Concisely, the literature review offers a solid basis for the study emphasizing the importance of people oriented leadership and culture in developing a motivating, productive entity. The outcome of the study affirms the hypothesis, as well as showcase different approaches that human factors impact organizational success. Promoting a psychological safe workplace should be valued, giving room for growth opportunities in the same company. Finally, it points out to the necessity of a people oriented approach in contemporary organizations, where both, employees' interests, customer satisfaction and company benefits have been taken into account.

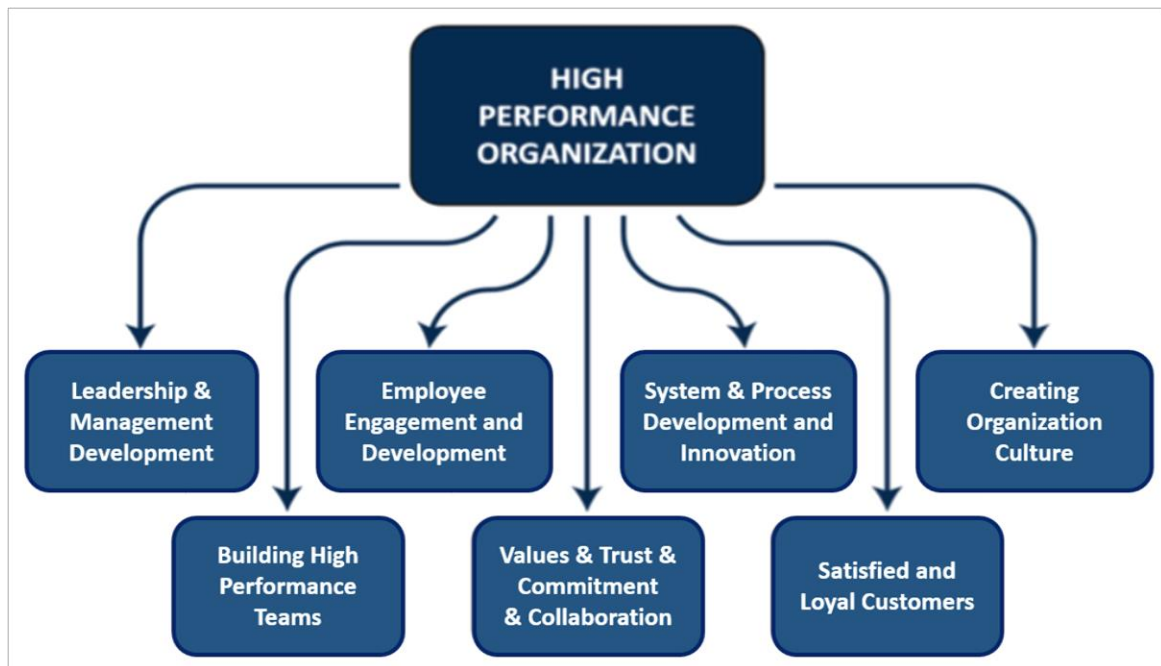


Fig. 1. High performance organization: (adopted by teamwork at the Top - Improve the performance of the leadership team by Leslie, Herb and Price 2001.)

6. CONCLUSION

The research focuses on the essential role that has been played by people oriented leadership and culture in helping to shape the success of modern business enterprise in today’s world. Findings maintained that building strong evidence that values and care for employees can contribute positively to employee wellbeing, growth and development. In this study, the proposed hypotheses illustrate the relationship between some of the human-oriented factors (for instance – level of employees’ engagement, delivery of quality customer services, profitability, development of a meaningful working environment) and organizational results and outcomes. The study provides support for the hypotheses posed proving that firms with people oriented leadership and organizational culture are more likely to be at an advantage over others on diverse performance scores. The outcomes support that the real concern with human factor is the key to survival success story of 21st Century. This research helps into appreciating leadership and organizational culture and also highlights the necessity of constant changing and adapting to current conditions of the global economic environment. Companies that listen and meet staffers’ need for meaning and togetherness have a head start position towards success. Putting people first in a positive cycle provides increased organizational commitment, better customer satisfaction, and better bottom line results in a positive cycle provides increased organizational commitment, better customer satisfaction, and better bottom line results.

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The Role of Information and Measurement Standards in the Development of Innovative Technology, Product or Service: Examples from Different Industries

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Abstract

This paper aims to provide theoretical insights into the role of information and/or measurement standards in developing innovative technology, products or services. Further, it seeks to provide some empirical evidence of these theoretical insights from an overview and analysis of examples from different industries regarding the role of information and/or measurement standards in developing innovative technology, products, or services. Analysis of several examples in various industries revealed that information and/or measurement standards could be means to decrease information asymmetry; ensure that products own the attributes they allege to have; lay the basics for innovative products and services; instruments for technology transfer; could support the dissemination of best practices, ensuring the comparability of the values regarding product quality; be solution for overcoming information asymmetry and models that could be used to carry out comparable measurements. These examples' findings could be an important insight to foster and motivate researchers to get involved in standardisation processes.

Keywords: information and/or measurement standards, innovative technology, innovative product, innovative service, industry

1. INTRODUCTION

To comprehend the role of information and/or measurement standards in developing new technologies, it is important to investigate the relationship between research, new technologies, and standards. Blind and Gauch, (2009) analysed the relationship between standards and research and identified researchers' motivations to be involved in standardisation. They stated that knowledge generated from research activities can be codified in various publications, so through participation in standards development, researchers can incorporate their research contributions to standards. Furthermore, this knowledge incorporation is important for transferring tacit knowledge from researchers through participation in the standard development process (Blind, 2006). To conclude, for a successful standardisation process to be developed, a solid linkage between standards-developing technical committees and researchers is required (Radauer, A., Baronowski, S., Yeghyan, 2022). But, in many cases, researchers who develop innovative technology using their expertise and specified knowledge in their areas of expertise don't know anything about standardisation, so they have no motive to get involved in the standardisation processes. In addition, especially if they don't have examples or success stories regarding using standards in their field. So, it could be valuable to have more studies that try to review and analyse these examples to connect researchers and technical committees that develop standards.

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For successful technology transfer, standards are required, and the first to be taken into account are the information standards, like terminology standards, as they clear up terminology issues at the onset of the research (Blind & Gauch, 2009). In addition, in the later stages of research, measurement and testing standards are necessary as means for checking whether particular requirements for products have been reached and to assure comparability through defined methods for testing (Abdelkafi, Bekkers, Bolla, Rodriguez-Ascaso, & Wetterwald, 2021; Blind & Gauch, 2009).

This paper analyses the role of information and/or measurement standards in developing innovative technology, products or services. The paper outlines the theoretical insights on the role of information and/or measurement standards in new technology development. Further, it provides some empirical evidence of these theoretical insights from an overview and analysis of examples from different industries regarding the role of information and/or measurement standards in developing innovative technology, products or services. These theoretical and practical insights could foster researchers' involvement in standardisation processes.

2. BACKGROUND: INFORMATION AND/OR MEASUREMENT STANDARDS AND INNOVATION

The category of information and/or measurement standards is from the classification of standards in the manner of the economic problem they solve (David, 1987; Pham, 2006). This classification of standards recognises four categories of standards and includes, aside from information and measurement standards, compatibility and interface standards, variety reduction standards, and minimum quality and safety standards (de Vries, 1999; Pham, 2006). Information and measurement standards are recognised as a combination of the other three categories (Pham, 2006), because each category includes some information. Examples of information and measurement standards are barcode standards (Hänninen, Luoma, & Mitronen, 2021), standards that define the marking and grading of tires and the marking and grading of petrol (Pham, 2006).

International Organisation for Standardisation (ISO, 2021) points out some economic benefits of information and/or measurement standards: they could enhance knowledge diffusion, advance market efficiency, and increase customer confidence in products/services. Information and/or measurement standards "help provide evaluated scientific and engineering information in the form of publications, electronic databases, terminology, and test and measurement methods for describing, quantifying, and evaluating product attributes" (Tassey, 2000). In addition, when a product complies with the requirements in the measurement standards designated for it, it represents a warranty by the producer that the product possesses the characteristics it is supposed to (Hesser, 2021). So, in this case, standards are used to check whether particular requirements have been reached and to assure comparability through concerted methods for testing (Abdelkafi et al., 2021; Blind & Gauch, 2009). By ensuring the comparability of the values regarding product quality, they could support the dissemination of new methods and best practices. As a result, measurement and testing standards support the shift towards product development and assure that a product meets its given requirements. At the same time, the information asymmetry is reduced as consumers can buy that product in confidence that its characteristics are as they are supposed to be without needing to estimate the product features. So, measurement standards solve information asymmetry between producers and customers (Hesser, 2021). In addition, innovative companies use standards for measurements and tests to demonstrate that their innovative products own the attributes they allege to have, at the same time conforming to adequate health, safety and environmental risks (Swann, 2000).

Codified knowledge and product descriptions are contained in information and measurement standards, which establish a valuable means for technology transfer, as experts' codified research results and experiences in their specialised areas enable the diffusion of best practices (Abdelkafi et al., 2021; Swann, 2000). Swann (2000) pointed out that when information standards are openly available, they support fair competition in the market, resulting in information standards to inhibit information asymmetries and reduce restraints for product market entry. Further, they support the reduction of transaction and search costs, which are valuable for successful market activity (Hesser, 2021; Swann, 2000). In addition, organisations involved in developing information standards could gain an essential competitive advantage in the market; otherwise, they risk losing valuable markets (Lyytinen & King, 2006).

3. METHODS

A review and systematic analysis of the papers published on the relationship between information and/or measurement standards and new technology, product, or service were conducted. In this study, published articles from the Google Scholar database were analysed using a search with the keywords "information standards", "measurement standards", "standards+innovation", "standards+new technologies", and "standards+innovative

product/service", and their combinations. The recent and relevant studies from the search lists were reviewed, and examples from different industries were analysed.

4. EXAMPLES OF INFORMATION OR/AND MEASUREMENT STANDARDS USED IN DIFFERENT INDUSTRIES

4.1. Plastic waste management: information and measurement standards as means to decrease information asymmetry and reduce plastic waste

Schuyler and Ramezani (2022) investigated the standardisation of labelling plastic waste to increase customers' awareness regarding which environmental impacts could cause their purchasing decisions. They point out that one way to reduce plastic waste is to educate consumers about the environmental effects that the product that they are buying could cause. Currently, voluntary schemes, like VinylCycle, indicate the degree of recycled material in a product, which had a significant impact on raising customer's awareness about pollution, changing some customers to go for "greener" products and thus contribute on a personal level to a global environment issues (Schuyler, Ho, & Ramezani, 2022). Schuyler and Ramezani (2022) suggested that standardised labels could be given as a "green star label", which brings information regarding products to consumers. Important elements that could be incorporated into such a label include "the amount of recycled content, recyclability or compostability of the product, and carbon emissions associated with the product" (Schuyler et al., 2022).

4.2. Food industry: standardisation of anthocyanin extraction method for fruit and vegetables

It is known that plant-based colourful foods have positive impacts on health (Mamatha, 2021). Anthocyanins are "plant-based polyphenols partially responsible for the bright colours in fruit and vegetables" (Mamatha, 2021). In a study regarding anthocyanins in Australian foods, Mamatha (2021) concluded that there is a need for an optimisation and standardisation of the anthocyanin extraction method for fruit and vegetables. The analytical values of anthocyanin given in food composition databases are currently different globally because of various scientific approaches. There is a need to overcome this gap regarding the exact type and values of anthocyanins in fruit and vegetables (Mamatha, 2021). Despite their importance to health, a coherent analytical method for analysing anthocyanins must be adopted (Mamatha, 2021). This method could increase the quality of products placed on the market.

4.3. Digital image compression: standards which describe different compression methods

During the early 1990s, with the fast dissemination of applications for image and video processing and the progress of multimedia technologies, methods for compression were increasingly valuable to have reliable and widely used platforms to process data (Abdelkafi et al., 2021). For example, JPEG (Joint Photographic Experts Group) is one of the first and most used standards for image viewing introduced when International standardisation recognised this tendency and developed several standards regarding varied compression methods (Abdelkafi et al., 2021). These new solutions introduced by new standards allowed the industry to keep image and video materials in a way that saves storage space. In addition, standards for different compression methods set the base for developing innovative products/services and markets (Abdelkafi et al., 2021). Many companies built their software products using these compression methods, which are then globally exploited by millions of consumers (Abdelkafi et al., 2021). The JPEG standard with its heirs, MPEG and M4A, are included in numerous software solutions, such as "the sharing of digital images, remote sensing, archiving, digital cinema, and image search and retrieval" (Abdelkafi et al., 2021).

4.4. Management of urban areas: the ISO standard for noise measurement

As the industry is being concerned about the impact of noise exposure during work on employer's health and productivity as well, a standard ISO 9612 (Acoustics - Determination of occupational noise exposure - Engineering method) is being introduced, which indicates the method for measuring the level of noise exposure of employers in a working environment (ISO, 2023). Sahlathasneem and Surinder (2023) pointed out that methodology for measuring noise level was a shortcoming in "various land-use patterns, especially the duration of noise monitoring; noise levels exceeded the prescribed noise standards in almost every noise assessment study across the globe irrespective of

land-use or designated zone, and are exhibiting rising trends mainly due to traffic-induced noise". While most of the city population is distressed by severe physical and psychological health effects by constantly being exposed to the noisy environment, mapping areas by noise exposure can be a way to manage noise in urban areas (Sahlathasneem & Surinder, 2023). In addition, WHO gave guidelines for noise in specific environments, such as outdoor living areas, hospitals, shopping and traffic areas and so on, and these guidelines consider the crucial health effects of noise on the population (WHO, 2017).

4.5. Software industry: the series of standards ISO/IEC 25000, System and Software Quality Requirements and Evaluation (SQuaRE)

ISO and IEC established the Software Engineering Subcommittee 7 (SC7) within the Joint Technical Committee (JTC 1) for information technology to deal with the "standardisation of processes, supporting tools and supporting technologies for the engineering of software products and systems" (ISO/IEC JTC1/SC7, 2023b). This subcommittee developed the ISO/IEC 25000 series of standards, System and Software Quality Requirements and Evaluation (SQuaRE) (ISO/IEC JTC1/SC7, 2023a). This set of standards aims to create a model for assessing software product quality. The series of standards ISO/IEC 25000 is composed of six divisions. ISO/IEC JTC1 SC7 summarise these divisions as follows (ISO/IEC JTC1/SC7, 2023a):

- "ISO/IEC 2500n - Quality Management Division. The International Standards that form this division define all common models, terms and definitions referred to by all other standards from the SQuaRE series"
- "ISO/IEC 2501n - Quality Model Division. The International Standards that form this division present detailed quality models for systems and software product, quality in use and data. Practical guidance on the use of the quality model is also provided"
- "ISO/IEC 2502n - Quality Measurement Division. The International Standards that form this division include a system and software product quality measurement reference model, mathematical definitions of quality measures, and practical guidance for their application"
- "ISO/IEC 2503n - Quality Requirements Division. The International Standard that forms this division helps specifying quality requirements"
- "ISO/IEC 2504n - Quality Evaluation Division. The International Standards that form this division provide requirements, recommendations and guidelines for product evaluation, whether performed by independent evaluators, acquirers or developers. The support for documenting a measure as an Evaluation Module is also presented"
- "ISO/IEC 25050-25099-Extension Division. SQuaRE extension (ISO/IEC 25050 to ISO/IEC 25099) is designated to contain system or software product quality International Standards and/or Technical Reports that address specific application domains or that can be used to complement one or more SQuaRE International Standards."

Gong and coauthors (2016) suggested an improvement of the software quality measurement method given in SQuaRE. This proposal for improvement is acknowledged by ISO/IEC JTC1 SC7 and accepted to be incorporated into the newest version of the ISO/IEC 25020 standard. With their proposed method, Gong and coauthors (2016) aimed to resolve "the relationship between a quality model, its associated quality characteristics and systems and software product attributes, along with the corresponding software quality measures, measurement functions, quality measure elements, and measurement methods." High quality of the development and maintenance processes are important for achieving high quality of software products, and further, quality of software products impacts quality in use perceived by the users. So, to obtain comparable value while evaluating software quality characteristics, Gong and coauthors (2016) proposed a method of normalisation of quality measure elements, ranging from 0 to 1, where 1 is the best result. They offered three functions for evaluating if the quality measure meets the requirements, acknowledging three scenarios: the larger, the better quality characteristic; the smaller, the better and closer to the given expected value, the better.

4.6. Software industry: standardisation of open-source software (OSS) quality

In the past twenty years, open-source software (OSS) solutions have been introduced, and the number of its supporters is increasing due to its accessibility. One example of OSS solution implementation is the case of Beaumont Hospital, where deploying these solutions led to significant cost savings for purchasing and maintaining software (Fitzgerald & Kenny, 2003). As the number of stakeholders interested in OSS solutions is rising, OSS solutions quality needs to be standardised (Yılmaz & Tarhan, 2023). In addition, quality models should be used as frameworks for comparable measurements of software characteristics (Yılmaz and Tarhan, 2023). Yılmaz and Tarhan (2023) proposed "a comprehensive meta-model of OSS quality" in order to standardise language and remove inconsistencies in OSS solutions to gain a common understanding among stakeholders (Yılmaz and Tarhan, 2023).

4.7. Measurements in the drug delivery: the link of metrology and standardisation

Measurement devices are often used for drug delivery, and new measurement methods are developed and applied to simplify and improve the existing methods without increasing uncertainty (Batista et al., 2023). These new measurement methods should be standardised to enable the dissemination of new technology. One of the results of EMPIR – project MeDDII – Metrology for Drug Delivery, delivered in cooperation between IPQ – Portuguese Institute for Quality, is a support of the development of standards, like ISO 8655 series on piston-operated volumetric apparatus (EURAMET, 2023). The project consortium was involved in several standardisation activities and participated in the work of international technical committees: "TC84/SC6 - ISO 7886-2, IEC/TC 62 D - IEC60601-2-24, ISO TC 48/WG3 - new ISO 22916 and ISO/AWI TS 6417, TC 48/WG4 – new ISO 8655-9, ISO 8655-1 and TR 20461, TC48/WG5 - ISO 23783-1,2 and 3, and ISO/AWI TR 6037, ISO/TC 150/SC 6 - ISO14708-4, AAMI TIR101 and TIR111, ISO TC 210 - ISO TR 24971 and ISO TC 212 – ISO 15189" (MeDDII, 2023). These project results exemplify a valuable relationship between metrology and standardisation.

5. DISCUSSION AND CONCLUSIONS

From all the relevant studies mentioned above, information/measurement standards are the means for technology transfer as experts' codified research results and experiences in their specialised areas enable the diffusion of best practices (Abdelkafi et al., 2021; Swann, 2000). In addition, when a product complies with the requirements in the measurement standards designated for it, it represents a warranty by the producer that the products possess the attributes they allege to have (Hesser, 2021). So, standards are used to check whether particular requirements have been reached and to assure comparability through concerted methods for testing (Abdelkafi et al., 2021; Blind & Gauch, 2009). By ensuring the comparability of the values regarding product quality, they could support the dissemination of best practices. At the same time, the information asymmetry is reduced as consumers can buy that product in confidence that its characteristics are as they are supposed to be without needing to estimate the product features. So, measurement standards solve information asymmetry between producers and customers (Hesser, 2021). In addition, innovative companies use standards for measurements and tests to demonstrate that their innovative products own the attributes they allege to have, at the same time conforming to adequate health, safety and environmental risks (Swann, 2000).

Analysing the examples given above it could be concluded that information/measurement standards have different roles in development of innovative technology, product or service (see Table 1.).

Table 1. The role of information/measurement standards in development of innovative technology, product, or service

Authors of the study	Context	Information/measurement standard	Role of standards
Schuyler and Ramezani (2022)	Plastic waste management	standardisation of labelling plastic waste	standards as means to decrease information asymmetry and reduce plastic waste
Mamatha (2021).	Food industry	standardisation of anthocyanin extraction method for fruit and vegetables	standards as means to decrease information asymmetry and ensure that products possess the attributes

Abdelkafi (2021)	Digital image compression	standards which describe different compression methods	they allege to have standards laid the basics for innovative products and services; the instrument for technology transfer and support the dissemination of best practices
Sahlathasneem and Surinder (2023)	Management of urban areas	standard that specifies a method for noise measurement	solution for overcoming information asymmetry
Gong, Lu, and Cai (2016)	Software industry	ISO software quality standards/SQuaRE	ensuring the comparability of the values regarding software quality
Yılmaz and Tarhan (2023)	Software industry	standardisation of open-source software (OSS) quality	solution for overcoming information asymmetry and models for carrying out comparable measurements
Batista et al. (2023)	Measurements in the drug delivery	Standards which describe new measurement methods	support the dissemination of new methods

This paper reviews the role of information and/or measurement standards in developing innovative technology. The paper provides an overview of theoretical insights on the role of information and/or measurement standards in new technology development. Further, it gives an overview and analysis of examples from different industries, which could be used as an important insight to foster and motivate researchers to get involved in standardisation processes. Through participation in standards development, researchers can introduce their contributions to standards, which is essential for a successful standardisation process to be developed.

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**Global Education, Teaching and Learning
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Education to Resolve Conflicts through Mediation as a Chance to Educate Society to Responsibility in Searching for and Making Decision in Disputes in Life Situation

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Abstract

Conflict has accompanied man since ancient times. It arises because of a conflict of interests between individuals striving to achieve important life goals. It appears in family life, school, work environment and business. Conflict can be destructive, disrupt human functioning in various social roles and cause frustration. But the emergence of a conflict can also have a positive effect and lead to clarification of the situation, reduction of tension, exchange of information about the needs, feelings and interests of the other person. Appropriate approach to the conflict, based on conversation and considering the position of the other party, allows for its analysis and an attempt to find a mutually satisfactory solution. It teaches conversation and responsibility for decisions made during the conversation. The above approach to conflict resolution is possible thanks to the mediation procedure, which is becoming more and more common in family, school, peer, employee and criminal cases, and is an alternative to court procedures. The aim of the work is to show the possibilities offered by mediation in the search for a dispute resolution and the benefits of educating the society in the direction of out-of-court, mediation conflict resolution. The work also shows the ways of introducing the concept of mediation into social awareness through school education and education conducted by the broadly understood media.

Keywords: Education of society, conflict, management of conflict, mediation, peer mediation, mediation process, mediation at school

1. INTRODUCTION

The modern world, existing in it and functioning properly requires a number of social competences. Despite its modernity, specialization and professionalization, which makes life easier in many spheres, supports the fight for health, accelerates the development of various fields, it requires skills in building interpersonal relationships and interacting with other members of society. Coexistence with other individuals building society may turn out to be difficult and requiring effort because people functioning in society are characterized by great diversity in terms of worldview, value systems, religions and related principles, preferences in terms of the way of life, spending time, attitude to goods, material, approach to one's life responsibilities (family, school, job, etc.). This diversity, while being extremely interesting and allowing for development, may also cause various types of conflicts.

In life, an individual strives to achieve specific goals in various areas of his life. These goals are formulated in the process of socialization, a kind of social maturation, later modifying them based on the acquired knowledge and experience. They may be of a short-term nature, characteristic of a specific stage of life, but there are also those that we will call lifelong, important for the individual in the implementation of important life plans. They can be real and

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realizable, but they can also be wishful and difficult to implement in a given reality. The family of origin as an educational environment dominated by significant others has a significant impact on the development of a person, his identity, personality, and the construction of life goals [1]. They are responsible for transmitting patterns of social roles and patterns of reaction mechanisms to life situations, especially difficult ones. These mechanisms include imitation or symbolic communication. [1,2]

A difficult situation may be a conflict with another person or others as a specific group.

2. CONFLICT AS A DIFFICULT SITUATION, BUT ALSO AN OPPORTUNITY - ITS IMPORTANCE IN THE LIFE OF AN INDIVIDUAL AND A GROUP

The source of the conflict are various, contradictory interests of the parties striving to achieve a specific goal that is in contradiction with the goals of the other party [3]. Its intensity and strength will depend on the type of goals the individual aims to achieve and the motivation that accompanies it.

Dahrendorf stated that the features of social existence include the fact that society is subject to processes of change, but also the existence of discord and conflict in every society. Every element of society contributes to its disintegration and change [4]. Conflicts contribute to the feeling of threat and instability, cause disruption of social order, breaking or weakening interpersonal bonds [5]. Conflict is therefore inherent in the functioning of an individual in society, and its occurrence at some stage of life is inevitable. Because, as the already quoted author maintains, according to the functionalist interpretation of conflict, although empirical conflicts constantly appear in our lives, the essence of society lies in its conflict-free structural order [4]. Turner, analyzing conflict theories, assumed that contemporary societies are typical for the occurrence of disputes and conflicts, leading to the marginalization of many social groups, but also having an emancipatory potential, which may manifest itself in the form of social conflict [6].

By entering into various types of interpersonal relationships (e.g. partnerships, parents, friends, peers, or professional relationships), an individual often enters a world of values, interests, and other goals that he or she strives to achieve, which is different from his or her own. People encounter actions of other people that may be in contradiction or discrepancy with the goals they have set [3].

The causes of conflict can be very different. The literature on the subject mentions the unmet needs of an individual or a specific group (e.g. lack of understanding, respect for the dignity of difference, acceptance of an individual), communication errors (e.g. judgments, generalizations, incorrect understanding of the interlocutor's intentions). The source of conflict may also be attachment to functioning in a specific social role, which determines the occurrence of specific behaviors. Some conflicts result from the need to obtain positive self-esteem, to emerge victorious from a controversial situation without the ability to admit error or ignorance [7,8].

Conflicts include: intrapersonal, interpersonal, intragroup and intergroup conflicts, depending on whether they concern an individual and his or her internal conflict, whether they arose between two people (colleagues, relationship partners, employee and employer, neighbors), or whether they occurred in a specific group (students). in the classroom, employees in a given institution, wider family), or between separate groups (school classes, sports team fans, national, ethnic or religious groups). Izdebska divides conflicts into rational and irrational, overt and hidden, and organized and unorganized [9].

Ch.W. Moore, the author of the conflict circle, indicates the causes and resulting types of conflicts, dividing conflicts into: conflict of interests, conflict of data, structural conflict, conflict of relationships and conflict of values. According to the author, this division is important when it comes to the way of reacting to the conflict and the methods of resolving it. A conflict of interest will arise when the parties have conflicting aspirations and the goals pursued by one party interfere with the achievement of the goal set by the other. Data conflict occurs when both parties, or one of them, has incorrect information, does not have access to it, or interprets it differently. Structural conflict, in turn, results from the structure of the organization, the situation or environment and the occurrence of subordination relationships, inequality in power and decision-making (e.g. in an enterprise, school). In relationship conflicts, the parties lose the objective cause of the conflict and replace it with interpersonal animosities. Strong emotions accompanying this type of conflict cause a loss of understanding and disturb the objectivity of the assessment. These conflicts are often dynamic in nature. The conflict of values, in turn, is based on differences in views, differently shaped values, principles, and beliefs about the properties of a given way of life [10]. Its occurrence is influenced by human attitudes and prejudices, often shaped in the process of primary socialization. Value conflicts are very complex in nature and, because they are based on values and principles instilled, often during the socialization process, they are difficult to solve and work through.

For the process of resolving the dispute, it is important to diagnose the conflict that occurred between the parties and understand its genesis and essence. Depending on the results of the analysis of the situation, the dispute may be applied.

3. PREPARATION TO DEAL WITH CONFLICT

Preparation for an appropriate approach to conflict begins in the family environment, as the child's primary socialization environment, therefore an appropriate attitude of parents is necessary when transmitting attitudes towards conflict and its potential to children.

In the above-mentioned socialization process, the child adopts the way of functioning of his group and society by learning the rules and ideas contained in culture [18] (Sztompka 2002), he also acquires the characteristics of a social person, shapes subjective competences that allow him to function and take root in structure of a given social system, and its identification in it [2].

A family that properly fulfills its care, socialization and protection functions enables the child to develop in many ways (including physical, emotional and intellectual). Parents who provide security and love based on acceptance allow the child to gain maturity, independence and decision-making independence in adult life, at the same time setting intellectual, emotional and physical boundaries, which are so important in the process of shaping a human being [19].

Conflict in the family, lack of competence to talk, one-sided view of the problem through the prism of their interests and feelings make it difficult for the parties to find an agreement, but more importantly, it affects the formation of children and their approach to the conflict problem and its solution. This causes negative emotional consequences for their minor children.

The parents' task is to shape an attitude based on respect for the other person's right to their own views and sovereignty despite differences and curiosity about the other person's views. This allows for a responsible approach to disputes, based on the will to learn the views and opinions of the other party and striving for a solution satisfactory to both parties.

Unfortunately, the family environment is not always competent and aware enough to equip children with the skills to cope with difficult and conflict situations. It happens that they themselves do not have the appropriate reactions to the conflict that appears in their lives. Therefore, the educational activities of schools supporting parents in raising children and adolescents in order to equip them with the skills to cope with conflict situations are important.

The school's task is not only to provide students with substantive knowledge, but also to develop social competences. A school that meets the requirements of modern times should equip students with the competences to re-construct relationships and the ability to jointly search for solutions to the dispute that satisfy both parties. This possibility is provided by mediation proceedings.

The occurrence of a conflict between the parties (at school, between peers) may constitute the basis for initiating mediation proceedings.

4. MEDIATION IN CONFLICT WORK AS A TOOL FOR EDUCATING SOCIETY

Mediation is a form of out-of-court resolution of a conflict arising between parties representing conflicting aspirations and interests. Mediation is voluntary and confidential, conducted by an impartial and neutral mediator, and its task is to help reach an agreement and facilitate communication. The mediator ensures that both parties have the opportunity to express their opinions, cannot impose their own solutions to the dispute on the parties, but supports them in communication, facilitates it, and ensures the legality and correctness of the proceedings. It is extremely important that the parties accept the mediator and his assistance, and that the agreement they reach is consensual and accepted by both parties [20, 21].

Mediation proceedings are of great importance in shaping pro-social attitudes. It allows for the active participation of people involved in the dispute in working to find a solution that is beneficial to both parties. Mediation gives the opportunity to actively participate in shaping the legal and social situation of the participants and reach a consensus that takes into account their rights and interests, with the support of a professional, impartial and neutral mediator. It allows the parties to make decisions during the conversation, exchange of ideas and presentation of their arguments. Its benefit is the opportunity to learn about each other's needs, motives and feelings.

The mediator, while facilitating communication and ensuring the principles of mutual respect, does not indicate solutions and does not replace the parties in creating solutions to their life matters.

The principle of voluntary participation in mediation and the resulting possibility of withdrawing from the proceedings at any stage are of great importance. Equal and equal treatment of the parties gives a sense of equality of rights and opportunities (principle of impartiality). For people in conflict and the resulting discomfort, the confidentiality of the mediation proceedings, which are confidential, is important. The mediator, guided by the principle of neutrality, does not impose his own proposals for solving the dispute on the parties, ensuring that the agreement is reached by the parties themselves. To ensure a sense of respect for rights and satisfaction with the actions taken, the principle of acceptability is important, which is expressed in the need for the parties to accept the mediator and his assistance in reaching an agreement and the discussed agreement [14].

The goals set for mediation prove its nature as a means of resolving a dispute in a conscious, active and responsible manner, allowing for respect for all members of society and their interests.

As life in society means constantly entering into various interactions, the ability to learn and the will to try to understand the reasons and point of view of the other side are crucial.

Conflict destroys balance and agreements and causes anxiety, which is why the goal of mediation, which is to build/repair communication and relationships that enable understanding between the parties, is important. Developing a solution that satisfies the parties to the conflict (e.g. in matters of peer conflicts at school) allows maintaining the effects of the jointly developed agreement resulting from the satisfaction of both parties with the achieved result. Active participation in the decision-making process creates a sense of agency and responsibility for one's own life.

Mediation as a form of alternative dispute resolution can be used in cases of conflicts in the school environment. Due to the fact that in the school environment there may be various entities involved in the conflict - school management, teachers, parents of students, students - mediation is divided into educational mediation, school mediation and peer mediation.

It equips you with the competences that are so important in adult life to coexist with another person, sometimes thinking and acting differently, and to develop mechanisms of reaction to a difficult, uncomfortable situation such as a conflict. Learning the principles of mediation, the benefits of its use, and the opportunity to acquire practical skills in using appropriate techniques while working in mediation circles or centers in schools will allow children and young people to learn about the principles of mediation, the benefits of its use, and will allow them to be treated as a well-known, positive institution in later stages of life. assessed, which is a form of extrajudicial reaching an agreement between people in conflict.

The goals set for mediation are very noble, and the pursuit of their implementation is often very tedious and long-lasting. It is therefore important to be aware that mediation does not always end with the parties reaching an agreement and signing a settlement. Often it is not possible to achieve full consensus. However, the key thing is for the parties to start a conversation, present their arguments and point of view, and adopt compromise solutions. School is a place where mutual understanding and conversation to understand discrepancies is invaluable.

5. MEDIATION AT SCHOOL AS A PATH TOWARDS A FUTURE OUT-OF-COURT SEARCH FOR A SOLUTION IN ADULT LIFE

The aim of mediation in the school environment is to develop an attitude of dialogue and cooperation in solving difficult issues related to school and peers. This is a competence of great importance in adult life, where there are situations of contradictions in the implementation of individual goals, leading to disputes. Conflicts among children and adolescents often take an emotional course, caused by developmental processes and hormonal changes, which generates aggressive actions, therefore the aim of educational activities in the field of mediation will be to prevent the use of forceful solutions, while promoting solutions based on conversation, cooperation, creativity and responsibility.

The modern world and the people inhabiting it are characterized by enormous diversity and differences, which causes conflicts resulting from misunderstanding of differences and lack of acceptance of otherness. The aim of conducting mediation proceedings is therefore to support tolerance and respect for otherness and difference, for children and young people to master mediation methods and techniques in order to shape good relationships and improve the atmosphere at school, and thus integrate the environment of students and teachers and prepare students for life. in society.

School mediations - conflicts resolved through them concern matters related to interpersonal relations and/or statutory activities of the school, and the parties to the conflict may be: teachers, the principal, other school employees, students, and their parents or legal guardians.

Peer Mediation, on the other hand, is a voluntary and confidential search for a solution to a conflict between students, in the presence of two impartial and neutral mediators, who are other students who are properly prepared and trained for this purpose, the so-called Peer mediators. Conflicts resolved in peer mediation concern matters related to relationships between students and peers.

Polish law regulates the issues of mediation in family, civil and criminal matters in appropriate acts. However, the issue of school or peer mediation has not been regulated in a statutory legal act.

In the Education Law, in Article 68(1)(9), there is only the school principal's obligation to create conditions for the activities in the school or institution of: volunteers, associations and other organizations whose statutory goal is educational activities or expanding and enriching the forms of activity. teaching, educational, caring and innovative school or facility [22]. This may constitute the basis for non-governmental organizations promoting mediation as a form of out-of-court conflict resolution to undertake educational activities at school.

However, this concept appears in § 24 point 6 of the Regulation of the Minister of National Education of August 9, 2017, on the principles of organizing and providing psychological and pedagogical assistance in public kindergartens, schools and institutions (consolidated text: Journal of Laws of 2020, item 1280), which among the tasks assigned to educators and psychologists in a kindergarten, school or other educational institution, it includes initiating and conducting mediation and intervention activities in crisis situations [23]. Mediation is slowly becoming a form of constructive conflict resolution based on conversation and cooperation between the conflicting parties.

Already in 2017, the introduction of mediation to schools in Poland was recommended by the Ombudsman for Children, presenting Standards for Peer and School Mediation in Schools and Other Educational Institutions. These standards were created as a result of the work of an interdisciplinary team of mediation theorists and practitioners, including educators, psychologists, mediators and representatives of various legal professions. They do not constitute law in the strict sense, but are treated as a kind of guidance and guidelines for people interested in introducing this form of conflict work in schools and educational institutions.

However, it is worth paying attention to Article 14 of the Act on Free Legal Aid and Legal Education, which establishes the obligation for public administration bodies to undertake educational activities that increase public legal awareness by disseminating knowledge about mediation and methods of out-of-court dispute resolution [24].

The Ombudsman for Children emphasized the importance of mediation as an alternative method of resolving disputes, based on the culture of dialogue and a sense of shared responsibility for shaping the climate at school [25]. Peer and school mediation were distinguished and how to implement them in the school environment was indicated. Attention was paid to the manner of informing about the possibility and rules of introducing mediation at school and the need for the school principal, teachers, students and their parents to consent to its operation. The occurrence of mediation also depends on appropriate changes in the Statute

6. EDUCATIONAL ACTIVITIES FOR MEDIATION IN SOCIETY

In Poland, the promotion of mediation in society is carried out by non-governmental organizations that have this task as part of their statutory goals. One of the most important entities in this field is the Polish Mediation Center (PCM), which has branches in many Polish cities

The Polish Mediation Center Association was established in May 2000. We are continuators of the activities of the Team for the Introduction of Mediation in Poland at the Patronat Penitentiary Association. It has 40 branches and their branches throughout Poland. The association bases its activities on the volunteerism of its members.

The statutory goals of the Polish Mediation Center (PCM) are to expand the achievements of restorative justice and mediation in Poland, to initiate, give opinions and express opinions on matters relating to mediation and its legal regulations, to promote the broadly understood idea of mediation in Polish society and on the international forum, and to educate in the field of justice remediation and mediation, conflict prevention and counteracting violence and aggression, developing and promoting initiatives, attitudes and activities related to observing and respecting human rights, initiating and developing the Association's contacts with companies, organizations and institutions in the field of mediation, protecting the rights of mediators, and in particular members PCM. The Polish Mediation Center conducts certified training for people who want to act as mediators (PCM, Statute, 2000). In Poland, there is also the Pactus Association of mediators, promoting the idea of mediation and training future mediators, the Association of Family Mediators, and the National Association of Mediators. All these non-governmental organizations bring together mediators who promote mediation as a form of out-of-court dispute resolution. There are rooms for mediators in courts and the possibility of obtaining free information on the functioning of mediation.

Mediation Support Centers are established at universities and mediators are established to support university employees and students in finding solutions to disputes based on conversation and cooperation. At various stages of society's education, the issue of dealing with conflict situations and learning how to settle disputes amicably are introduced.

All this is aimed at a wider implementation of mediation in resolving disputes in society, realizing the importance of influencing and controlling one's own life thanks to awareness and responsibility for decisions. There is still a lot to be done because the awareness of Polish society in this area is still insufficient.

7. CONCLUSIONS AND RECOMMENDATIONS

1. It is necessary to build awareness of responsibility for oneself and other members of society and the type of relationships built through early education in this area. Occupation in the field of conflict management, education in the field of mediation and justice. The above raises the need to equip them with competences that will allow them to resolve their disputes without the interference of outsiders. This may take place by enabling schools to create mediation circles, educating school and peer mediators, creating an atmosphere that facilitates the work of young mediators, and providing assistance to peer mediators by school mediation supervisors - teachers (supervision in mediation).

2. As part of education in the field of social competences, children and young people should be made aware of the importance of their participation in the mediation process and the search for and development of solutions satisfactory to both parties. Show the importance of communication for building good relationships and atmosphere in the group. These actions can be taken through the so-called modern media using social networking sites: Instagram, TikTok, Facebook, etc., where young people feel comfortable and use them to search for information.

3. It is necessary to make society aware of the role of mediation in resolving disputes, allowing the dispute to be resolved in a way that satisfies both parties and builds a sense of agency, control over life and responsibility for the decisions made. This form of conflict work should be widely promoted as less stressful, cheaper and faster, and above all, leaving the decision-making to the parties.

4. The public should be made aware of what mediation is and what its principles are, to make it known and "friendly" and to encourage its choice as a form of resolving conflicts in life. Therefore, information about mediation that citizens will receive in the media and institutions is important.

5. A change in relationships on a micro scale - family, class members, department employees will result in a change in the way of perceiving the conflict and ways of dealing with it on a macro scale, which will influence the shaping of social relationships based on responsibility and attentiveness to each other.

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The Literary Characteristics of English and American Young Adult Literature

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Abstract

This research investigates the literary characteristics of English and American young adult literature, with the research question being, "what are the literary features of English and American young adult literature?" Focusing on the readership aged 13 to 19, the study compiled a corpus of young adult literature and conducted a text analysis based on the data obtained. Young adult literature is a genre that can be characterized by normative vocabulary usage and certain constraints typical of children's literature. However, it also exhibits linguistic deviations resulting from the richness of expression, imaginative vocabulary usage, and rhetorical techniques employed. This research aims to identify distinctive vocabulary in young adult literature by comparing it with a reference corpus, the British National Corpus, which consists of general English and American literary works, and high-frequency feature words. The study further examines the actual usage of these vocabulary items using concordance lines, delving into the distinctive vocabulary and linguistic deviations found in young adult literature. The research methodology involves an analytical approach using the analysis tool Wmatrix developed at Lancaster University. This approach includes quantitative analysis of vocabulary volume, part-of-speech distribution, high-frequency words, text difficulty, and emotional content. Focusing on recent award-winning English and American young adult literature, this study will identify the literary characteristics of English and American young adult literature from linguistic and stylistic perspectives, and that this research will provide new insights into reading approaches and directions in this field.

Keywords: Young adult literature, corpus, Wmatrix, literacy characteristics

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Discipline and Practice: A Sociology of the First Year Experience in Higher Education

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Abstract

This paper offers a re-examination of the concept of community of practice in relation to the first year experience by drawing upon the later philosophical work of Ludwig Wittgenstein. In doing so, I take up Wittgenstein's maxim that our lives are focused on doing, not thinking. This may seem anathema to the world of higher education where thought is highly prized in our quest to ensure that students tread the path to being independent learners, capable of engaging their powers of analysis, synthesis and critical thinking. However, this is not an easy undertaking. With regard to the first-year experience, we have been dogged by the question of how to aid students in becoming self-regulatory learners. It is at this point that I apply Wittgenstein's maxim about life as deeds and doings and come back to perhaps a more unfashionable term: training. In the paper I look at how training as part of a community of practice serves as a useful way of considering how we learn to undertake practices and, in some cases, transform them. As Wittgenstein would have it, we learn how to go on having learned the rules of the game. Nothing more is required. We learn practices principally by doing, by being part of the game, rather than through explicit instruction. In this way understanding is something that is a demonstrable practice. As we engage in practices, we must accept what the rules are, what actions count as correct procedures for engagement, and what counts as incorrect rule-following. Much of what is initially learned is therefore based on practical know-how, learned through training and emulation. After this initiation there may be scope for critical reflection about the practices in place. In this regard, the first year of higher education is therefore crucial in being trained in how to go on, how to start as you mean to go on through being part of a community of practice. I consider this in relation to my own discipline of sociology and how students can learn in some cases through trial and error or what is known as generative, or productive, failure.

Keywords: first, year, university, discipline, practice

1. INTRODUCTION

The first year of an undergraduate degree programme can be demanding for many students: an unfamiliar learning environment, interacting with other students and making new friends, learning how to be responsible for one's own learning, sometimes tackling unfamiliar academic subject areas, and managing study and leisure time. When these issues are placed alongside widening access with many students coming from traditionally underrepresented groups in society then it is understandable that the first year is challenging. Moreover, in sociological terms the first year sets students on a journey that is subject to a neoliberal concern with individual success and self-comparison with other students (Berg et al., 2016). Given that a major part of most undergraduate degree programmes is student assessment, this can lead to a fear of failure. Students can therefore be considered in terms of their neoliberal subjectivities (Rose,

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1999) and are subject to governance through being disciplined in the ways of grades-driven higher education system where metrics such as assessment weightings and grade point averages dominate. All regions face similar challenges in delivering sustainable transport solutions to meet their current and future mobility requirements. Transport authorities are aware of the real needs specific to their region but often find it difficult to identify detailed information on targeted solutions that would deliver direct and tangible positive outcomes.

For most students, the first year of university studies is also a transition period in learning style. Learning in higher education requires students to adopt a much more proactive and self-disciplined approach to their studies. In relation to academic tasks, they are expected to develop and display skills that demonstrate self-regulation, self-initiation and self-evaluation. Such a difference with previous more supervised learning styles can lead to challenges, pressures and stress for students. Many universities have put in place support mechanisms and instructional strategies to help students acquire and develop these skills. For example, there have been attempts to improve study skills and goal settings and time management strategies in order to improve student performance and reduce anxiety and academic stress (Grunschel et al. 2018; Wolters and Hussain 2015). These approaches tend to focus on bolstering students' sense of adopting a disciplined self-regulatory approach to their studies.

Students' acquire new norms regarding the nature of learning within higher education (Briggs, Clark, and Hall 2012; Gall et al., 2000). This is rooted in the expectation that first year students need to learn to manage their study and leisure and can rise to the challenge of the complex demands of their degree programmes, including heavy workloads (Bowman 2017; Gale and Parker 2014; Dixon et al., 2007; Trautwein and Bosse 2017). The academic success of first-year students' is not only associated with good study skills and motivation but a sense of belonging within a disciplinary community (van der Zanden et al. 2018; Noyens et al. 2018; Friedlander et al. 2007) In relation to this point, it had been found that first year students rate a sense as being a student as important (Meehan and Howells 2017). Developing a sense of being a student of a particular degree programme or discipline helps students develop a sense of academic identity as well as a means of socialising with others in the first year (Briggs et al., 2012). It is therefore seen as being crucial that first year students interact with one another as a means of adjusting to institutional norms and expectations (Scanlon et al., 2007).

The first year of higher education is therefore considered as vital for laying the foundation for future years of study. Indeed, the first year proceeds on the basis that students will build upon the learning skills they acquire and carry these forward as they progress through their degree programmes. However, as noted above, many first-year students find the process of adapting to the world of higher education difficult and in particular learning to be a self-regulated independent learner. It is for this reason that as higher education educators we need to think about our pedagogical philosophy as it relates to the nature of the first year. In this regard I have found the philosophy of the later Wittgenstein a useful approach. What follows is an exploration of that philosophy followed by a consideration of how this can play out in terms of academic and disciplinary learning practices.

2. PEDAGOGIC PHILOSOPHY

One approach to thinking about the pedagogy we should adopt in the first year is focus on the students' familiarity with the practice of learning in a higher education context. While many first year students enter university from school, others come from college or enter as mature students having completed some form of access programme. In all of these cases the types of learning that has successfully resulted in gaining a place in higher education are not necessarily what will be faced within the first year. We need to reflect here on what the nature of 'higher' is in higher education. This is not an easy question, but Kromydas (2017) captures well the multi-faceted nature of higher education in pointing out that:

"It is a place where teaching and research can be accommodated in an organised fashion for the promotion of various types of knowledge, applied and non-applied. It is a place where money and moral values compete and collaborate simultaneously, where the development of labour market skills and competences coexist with the identification and utilisations of people's skills and talents as well as the pursuit of employment, morality and citizenship." (p. 3)

In reflecting on this statement, it is evident that higher education comprises a multitude of practices. For students, some of these practices will be familiar as they enter their first year of study at this level. Even today, with all the changes that educational technology has brought about in higher education, working in classrooms or laboratories, and interactions with teaching staff and other students in these spaces still constitutes much of the practices involved in learning. However, while this may be the case we need to think more carefully about the practices that constitute

higher education in the sense that students are expected to work towards the development of higher order learning skills.

It is at this point that we can turn to consider how practices are learned, how first year students are initiated into practices within higher education. In doing so I draw upon the writing of Smeyers & Burbules (2008) who in turn draw upon the later philosophy of Ludwig Wittgenstein. Before getting ahead of the arguments we must first get a handle in the concept of practice. Wittgenstein later philosophy, most readily accessible in his *Philosophical Investigations* (PI) (1953) grounds his work in the view that human life consists of doings rather than being based on thinking (before doing). His work applies this to language which he considered much like a toolbox (PI: #11) where we can use the tools of language to get by in the world. That world is our world of cultural practices which we can think of like tectonic plates in that they shift and move over time. Wittgenstein's writing is somewhat allusive but these practices can be considered in terms of what he referred to as "form of life" (PI: #23). In the world of higher education, and the wider world in which it is embedded, this applies to what we do with conceptual understandings, the skills we have acquired in:

"handling conceptualised phenomena, our prereflective familiarity with them, expressed in the sureness in our behaviour towards them and the judgemental power exercised in applying or withholding a concepts on a particular occasion." Smeyers & Burbules, 2008: 185)

These skills, although often expressed in language, are exclusively in its domain and as with many of our practices we simply get on and do them. This is where Smeyers and Burbules argue that training plays a key part. In borrowing from Wittgenstein's notion that our actions are a matter of rule following in terms of being able to engage in various practices. Indeed, Wittgenstein argues that we follow rules blindly or unthinkingly (1953: #219). What is understood by this is that once we have learnt the rules we know how to go on as it were, there is nothing else needed.

In order to learn the rules associated with various practices we need to be initiated into them and how they are used. This is where training plays an important part in that initiation. Training may seem somewhat more a mechanistic term than education but it can be considered as a means to an end in that it can enable the initiated learner to acquire the skills necessary to become an autonomous practitioner. Furthermore, becoming a skilled practitioner does not simply mean that an individual becomes ossified in that practice but can be someone who contributes to a community or practice enabling change in that practice in some way or other. In other words, training acts as a means into a practice through which the initiated individual can join a community of practice and develop alongside others their peers. However, rule following is not taught in some abstract manner but through engaging in those very practices to be learned, through examples a by becoming practiced. Although the initiated may follow rules blindly or in an unquestioning manner this does not mean they are devoid of any judgement. Some form of application of the rules are required to engage in a practice and therefore there is scope for learning how to apply those rules and also at times to question them.

In the world of human practices learning takes place by doing rather than simply through teaching. As Wittgenstein points out, in engaging in certain practices we must necessarily, in the end, accept or agree on what actions constitutes following the rules or procedures. Smeyers & Burbules (2008: 194) go on to point out that we can think about how practices are learned through imitation, initiation, and instruction as well as how they are enacted. In doing so they note that the key issue is the individual's relation to practice; how they are brought into it and then contribute to it. Indeed, they note that educational practice has become more learner-centred with flexible learning paths replacing traditional hierarchical models. Moreover, students are now expected to develop a variety of cognitive and metacognitive skills including the ability to "access, retrieve, evaluate, and select information; the ability to create, transpose and transfer knowledge, and in many online programs team-building and collaborative learning" (Smeyers & Burbules, 2008: 191).

However, we are all aware that practices can be learned and undertaken in different ways. Sometimes this can be in an unreflective and mechanistic manner, on other occasions strategic, and yet at other times transformational through reflection. There is no set pattern but there is a relation between person and practice. This brings us on to consider the relationship between a person's sense of identity and various practices and how this in turn is part of a wider set of relations, in higher education between students and lecturing staff. This is crucial given that engagement is now very much part of the higher education agenda (e.g., Kahu, 2013; Kahn, 2014; Quayle et al. 2019; Fitzgerald et al. 2020).

Given that practices have the potential to further engagement within education then their potential in this regard should be explored. Within higher education we are aiming for not simply engagement but of a kind that is associated with a critical and reflective relation to the practices that constitute a subject, disciplinary area, or professional domain. In this regard I agree with Smeyers & Burbules that we should be concerned with education about and not just into a

practice. In order to further our underlying pedagogical reflection here, we need to turn again to Wittgenstein, in this case his method of teaching philosophy. His Investigations are essentially a mode of doing philosophy as a means of engaging the reader and aiding them in learning is method. As Fann (1967:109) notes there are eight hundred questions posed in this work and yet only one hundred are answered with only the majority of these (seventy) answers that are rejected. His purpose in asking these questions was to do philosophy and show the reader this as a method to go about it. Burbules refers to this as tacit teaching (2008: 202). It is a model of teaching that relies on helping learners go on by themselves, by engaging them in the doing of something. Today we might refer to this as active learning (Ribeiro-Silva et al. 2022).

However, there is more to this pedagogical model than meets the eye. The notion of tacit teaching is rooted in the view that much of what we know how to do is tacit in the sense that we have somehow just learned how to do it. We may be unable to say how we know how to do something or other and in this sense it relates to what Bourdieu (1977) refers to as habitus. This kind of knowledge is acquired over time and as Burbules (2008: 203) point out it is 'caught rather than taught'. However, even this characterisation is not as simple as it appears given that there may well be a process of teaching, albeit not directly focused on such skill acquisition. Furthermore, there may be other forms of engagement going on that add to a process of cumulative learning. This could be in the form of interactions between learners that adds to the learning process and is guided by more experienced practitioners or teachers. All of this points to the ways in which learning occurs in ways that we are not fully aware of nor in control of. This is in effect the essential inter-twined element of tacit teaching: tacit learning.

3. THE FIRST YEAR: PEDAGOGY AND PRACTICES

This section considers the ways in which the Smeyers and Burbules' pedagogical interpretation of Wittgenstein can be applied to the first year experience. The following discussion focuses on the practices, what first year students do in relation to their initiation into higher education. My concern here is to explore the practices that students can engage in as a means of starting how the mean to go on. Some of these practices are already deployed by HEIs, other not, but are presented here as a 'package' of available practices. It is obviously not possible to cover every disciplinary or professional practice area and so what offered may apply more to some disciplines or professional area than others. I have drawn upon my own academic background by drawing upon sociology as a discipline to illustrate my points.

3.1. *Being Disciplined*

Certain ways of seeing or noticing (Wittgenstein, PI: II, xi, 193) are often crucial as an initiation into a subject or discipline (Meyer and Land, 2006; Cousin, 2006). These are considered as 'threshold' concepts in that they are necessary to gain a handle on how to think within the discipline. They are also crucial in speaking and writing within the discipline and in this regard permit students and their tutors to effectively communicate as part of a subject community (Zepke, 2013).

However, as practicing academics or practitioners we are often so heavily socialised into our own disciplines that we find that we are unable to explain these threshold concepts without recourse to using the discourse of the discipline itself (Middendorf & Pace 2004). This kind of fluency with such concepts becomes second nature and represents a tacit knowledge and means of thinking. Disciplinary discourse of this kind can be difficult for first year students to get to grips with and understand and can act as a barrier to learning (Land et al., 2005). In order to overcome this hurdle Middendorf and Pace (2004) suggest that educators should identify the key threshold concepts and skills that students need to acquire within a discipline as well as what might be constitute the barriers to learning how to use and understand them.

The question is how can this be achieved? Following Wittgenstein, we can think about this in terms of practicing and learning the rules of how to go on. Often when learning the rules of a game, for example, we may need to play the game many times and focus on one or two rules at a time until we have mastered what these are. But of course, games often involve strategy rather than a mere adherence and application of the rules. We can think of the first year learning as being akin to learning the rules, of playing the game with more experienced disciplinary players who teach novices how to play. Take my own discipline of sociology for example. Sociology is perhaps known for its use of highly esoteric and jargon-filled terms. Indeed, anecdotal evidence suggest that it often considered that sociology needs big books with big words to keep itself in business. While this caricature may at times be apt, sociology can be characterised as developing a frame of mind in terms of the 'sociological imagination' (Mills, 1959). This refers to the ability to connect the experience of individuals to the social processes and structures in the wider world. Put

another way, it is a developed ability to critically examine the ways in which individuals construct their social world and how that social world in turn impinges on the lives of those individuals. This provides students of sociology with a framework for understanding the nature of social reality. Mills provided a framework that enables individuals to develop their sociological imagination and the relationship between personal experiences and greater society (Elwell, 2002).

In the appendix of *The Sociological Imagination*, Mills set forth several guidelines that would lead to “intellectual craftsmanship.”

1. First of all, a good scholar does not split work from life. Both are part of a seriously accepted unity.
2. Second, a good scholar must keep a file. This file is a compendium of personal, professional, and intellectual experiences.
3. Third, a good intellectual engages in continual review of thoughts and experiences.
4. Fourth, a good intellectual may find a truly bad book as intellectually stimulating and conducive to thinking as a good book.
5. Fifth, there must be an attitude of playfulness toward phrases, words, and ideas. Along with this attitude one must have a fierce drive to make sense out of the world.
6. Sixth, the imagination is stimulated by assuming a willingness to view the world from the perspective of others.
7. Seventh, one should not be afraid, in the preliminary stages of speculation, to think in terms of imaginative extremes.
8. Eighth, one should not hesitate to express ideas in language which is as simple and direct as one can make it. Ideas are affected by the manner of their expression. An imagination which is encased in deadening language will be a deadened imagination.

I believe these guidelines offer first year students of sociology a way forward becoming ‘disciplined’. However, as educators we need to design learning task for these students in such a way that they can practice these ways of thinking. In order to do this, we can draw upon some established pedagogical techniques as well as consider utilising some novel ones that keep the focus on activity. These are set out below, but before getting there it is worth reminding ourselves of the view offered by Roy Niblett, the first professor of higher education in the UK, in a published a paper in 1972 entitled *The Survival of Higher Education*. He argued in the paper that that personal experiences and social values in higher education were not treated as important as the world of verifiable facts and laws (Niblett, 1972: 44). In order to help first year students connect with the intellectual world of higher education we must enable students to draw upon their experiences and values in order to engage with sociology. This is all the more important given that at the first year level they may well be unfamiliar with the discourse of the discipline. However, the pedagogical techniques suggested below equally apply to other disciplinary areas.

The first of these is the flipped classroom where student can watch online lectures but engage in active learning in class. As Bishop & Verleger, (2013: 23) point out this approach “represents a unique combination of learning theories once thought to be incompatible—active, problem-based learning activities founded upon a constructivist ideology and instructional lectures derived from direct instruction methods founded upon behaviourist principles”. With regard to the ‘doings’ that first year students can engage in Mills’ principles above can be used to generate exercises where students become immersed in speaking and thinking sociologically. Take for example, the first of Mills’ list. It is possible to design exercises where students discuss how being a sociologist, or at least an apprentice sociologist, involves a reflexive stance on one’s own life and how it is shaped by social processes. The aim here is to take what first year students know in terms of a tacit knowledge of how to engage in the social world and hold it up to scrutiny through helping them take an anthropologically strange (Garfinkel, 1967) stance where are able to place that knowledge in the context of, for example, socialisation practices. What we want to achieve here is to help first year students think about ‘how to go on’ in two ways: (i) to reflexively think about what they have been socialised into within society, and (ii) to think about how to go on in sociology by keeping this kind of perspective uppermost in their minds and by using the discourse of the discipline to describe it.

Another technique is peer-to-peer learning in terms of students at a more advanced stage of the programme engaging with the first year students through ‘all years’ workshops. Although not strictly aimed at the first year only, the idea here is to build up a community of practice amongst the student body within the disciplinary area. These workshops need to be carefully structured so as to scaffold first year student learning in particular but for students at more advanced stages in their degree programmes there is much to be learned by reflecting on their own experience of being disciplined. This kind of learning is difficult to capture within the prevailing higher education discourse of learning outcomes. For example, how can we as educators specify in advance what students will learn say about socialisation in such settings. This is part of a wider critique of the prescriptive nature of such an outcomes-based

approach in which Hussey and Smith (2002: 220) note that “while learning outcomes can be valuable if properly used, they have been misappropriated and adopted widely at all levels within the education system to facilitate the managerial process”. This downplays the open-ended nature of the learning experience for students and in particular at the first year level where we cannot tell in advance what experiences students will be able to make use of as they reflexively engage with sociology nor what level this might be at. It is again useful to invoke Wittgenstein’s thinking here where he refers to philosophy in terms of being given a map of a city and having to find one’s own way.

Finally, being disciplined as a first year student also means learning what a given discipline is not about. Again, I turn to Wittgenstein for inspiration here in thinking about how we learn through training. Although, this may seem the antithesis of higher education, training here is taken to mean learning through exposure to instances of what is the correct way to go on or how to view a problem. In my own discipline of sociology, first year students need to learn what it is and what it is not by being challenged to discuss other ‘ways of seeing’ that may be confused with a sociological perspective. I can think of many instances where, for example, anthropology might be confused with sociology, or where psychological perspectives may seem on the face of it to be offering an explanation that is apparently what sociology is about. At the first year level I would not want to get into where these disciplines blur and merge into one another but to try and in the first instance establish the intellectual outlooks that constitute the defining boundaries of where sociology is situated in relation to these other disciplines. A more nuanced approach can come later on in the students’ studies.

3.2 Developing literacies

In my discipline, students are expected to read widely and also in depth. This is no different from many degree programmes where first year students are expected to acquire the necessary academic literacy skills of reading and thinking as they go along. However, there is more to this than meets the eye and indeed literacy can be considered as something that develops through various social practices within higher education (Lillis & Scott, 2007: 16). For example, as educators in sociology we would be failing if we led students to believe that sociology is simply in texts rather than being ways of conducting research or theorising that is then presented in textual form. Of course, there is more still, there are literacy skills required for planning research, analysing material, for writing reports, and for disseminating it. What this means in pedagogical terms is that academic literacies need to be considered in the context of transformative pedagogy (Jacobs 2015: 138) where students learn the craft skills required and, moreover, that knowledge generated is provisional and contextually bound.

Translated into practices for first year students what this means is that from the outset students need to be initiated into the practices that will aid the development of their academic literacies. These can be scaffolded in such a way as to build these up over the duration of students’ studies but the first stage needs to help students learn that the process of generating academic knowledge requires not only reading in isolation but reading with a view to understanding, critiquing, synthesizing, extrapolating etc. All of this requires pedagogical practices where academic reading is set within the context of various collaborative activities (Cowley-Haselden, 2020; Nguyen & Henderson, 2020) rather than considering it as an individualistic activity.

What might these activities entail? In my own discipline we would typically expect first year student to read relatively short sections of sociological texts on a regular basis. These may be discussed in seminars and tutorials, either in class or through online activity. These learning sessions can involve practicing different skills such as giving a summary of a piece of reading; connecting one piece of reading with another; thinking about the kind of claims being made for some kind of data analysis; interpreting statistical information etc. Student can discuss these in a collaborative way so that they gain different perspectives, something that is vital in understanding the process of knowledge generation itself.

Assessment also plays key role in in this process. Students may be under the impression that assessment merely tests understanding and knowledge. One of the crucial tasks for first year tutors is to explain to students the function of assessments in developing academic literacies. For example, requiring students to give an online presentation on a given topic develops a range of skills that students should be made aware of, such as researching a topic, working out what to include and what to omit in the presentation; how to structure the material being presented, how to deliver the presentation, and how to respond to questions ‘on the spot’. Often, we do not explicitly make students aware that these skills are being developed through the assessment process and that these skills will develop over time.

This brings me to another related point in being a novice in practicing academic skills; that there is room for trial and error, and perhaps failure and retrying again. Part of practicing something is that there is room built in for develop through a process of learning from mistakes. In terms of the first year experience this means that students need to be

able engage in their studies through much more formative assessment than would be needed for later stages of their degree programmes. Good feedback and utilising that feedback needs to be explored with first year students. Furthermore, tutors need to be explicit that learning inevitably involves adapting to uncertainty and difficulty in the face of developing new knowledge and skills.

With this in minds formative assessment plays a crucial part in the first year experience and can be designed in such a way as to allow space for students to struggle, find things difficult, or engage in trial and error without impacting upon their ability to continue until the stage of summative assessment. This is what Feigenbaum (2021) refers to as ‘generative failure’. This kind of pedagogic approach involves and understanding that mistakes, errors, and setbacks represent temporary, but sometimes necessary part of learning process. It is based on three key principles (Feigenbaum (2021: 15):

1. Getting new things correct means first getting them wrong, and the more complex the skill or task is, the more frequently one will get things wrong.
2. Processes of intellectual and creative innovation are iterative and complex.
3. Embracing this complexity, and the feedback that emerges from it, is crucial to learning and growth.

Generative failure therefore is consistent with the view that struggling with difficult learning material is sometimes desirable and that that cognitive exertion is a sign of student engagement. It is also the case that course material, how much they retain, and how effectively they transfer this learning to other contexts (Carey 2014). According to this concept, students learn more profoundly in the long term when they struggle more in the short term. Feigenbaum (2021) sets this kind of productive approach in contrast to stigmatized failure represents that feeds off of neoliberal competitive ideology that can lead to being apprehensive and anxious. This tends to impact the very students that have recently been attracted to higher education, students from non-traditional backgrounds who may have been impacted to a greater extent by the intersectional consequences of what Feigenbaum refers to as a ‘precarious meritocracy’ in which socioeconomic anxiety is compounded by hypercompetitive individualism driven by a neoliberal ideology. This induces a sense that failure is to be avoided insofar as it is considered a matter of personal accountability. On the other hand, adopting a generative failure approach with students is not offered as a panacea through low-stakes formative assessment processes. It does not challenge the wider neoliberal ideological background in which failure is considered as a personal matter and where assessment feedback can be interpreted as an indication of a deficiency in understanding rather than as a means of resetting and practicing again.

Of course, such summative assessment can also be designed to build confidence. Again, drawing from my own discipline sociological theory is often difficult for students to grasp. Getting to grips with this can be aided through formative assessment exercises that breakdown theories into manageable ‘chunks. Take for example, Goffman’s (1959) approach to self-presentation. Students can sometimes consider this at a superficial level where they focus on the notion that people try to portray a positive image of themselves. However, in both formative and summative assessments it is useful to move beyond this superficial view to get a clearer understanding of Goffman’s approach in terms of the interactional order. This can be achieved by asking students first year students to draw upon and share their own experiences of interactions and to look at issues such as what happens when there as mistakes, faux pas and what results. For example, embarrassment may be offered by the students and this can then be used to ask them to think about what light this sheds upon people’s concern with ‘frontstage’ performances. Another ‘chunk’ of this approach would be to design questions to help students think about the nature of the ‘backstage’ and ‘frontstage’ in Goffman’s conceptualisation and what this means in terms of the essential linkage between the two. The point of this is to help student to develop a depth understanding in which they are able to practice their sociological imagination, but that if they should fail to reach that depth they can find a way to retry. This can be achieved by, for example, building feedback loops so that they can retry.

3.3 Being a student, being part of a community of practice

Developing a sense of engagement occurs through a sense of being a student through a process of transformation by commanding disciplinary knowledge (Zepke, 2013: 3). Following on from Niblett’s remarks about students’ personal experiences and values, Fredricks et al. (2016) has argued that we need to understand more fully how ‘students behave, feel, and think in relation to their engagement. In relation to the view advanced in this paper Quaye et al. (2019) emphasise that engagement involves more than simply participating in some practice but is accompanied by a range of feelings around those practices, and an attempt to make sense of the activity.

The first year in higher education is vital in terms of successful engagement for later years of a degree programme (Krause and Coates, 2008). First year students learn the scholarly practices within their discipline and learning community (Lave and Wenger, 1991; Macaskill and Taylor, 2010). Key to such learning is the ability to adapt to these new practices and to successfully participate in a community of practice with others in the year as part of the transition into higher education (Tinto, 2003; Zhao and Kuh, 2004). A good level of engagement strengthens the students' linkage with their disciplinary community (Wenger, 1998, 2010). In this respect effective engagement is dependent upon a student's sense of active participation within disciplinary community through considering themselves within the collaborative and collective processes that take place a part of the learning activities (Wenger, 1998). This fosters a sense of belonging to a disciplinary community through the socialisation practices are constitutive of a given discipline's culture (Becher and Trowler, 2001; Trowler, 2008). Through this socialisation process, students learn to be a member of discipline and undertake the practices involved, if only in part, as they progress through the first year.

In sociology, this will typically involve reading about sociological concepts, theories and investigations and discussing these with fellow students and lecturing staff in tutorial classes. There is also likely to be some element of undertaking basic sociological investigations. Kelley and Garner's (2023) redesign of their Introduction to Sociology module is a good case in point with regard to active learning and improved engagement. Students worked in groups on formative assessments with activities included active reading assignments, roleplaying simulations, and classroom debates involving the application of theoretical concepts to examples. Students submitted their completed assignments on an individual basis but had the help of their group members. The module also involved a series of practical class assignments that students completed with their group members. These assignments involved the collection and analysis of empirical data, with the aim of ensuring that the students utilised sociological methods and theories. The key point about the module redesign was that it involved a mix of first year and senior students who collaborated with each other. This created a community of practice which worked to the benefit of all the students and which led to improved engagement.

4. CONCLUSION

This paper has set out to demonstrate how Wittgenstein's later philosophy can provide higher education educators with workable pedagogical approach that stresses the value of focusing upon practices, what students do. I am not claiming that it is the only philosophy that can be drawn upon in thinking about first year pedagogy, but it has the virtue of keeping our focus on aiding students, as Wittgenstein would have it, to find their way around, akin to being in a city and making use of road signs, maps and the like. Although much has been written about the value of active learning, this sometimes does not get down to the issue of learning by doing as the best way for novices in an area to become involved in communities of professional or disciplinary practice. In using my own discipline. Disciplinary understanding can only come about through practice; students need to become practiced in it.

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Sociolinguistic Problems and Sociolinguistic Benefits of Language Education

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Abstract

Language is the expression and tool of people's social organization in every field. This tool and expression creates many areas of interest. Each of them has different methods and theories depending on their fields of interest and subject. These different methods and theories, which treat language as a material, are integrated in linguistics. Of these, sociolinguistics constitutes the discipline of linguistics that examines language from a social perspective. Sociolinguistics evaluates language in the context of society and people. It combines the theme of language in the concepts of human, language and society. Sociolinguistics investigates, defines and explains the functions and uses of dialects, sociolects, urban and regional languages within the scope of the diversity and change of language use. Sociolinguistics investigates, defines and explains the functions and uses of dialects, sociolects, urban and regional languages within the scope of the diversity and change of language use. Sociolinguistics conducts field research on many topics such as language and identity, language change and social factors affecting language change, multilingualism, second language acquisition, discourse analysis, dialectology, language criticism, language use in public spaces, language and language policy in politics, media, language in advertising and the prestige of languages. In the study, we tried to reflect the sociolinguistic problems and sociolinguistic benefits of language education.

Keywords: Sociolinguistics, Language education, Education management, Life-long learning

1. INTRODUCTION

With the acceleration of interdisciplinary studies in social sciences in the second half of the 20th century, language-related issues began to be examined through joint studies of many different fields such as psychology, anthropology, sociology, ethnology, history, geography and philosophy. Studies in the field of sociolinguistics, which is a product of these joint studies, have been discussed at great speed in many countries from different perspectives. The fact that language is an institution that is related to and forms all fields such as human beings, society, science, art and technology, which cannot be considered separately from humans and society, enables the individuals who make up the society to live together and express their feelings and thoughts by using a number of common sound and meaning elements. It enables them to explain things (Freedman, Carlsmith, and Sears,1998; Taylor, Letita & David 2006). According to Vardar, meaningful units or signs in language derive many of their basic features from their sociality and fulfill their functions within society. Indeed, each language is formed within a certain society, around its own culture and civilization, and fulfills its function within such a framework. For this reason, it can be said that each language reflects a certain society (Kuram, 2018). The fact that language is a part of the ever-changing social structure and that the elements that make up the social structure find expression in language makes language a part of constant

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change and development. As a result of this change and development, new uses, words, and structures are reflected in the language, and this process also supports the view that "the vocabulary of a language is the mirror of the society that uses that language" (Kuram, 2018). As Aksan stated, even if we do not have any information about a society's way of life, culture, and historical events, we can obtain valuable information on these issues by simply examining the language and vocabulary of that society. Likewise, by examining a text of a language from a certain period in terms of foreign elements, we can determine which foreign influences the society speaking that language was under.

W. von Humboldt, the famous statesman and linguist of the 18th - 19th centuries, explains the relationship between language and society and the development of language with the developments and changes in culture and thought in society (İmer, 1990). For Humboldt, language is not a free product of the individual human being. The view that it always belongs to a nation suggests that the language is created by the society, that there is nothing singular in the language, and that the language is plural in every respect (Kula, 2012). It is the society that creates the language, and the society that makes choices and regulations regarding the use of the language ceases the language to be a mechanical phenomenon that only has its own internal structure and operates its own mechanism due to its internal structure. It also exhibits the social and cultural dimension of the language by causing the language to be subject to contractions, expansions and even censorship when deemed necessary (Demirci, 2014). As can be understood from all this, it is not possible for people to understand each other and establish a community by living together without language. This mutual relationship between language and society enables the emergence of social language uses. These uses are shaped within the framework of social variables such as age, gender, social class, ethnic group and constitute the subject of study in sociolinguistics.

Language is not only a means of interacting, but also a means of building communication. In communication, a person does not just talk to the person he is talking to, but he must also be able to choose and use language that can be understood by the person he is talking to. Sometimes when we talk we are confronted by social factors, such as who is talking, who we are talking to, where the conversation is taking place and what the purpose of the conversation is. Apart from the social factors that must be possessed by speakers, language attitudes also need to be possessed by speakers. Because attitude is a tendency that guides a person's behavior to do something they choose, whether positive or negative. Positive language attitudes can influence a person to appreciate a particular language so that he or she can communicate easily with other people. On the other hand, a negative attitude towards language will make it difficult for someone to communicate confidently.

Sociolinguistic studies emphasize language use and language users, because language in linguistic terms is said to be arbitrary, meaning based on the agreement of the language user community (social convention). In this study, we tried to find out matters relating to the nature of attitudes, language attitudes, sociolinguistics, sociolinguistic problems, sociolinguistic benefits of language education.

2. THE NATURE OF ATTITUDE AND ATTITUDES TOWARDS LANGUAGE

Attitude can also be expressed as the behavior of people towards certain events. Attitudes consist of three types: cognitive, emotional and behavioral. It is possible to say that these three attitudes are in relationship with each other. Tendencies towards an idea, institution or event can be expressed as attitude. It can be said that attitudes have different characteristics depending on their dimensions. A person's attitude towards anything can be evaluated as positive or negative. Whether a person's attitude is positive or negative can be expressed as a situation that greatly affects their behavior. Attitudes are not emotions that people are born with. They develop depending on subsequent events. It is not possible to measure and observe attitudes. Attitudes exist in people's minds. The only way to measure is to ask the person questions and learn their thoughts. A person's attitudes may change over time. It can often be stated that it is quite difficult to determine people's attitudes. Attitudes are not definitive and may change over time under the influence of others. Attitude is known as the values that are most commonly examined from a cognitive perspective. It is possible to say that environmental factors are also very effective in the formation of behaviors and attitudes.

Attitude is the most important part of human identity. Every day people carry out activities related to attitudes, such as loving, hating, liking, disliking, persuading, responding, realizing, agreeing, disagreeing, opposing and so on. Attitudes do come from subjects in psychology, especially social psychology (Basuki Suhardi, 1996). Suhardi stated that attitudes cannot be observed through direct observation of behavior, attitudes are real and we can observe them through our senses. The response to the stimuli we receive cannot by itself be concluded as our attitude. All activities related to attitudes are evaluative responses to an object. Thus, attitude can be understood as a review assessment of an object of thought (Bohner & Wanke, 2002). Attitudes are also tendencies or inclinations that guide individual behavior and induce action that can be evaluated both positively and negatively.

- Attitudes are acquired by learning, not from generation to generation
- Attitudes are obtained from our daily interactions with other people around us. Both through the behavior we see and through verbal communication.
- Attitudes are always related to attitude objects which can be concrete or abstract objects
- Affective attitudes, which also include feelings that can be positive, negative or neutral.
- Attitudes contain a time dimension, meaning that attitudes can be appropriate at a certain time, but not at another time.
- Attitude also contains an element of continuity, namely continuing for a long time in a principled manner.

Based on the explanation of attitude as described, attitude can be understood as behavior that can be observed as a result of a stimulus and then a response to an object. These responses can guide individual behavior to carry out an action that can be evaluated either positively, negatively or neutrally. Attitudes can be learned through the process of learning and experience and can develop and change over time.

In language learning, attitude is said to be very important, because attitude can influence a person to be successful in learning a language. This is as stated by Djunaidi (1987) that a positive attitude towards a particular language will increase motivation and provide self-satisfaction, so that it will facilitate the learning process and provide good learning results regarding the language. On the other hand, a negative attitude towards a language will influence and hinder the language learning process, resulting in poor learning outcomes regarding the language.

Language attitudes are relatively long-standing language-related beliefs about language objects that provide a tendency to act in a certain way. Language attitudes reflect attitudes towards language users and language use itself, as we will see in the example that there is nothing intrinsically beautiful or true about the particular sound of the word "Swallow". This word has a positive connotation when people associate it with birds, but if people define the word in terms of the action that accompanies its use (chewing) then those relationships change, and so do judgments of the beauty of the word. Language attitudes, if interpreted narrowly, can be understood as a concept of dimensions, feelings, beliefs and behavioral dimensions that exist within a person towards language. On the other hand, language attitudes, if interpreted broadly, can be understood as attitudes related to descriptions of beliefs, and a range of responses, as well as assessments of a language. This assessment refers to people's assessment of a language (for example: good or bad, beautiful or ugly, right or wrong, large or small, efficient or inefficient, etc.). This assessment can also refer to the assessment of speakers of a particular language as an ethnic group with special personality traits. In addition to these assessments, language attitudes also include the actual choice of a language.

Language attitudes are important related to sociolinguistics for various reasons. For example, children who come from strong cultures usually have greater success in learning at school than children who come from minority groups. Children from successful groups tend to use more standard dialect forms, they use standard language, while children from groups whose education is less successful tend to use vernacular forms. In England, people who usually speak vernacular forms have problems understanding standard English, for example when they listen to the radio, watch TV programs and when they are studying at school.

3. SOCIOLINGUISTIC AND SOCIOLINGUISTIC PROBLEMS

The term sociolinguistics consists of socio and linguistics. Linguistics is the science that studies language. The language discussed in linguistics includes language elements, the relationship between these elements, and the nature of the language as well as the formation of the language elements themselves. Holmes (1994) calls it linguistic variation. It is used to express and reflect social factors. This linguistic variation not only emphasizes word choice, but also emphasizes the use of different pronunciations, grammatical vocabulary, or styles of a language for different purposes. In a linguistic community, people may use different dialects of a language in different contexts and they will even choose different languages according to the situations in which they speak them. Meanwhile, social is defined as science related to society, community groups and social functions.

The object of sociolinguistics is language, so language is not approached as a language, but is approached as a means of interaction or communication in human society. Every human social activity, from waking up to going back to sleep, will certainly not be separated from the use of language.

Sociolinguistics can be interpreted as the science that studies language in relation to language use in society. In this connection, We can define it as 'sociolinguistics is the study of the characteristics of language varieties, the characteristics of their functions, and the characteristics of their speakers as these three constantly interact, and change one another within a speech community'. This means that sociolinguistics is a science that studies the characteristics of language variations, the functions of language variations, and language users because these three elements always interact, and change each other in a language community.

Based on the field of sociolinguistics described above, the main problems related to sociolinguistics include:

- Language in the social context of different cultures.
- Social functions and use of language in society.
- Language variations, language characteristics and linguistic factors that are associated with situations, social and cultural factors.

Meanwhile, the topics discussed in sociolinguistics include:

- Language variations, dialects, language styles and registers
- Code switching and code mixing
- Language repertoire
- Use of domains in language
- Diglossia or polyglossia
- Standard languages, vernaculars, lingua franca, pidgins and creoles
- Language politeness and solidarity
- Regional and social dialects
- Language and gender
- Language attitude
- Language planning
- Sociolinguistics and language education
- Language and culture

4. SOCIOLINGUISTICS AND LANGUAGE EDUCATION

Language education planning is greatly influenced by many factors, including political, economic factors, number of speakers, prestige factors and others. Language education includes learning language as a verbal communication tool, including a thinking tool, a tool for expressing feelings and hopes as well as a tool for passing on the social and cultural values and attitudes of society both orally and in writing to future generations. This is in line with what was stated that language is not only a tool for communication, but also as a tool for expressing human feelings, conveying knowledge and accumulating it, creating beauty through literature, passing down knowledge from generation to generation. Language cannot be separated from human life, because we all know that almost all activities in human life cannot be separated from language activities. Language education in Turkey should be carried out by paying attention to the true nature of language as a means of verbal communication, linguistics and its contribution to language learning, as well as the function of Turkish, regional languages and foreign languages in the interests of nation and state development.

The function of foreign languages, especially English as the first foreign language in Turkey, is quite important for several reasons. Firstly, books, journals, international meetings and conferences require English as the language of instruction. Second, English and other foreign languages which are used as the language of modern science and technology can be used as a source for developing terms. Third, we all know that English is one of the most widely used international languages. As a member of the world community, Turkey requires the use of English and other foreign languages as a means of communication between nations.

Sociolinguistics views language as an object that is related to social context, where sociolinguistics studies the relationship between language and society, studying the ways people use language in the different social contexts in which the language is used. Therefore, there are two important things discussed in sociolinguistics. First, sociolinguistic theories, and second, the results of research conducted by these experts. The aim of applying the field of sociolinguistics is to facilitate the activities of a scientific discipline for practical purposes. For example, sociolinguistics can be applied in language learning.

Sociolinguistics in relation to language as material taught in schools, universities and in certain courses in relation to society. Because sociolinguistics emphasizes language use, not language structure. This is where the role of sociolinguistics lies, namely that apart from its application, it is also useful for anticipating what will happen in society. We all know that in society there are variations in the language used, there are language shifts, language changes and there is also interference with language and rejection of the use of certain languages, so that conflicts occur that involve the use of different languages and even lead to physical conflict between groups of language users.

5. CONCLUSION

Sociolinguistics views language as an object related to social context, where sociolinguistics studies the relationship between language and society and studies the ways people use language in different social contexts.

Sociolinguistics can also facilitate scientific discipline activities for practical purposes. For example, sociolinguistics can be applied in language learning, curriculum preparation and preparation of language learning materials. Sociolinguistics in relation to language as material taught in schools, colleges and in certain courses that are closely related to society. Therefore sociolinguistics emphasizes language use and language users, not the structure of the language. How people can communicate using language correctly linguistically, both culturally and appropriately according to the situation or social context? So, that is the discussion regarding sociolinguistics in relation to language education.

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Behavioural Problems of Pupils in Educational Practice and Their Identification and Resolution by Primary and Secondary School Pupils

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Abstract

Problems in school need to be not only identified but also minimized. In this paper, we describe selected behavioural problems identified by primary and secondary school students and suggest possible solutions. The aim was to examine in more detail the behavioural problems identified by adolescents and adolescents themselves and to suggest solutions to these problems also depending on the achievement, age, type of schools, creativity and creativity of the respondents. This research was preceded by the completion of the TTCT - Torrance's Figural Test of Creativity - by which we first ascertained the factors of creativity in individual respondents and later we ascertained the correlation between creativity and benefit, creativity and the number of problems in the respondents' behavior and the suggestions of solutions to them. In the following session, the respondents identified, by the method of individual brainwriting, the problems and situations that they think are the causes of problem behavior of young people, which they think are serious and they encounter them at school, at home, in the peer group, etc. We have organised and interpreted the identified problem behaviour situations according to the type of school and the severity attributed to them by the respondents.

Keywords: problems at school, behavior, identification of problems, brainwriting, primary and secondary school students

1. INTRODUCTION

In schools today, we often encounter situations that involve solving educational problems in the classroom or outside the school environment. From teachers, parents, and the general public we sometimes hear phrases such as: "...they are arrogant, they don't know how to behave, they don't prepare for class, they are aggressive, etc..." Are young people really like that, or is it just a manifestation of their lack of understanding by us adults? Is their behaviour really

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beyond the norms of society? Are they clearly responsible for their behaviour, or do we adults (parents, teachers, the public) bear part of the responsibility? Are they able to change their behaviour? And under what conditions? These questions, and many others, led us to investigate the issue of problem behaviour of adolescents and adolescents. We were looking for answers to the questions of what kind of problems pupils in different types of schools reflect.

The aim of the research was to examine more closely the behavioural problems of adolescents and adolescents, to improve the education of the pupil's personality, to find out how he perceives behavioural problems, how he identifies them, what solutions he is able to propose, what norms he has to observe within the school rules and whether there is a need for an innovation of the school rules that would also take into account the behavioural problems identified by our respondents. Intrinsic motivation, self-assessment and self-regulation should prevail so that personal and educational change in schools can take place in a creative-humanistic direction.

In line with the aim of the research, the sample was selected. The basic sample consisted of adolescents (eighth grade students) of elementary school and adolescents (third grade students) of secondary schools, who were randomly selected, totaling 232 respondents.

1.1 Identification of problems - teenagers

The primary and secondary school respondents, after completing the TTCT creativity tests, used the method of individual brainwriting to identify the problems and situations that, in their opinion, are the causes of problem behaviour of young people, which they think are serious and they encounter them at school, at home, in the peer group, etc. We ranked the identified problem behaviour situations according to the severity attributed to them by the respondents. Adolescents identified fewer problems and situations associated with problem behaviour in young people than adolescents. The most serious problems they reported were - family problems, problems at school, relationships between classmates, between teachers and students, drugs and addictions, misunderstanding by adults, love problems, stress, aggression, selfishness, slacking, not being accepted into the group, and truancy.

Problems in the family - adolescents at this age are looking for themselves, for role models of their actions and behaviour, but often they are also looking for them outside the family if there is no adequate communication, understanding and emotional background. Disrupted family relationships, misunderstandings, misconceptions, poor school performance often lead adolescents to engage in problematic behaviours to draw attention to themselves and to need adults to listen to and accept their views. The results of our research point out that we cannot consider a primary school pupil as a child and underestimate his/her problems, postponing their solution to "later".

Problems at school - respondents mentioned various possibilities of problems, mainly related to peer relationships in the classroom and pupils' relationships with teachers. Pupils and adults usually have different ideas about rights and responsibilities. The different ideas of the two parties clash and cause various difficulties, contradictions and conflicts. The adult's resistance arouses reactions in the adolescent in the form of various forms of disobedience, protest, defiance and negativity.

At this age, they like teachers who are sympathetic and understand them. A teacher rises in the eyes of pupils if he can explain the material, if his behaviour is not superior to the pupils, if he can create an atmosphere of well-being, understanding and creative work (Nagy 2009).

Puberty is characterized by social relationships among peers in formal and informal groups, which gradually dominates in this period. It depends on the interests of the group, the gender of its members, and the strength of peer relationships. The danger is if a group or individual wants to be popular at any cost, which may border on socially undesirable behaviour. Problems with relationships among peers or with teachers are experienced very intensely and deeply by adolescents, which is why primary school respondents ranked them first (Končeková, 2014).

Drugs and addictions - primary school respondents ranked these problems third, indicating that it causes problems not only for those who are addicted, but also for others who go to school with them or are part of a group of friends. Occasional addictions, smoking, using addictive substances at home or in a group, are mainly linked to the fact that the adolescent imitates adults in order to show belonging to them, to impress, to be popular, to gain admiration, to draw attention to himself, to solve problems, and so on. However, this may jeopardise his/her healthy development or lead to socially undesirable behaviour. It is good that the primary school respondents accept the seriousness of this problem, have pointed out its possible negative effects and the need to address it.

Misunderstanding by adults - the problems of the adolescent are connected not only with the family environment, the school environment, but also with the general public, its reactions to his behaviour. Respondents often reported that adults do not understand them, criticise their behaviour in transport, cinemas, public spaces, etc. Society creates do's and don'ts that adolescents often do not understand and take too personally, which leads them to tighten up or leads them to rebel against the regulations. They would embrace a dialogue where they have a voice and their suggestions are accepted. They have a sense of adulthood and demand to be treated as adults. They reject a subordinate

role, they want independence, equality with adults. They strive for independence, they want to decide for themselves, set their own agenda, they desire to live their life in their own way (Gáborová, Porubčanová, 2016).

Love - problems with love trouble the primary school respondents to no small extent, as they list this problem in the fifth place of severity. It is the period of puberty that is full of questions concerning information about sexual life, about sexual organs, etc. Girls are more interested in the psychological side of relationships and boys are more interested in the physiological problem of love. Teenagers should talk about love and relationships not in a group of pupils, but rather in a home environment with their parents, where there should be a pleasant atmosphere and the parents should answer and explain the questions appropriately, father to son and mother to daughter. If the parents' answers are inadequate, then they turn to another person with questions, but most often they inform each other.

As Končková (2014) states, in pubescents we encounter the first manifestations of eroticism, from one-sided interest, boys and girls move in puberty to flirting. They try to draw attention to each other. So-called first loves are formed, which are mostly platonic. First love is often sudden, it comes at first sight, and to the adolescent the beloved person seems like a miraculous revelation of beauty and charm. It is precisely the interest in love affairs, mutual sympathy that leads pubescents to increased care for appearance.

Stress - the period of puberty is also characterized by rapid growth, frequent mood swings, over-sensitivity of pubescents to problems, to the actions of others - especially adults, overall neuropsychological instability can be the cause of failure in learning, at work and outside school, causing outbursts of anger that can exhaust the body, primary school respondents identified this as stress, which they feel is the reason for their problem behavior.

Aggressiveness, selfishness - are other problems that adolescents identified as serious. Various forms of violence are increasingly encountered in schools and outside them; aggression causes problem behaviour in adolescents. During puberty, an individual's character traits are formed, which are also greatly influenced by changes in society, namely economic and social conditions, relationships and the way of life in the family and at school. Aggression is part of the behaviour of film stars and singers, and adolescents, in an attempt to imitate them, often transfer aggression to the school environment, which we observe in the behaviour of peers towards each other and towards teachers. The egoism of others prevents them, for example, from being a member of a coveted group, from having their performances seen by adults, etc. The egoistic behaviour of adults is characteristic of our time; they care about their appearance, their work, their cottage, they solve mostly their own problems, which they consider the most important, and they do not have the time or the will to concern themselves with the problems of others, e.g. pupils in the classroom, children in their own home, etc. People chase after work, after money, after recognition, after knowledge, and often do not pay attention to others along the way; their individual interests take precedence. Perhaps such adult behavior led our elementary school respondents to identify selfishness as a behavioral problem, whether adults, peers, or teachers. Gabrhelová, Pasternáková and Porubčanová (2020) report that adolescents often look for opportunities to communicate, to confront their own opinions and ideas with adults, and if they do not find this they are disappointed, experiencing feelings of uselessness and frustration.

Laziness - is another serious problem identified by primary school respondents. The excessive effort of some pubescents to master everything new can lead to the instability of interests, their great variability and little depth. Some devote themselves to only one interest, which they prioritize even at the expense of learning, which can lead to problems at school and at home. The class often suffers due to the dereliction of duty by an individual who has a benevolent approach to learning.

Not being accepted into the collective - pubescents who have sufficiently developed self-esteem think positively about themselves. Then they do better in school, they are not afraid of competition and usually have many friends. They are sought after members of the group. They also feel that they can handle life and have some control over it. Non-acceptance by the collective is perceived by primary school respondents as a serious problem. Friendships are mostly realized in a group of peers - between classmates, children from the immediate neighborhood, in interest groups, etc., they are based on a more intense emotional bond. Pubescents have a very strong need to belong. Being accepted into a group gives them a sense of belonging and a sense of security. Peer groups have their own traditions, norms that group members adopt and their behavior can be significantly influenced by them. He experiences not being accepted into the pubescent collective intensely and it causes negative states in him, he can show it precisely through aggressive behavior, which he wants to draw attention to himself.

Truancy - low self-esteem causes various behavioral disorders in pubescents. Delinquency and truancy are often related to lower self-esteem (Končková 2014). Lack of interest in learning, not being accepted into the collective, the previously mentioned problems and their failure to solve them, can lead to running away from school, to avoiding school duties - to truancy.

We found that the primary school respondents were troubled by problems related to their age, and they also showed this when they were identified in our research. In contrast, adolescents identified more problems, among which some were the same as pubescents, less and more serious in terms of behavior problems. Their problems differ from

adolescents mainly in that they list problems with misunderstanding of adults in the first place, especially in the family and then at school, they moved the problem of drugs and addictions to the third place. At their age, they are still largely dependent on their parents (financially and emotionally), and good relationships for them mean stability, support and opportunities for self-realization. They expect the same from their teachers, who should be empathetic and understanding of the problems of their age. They shift the responsibility for their behavior and possible consequences to an adult.

1.2. Identification of problems - adolescents

From the problems and situations that can cause problems in the behavior of adolescents, we selected the ten most serious problems for each school and compared them to each other. We monitored which problems the respondents of the mentioned schools identified as common, we selected ten of them and arranged them according to the severity assigned to them by the number of points given by the respondents. For the ten most serious problems selected, at the next meeting using the brainwriting method, adolescents looked for possible solutions.

Adolescents, unlike pubescents, state drugs and alcoholism as the most serious behavior problem, which points to their more responsible approach to life, to their own health, while pubescents saw in addictions more opportunity to impress, show off, be a hero or become a member of a group, adolescents they point more to the danger of addictions and their impact on the loss of the meaning of life, the right to self-realization and the application of one's professional orientation. During this period, the young person mostly studies, prepares for his future profession. Adolescents identified the following most serious problems:

Drugs, alcoholism, addictions - not only pubescents, but also groups of adolescents are starting to experiment with illegal drugs. The reason can be mainly low frustration tolerance during this period, first failures in life, emotional immaturity, defiance, protest against adults, imitating peers, etc. Adolescents, when creating awareness of their own worth, accepting social norms and creating relationships with other people, peers and the opposite sex, can reject adulthood, resist it, and look for solutions precisely with the help of addictive substances. Respondents of all types of schools stated this problem as the most serious, assigned the most points to it. Creating and approaching self-image, self-esteem and healthy self-confidence play an important role in drugs, alcoholism and addictions. Support and helpers in the gradual transition from a child to an adult individual should be parents, teachers, adults who convey models of behavior and actions to the young person. If these patterns are missing, the road to addictions is faster. In the interview with the teachers of the mentioned schools, we learned that the problem of addictions is very relevant today from elementary schools, through gymnasiums, secondary vocational schools to universities.

Misunderstanding by adults - is the second identified most serious problem of adolescents. We think that this problem is related to the fact that the adolescent feels himself to be an adult, he wants the environment to recognize and accept this adulthood, so that adults do not always consider him a child. He wants to defend his rights, he wants to make decisions and solve his problems independently. It is when expressing his demands, opinions, his appearance and appearance that he expresses his approval or protest against the demands of adults. In the interview, the respondents also mentioned some reasons for misunderstanding by adults (teachers, parents, the general public), especially when choosing clothes (for school, for free time, large necklines, very ragged, inappropriate pictures, inscriptions, etc.), when choosing the music they listen to (too hard, too noisy, etc.), when creating school rules (mostly orders, prohibitions and sanctions), when not understanding their hairstyle (colorful, long, fluffy), etc. According to the respondents, adults still have a tendency to change them in their own image, they feel that teachers, parents do not live in the present time, but in the years of their youth, which is very far away for adolescents, they do not understand because they have not experienced it. As Pasternáková (2010) states, the optimal thing would be to create a positive relationship between an adult and an adolescent, but both parties must strive for this.

Money - the respondents assessed the problem of money as serious. Compared to pubescents, who are dependent on their parents for money, adolescents have the opportunity to earn money even during their studies and manage it independently. The life of an adolescent is more expensive than that of a pubescent, his interests are expanding - cultural events, sports, discos, the Internet, literature, body and appearance care, sitting in a cafe, interest in the opposite sex (sitting, gifts), etc., which also requires sufficient funds. Friendship groups are often formed according to the financial background, prestige is often important for group membership. Respondents stated that money was also the cause of the breakup of good friendships. Young people are very well aware that money will enable them to fulfill their dreams, self-realization, continue their studies, travel, etc. However, money also causes differences between classmates. Among young people, there is an excessive stress on money, which also points to a change in the value ladder of many adolescents, where money is in the first place, which causes problems even in establishing more permanent relationships.

Racism - the adolescent is also interested in ethical issues, in the problems of society, wants to participate in various discussions, wants to express and confront his opinion, feels the need to express himself about serious problems of

society, tries to act morally and not to violate the rights of other people. Respondents of different types of schools stated that they experienced signs of racism either at school, on the street, among peers, etc. Nowadays, it is self-evident that in school and on the street we meet people from different cultures, young people see this as enriching their lives, they have the opportunity to develop communication skills in a foreign language, confront opinions, etc. At the schools that participated in the research, the respondents meet with lecturers from different countries who mainly teach foreign languages. They did not record any negative attacks against him by students at schools. The period of adolescence is also a period of searching for belonging and involvement in various political and civil associations. The main danger is that some are illegal and targeted against other races. As part of the TTCT creativity test, we also noted the use of signs of racism (swastika) among the respondents.

Aggressiveness - the period of adolescence is characterized by the balance of feelings, which should not cause explosive moods. In spite of this, we increasingly encounter aggression, violence, bullying, hatred, etc. in schools. Aggression is sometimes associated with the consumption of alcoholic beverages and narcotic substances, when a young person is often not even aware of his actions, but at this age he is already responsible for his actions. As stated by Hangoni and Volčková (2021), the rapid development of technology, sciences, informatics requires a person - a professional, which also places demands on his training at school, teachers try to fulfill the oversized content of education, pupils often learn it mechanically and uncreatively, which it often leads to greater tension on both sides, irritability, violent reactions, which can be manifested in the already mentioned aggression.

A lie, a fake, a pretense - if adults recognize the personality of a young person, if they allow him to express his independence, if they grant him as many rights as possible, a positive relationship develops between the adolescent and adults, a relationship of mutual respect (Končeková, 2014). Respondents are bothered if the relationship with adults is not positive, so they mentioned lying, fakeness and pretense as a possible problem of young people's behavior. Adolescents value teachers who have character, who are experts in their subject, who do not consider themselves infallible, who know how to understand their students. The fakeness and pretense of adults often limits them when creating their own ranking of values and searching for life patterns in behavior, actions and professional growth. Honesty should be above all in the family, at school and in public. As stated by Bakadorova and Raufelder (2015), that not all adolescents have problematic relationships with adults, they are gradually adjusted, balanced positively, and a sincere and friendly relationship is formed between them again, which both parties wish for each other.

Stress, fear of expressing an opinion - to maintain good condition, good results in studies, etc., an adolescent needs rest during this period, either in a passive form - good sleep, conversations and meetings with friends or in an active form - activities of interest, especially of a sporting nature. Activities associated with active rest, however, require energy and ability to perform, which can be quite stressful for an individual. Preparation for the future profession at the individual types of schools that participated in our research also requires performance in the theoretical and practical areas, which the respondents also emphasized by the seriousness of this problem.

Nowadays, it has become very modern in schools to ask students for their opinion in various areas of life. It is mainly used in the subjects of ethical education and religion, but students have the opportunity to express themselves about various situations that happened at school, in the family, on the street, etc. Despite the fact that adolescents feel the need to express themselves, argue, conduct dialogues with adults, they feel afraid of having to express their opinion, which also resulted from research, where they included the fear of expressing their opinion among serious problems. It happens that the teacher, the adult, is not ready to listen, accept or reject an opinion that is different from his own. Respondents at school have already encountered the fact that expressing their opinion on a certain issue was used in a negative direction by adults against them. Therefore, many refrain from discussions and prefer not to express themselves, so as not to endanger their existence at school, on the contrary, they greatly appreciate such adults who allow them to have a discussion and provoke them to argue their opinions.

Sex and love - as stated by Vágnerová (2000), the regulator of sexual abstinence in adolescents should not be fear (of sin, of pregnancy, of venereal disease, of AIDS), but responsibility resulting from instruction. Education is a good regulator. The mutual interest between the sexes is typical for this age, adolescent boys are looking for a partner, often without much emotional connection, and girls are more emotional, they need a psychological connection with a partner before a physical one. This was also a serious problem for the respondents of the research, they are bothered by the premature and irresponsible sexual life of their peers, they understand sex and love as different dimensions that separate them from each other.

Problems at school - the adolescent wants to be included among adults, longs for admiration, praise, and fulfillment of self-realization, if he does not find it, if the relationships between teacher and student, teachers and students are negative, this can also be a trigger for problematic behavior in young people.

Groups of friends and peers - the desire is to belong to a group of peers, to be part of a group of friends. Adolescent friendships are deep, often forming inseparable pairs. Adolescents especially value sincerity, openness, trust, willingness to help, honesty, strong will, etc. in their friends. (Končeková, 2014).

Not being accepted into the group, not forming a friendly relationship, also negatively affects the actions and behavior of the adolescent. Friendship provides support to an adolescent at a time when he is starting to take his life into his own hands and feels lonely and helpless. The identified problems of adolescents reflect their age-related problems, but we also encounter problems related to society, which they perceive as negative and serious. Istvan (2016) states that solving problematic behavior in pupils should include a wide variety of possible procedures that the teacher can use in practice.

2. CONCLUSION

At the last meeting with the respondents of each type of school, we presented the ten most serious behavior problems, which we sorted according to the severity they assigned to them. Respondents participating in our research looked for possible solutions to individual behavior problems using the brainwriting method. Proposals for solutions related to the listed behavioral problems - drugs, alcoholism, addictions, misunderstanding by adults, money, racism, aggression, lying, fakeness, pretense, stress, fear of expressing an opinion, sex and love, problems at school, groups of friends and peers.

Secondary school students identified more behavior problems than elementary school respondents, while pubescents identified fewer problems and situations associated with problematic behavior of young people. Adolescents cited drugs and alcoholism as the most serious behavior problem, which indicates their more responsible approach to life, to their own health, while pubescents saw in addictions more opportunity to impress, show off, be a hero, etc. Pubescents, despite their age and little life experience, have identified behavioral problems, which is positive, and they also see real possibilities for solving them. They also indicated which of the adults and which institutions should participate in solving the behavioral problems of young people at puberty. Unlike pubescents, adolescents not only see the possibilities of solving problematic behavior, but also realize that they can partially contribute to their solution and elimination themselves. However, they would rather leave some solutions to teachers and parents, from which we conclude that they are not fully aware of their responsibility for what they do and many of them rely on the help of others. Many of them feel like they are still children, while reaching the age of eighteen entitles them to be responsible for their actions and behavior.

Nowadays, we are faced with rapid development, changes, adaptation to new conditions, sometimes we are looking for ourselves in a tangle of obligations, relationships and our own ambitions. On this path of life, our actions and behavior are influenced by the quality of relationships, people we met, with whom we stayed for a shorter or longer period of time. Pedagogical activity consists not only in the transfer of knowledge, but also in the quality of the relationship between the teacher and the student, in the understanding of his problems, in mutual empathy and in the willingness to listen and help. If we raise and educate young people for life, we should first of all know their interests, aspirations, opinions and ideas. The willingness of adults to understand can change young people's approach to life and their own behavior, which was also one of the aims of our research.

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The Use of Formative Assessment Tools in Inquiry-Based Teaching

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Abstract

The goal of this paper is to demonstrate students' progress after implementing inquiry-based teaching and formative assessment using specific examples. The use of formative assessment tools in the diagnostic phase of inquiry-based teaching is shown. These formative assessment tools can help teachers identify the current state of conceptual understanding in students as well as possible learning difficulties and misconceptions related to concepts and links. This paper describes the formative assessment tools such as self-assessment card, learning process mapping card, and exit card. Their implementation is explained and evaluation provided. The presented tools have been designed for teaching the "Substance Changes" topic in primary school chemistry and their importance from the viewpoints of both teachers and students is explained.

Keywords: inquiry-based teaching, formative assessment, formative assessment tools, conceptual understanding

Conference topic: Education, Teaching and Learning - Science Education - Student assessment

1. INTRODUCTION

Inquiry-based teaching (IBT) represents one of the main approaches in teaching science integrated into educational programmes in many countries (Chu et al., 2017; Harlen, 2021). The results of several studies confirm that IBT is more efficient than teacher-centred methods of instruction. It develops understanding of scientific knowledge and increases students' motivation as well as their interest in studying science (Areepattamannil et al., 2020; Jiang & McComas, 2015; Kang & Keinonen, 2017). It promotes the development of critical thinking and argumentation skills as well as the ability to apply the knowledge in practice (Cahyarini et al., 2016; Chen, 2021; Chu et al., 2017; Ha et al., 2023; Miarti et al., 2021; Vafaeikia et al., 2023). It also facilitates the development of inquiry skills (Cakir, 2017; Ergul, 2011; Harlen, 2021; Ješková et al., 2022; Liu et al., 2021; Ozkul & Ozden, 2020; Tolba & Al-Osaimi, 2023; Wale & Bishaw, 2020) such as formulation of research questions and hypotheses, provision of evidence, evaluation of explanations, and conclusion-drawing. It helps develop lower as well as higher-order cognitive processes (e.g.,

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Hugerat & Kortam, 2014; Mubarok et al., 2019; Ramlee et al., 2019; Shivam & Mohalik, 2022; Sotáková & Ganajová, 2023; Zohar, 2000; Zohar & Dori, 2003). IBT also has an effect on long-term learning (Garcia et al., 2021; Koyunlu Unlu & Dokme, 2022).

The 5E instructional model is considered one of the most commonly used and effective cycle for IBT (Duran & Duran, 2004; Srisawasdi & Panjaburee, 2015). This model exposes students to problem situations (i.e., engages student thinking) and then provides opportunities to explore, explain, extend, and evaluate their learning. Overall, one could argue that the 5E model is effective because students are provided with several opportunities to deeply engage with the learning in a way that promotes connections between what is known and what is meant to be learned (Bybee, 2009; Ruiz-Martín & Bybee, 2022). IBT requires teachers to learn how to plan inquiry-based activities, track students' progress, evaluate their learning results, and if necessary, adapt the plan (Archer-Kuhn et al., 2020; Liu et al., 2021; Misra, 2020; Pedaste et al., 2021). These goals are achieved by using formative assessment.

1.1. Formative assessment in inquiry-based teaching

Formative assessment (FA) aims to collect and use information about students' current state of learning in order to identify what needs to be done to facilitate their learning progress (Assessment Reform Group, 2002). FA helps to identify student's needs and possible learning difficulties, and if necessary, adapt teaching (OECD, 2005).

The main goal of formative assessment in IBT is to identify students' level of conceptual understanding and inquiry skills/scientific process skills to facilitate further development. Therefore, the teacher must actually be able to identify this level in order to decide what to do to help students with learning. FA implementation is not easy. The teacher is required to master the art of asking questions and interpret what students are doing and saying in order to evaluate their learning progress; moreover, the teacher must provide quality feedback, clearly formulate the learning goals, and support student in self-evaluation of their own learning (Kireš et al., 2016).

Formative assessment in IBT requires the teacher to apply the following strategies (Harlen, 2013):

- promote classroom dialogue
- identify the level of conceptual understanding and skills by asking questions and facilitate their development
- provide students with feedback
- use the feedback from students to adapt teaching
- lead students to participate in the evaluation of their own work.

In the next part of this paper, FA tools focused on the assessment of students' conceptual understanding will be described.

1.2. Assessment of the level of conceptual understanding in inquiry-based teaching

Since the main goal of FA in IBT is to identify the level of understanding and inquiry skills to help students develop, the question is, which tools are suitable for this purpose? Assessment tools can be defined as a diverse set of tools that allow for an assessment of educational output (in the case of IBT, mainly understanding and inquiry skills); their goal is to collect as objective information as possible (Kireš et al., 2016).

The level of conceptual understanding can be assessed by observing students during the completion of inquiry-based activities as well as based on teacher – student and student – student communication; moreover, students' completed worksheets can be analysed. The following FA tool types can be used for this purpose:

- Before and after card
- Student self-assessment card
- Learning process mapping card
- Exit card or summary

- Mind maps

Table 1 provides an overview of the selected FA tools.

Table 1. General characteristics of the selected FA tools

FA tool	Characteristics
Before and after card	It activates students' existing knowledge, raises curiosity and increases their interest in active learning. It develops their ability to anticipate what is or is not true (Walsh, 2013). During their preparation for teaching, the teacher formulates true/false statements; students complete this worksheet before they learn the respective subject matter and also afterwards for the purpose of comparison. Students are supposed to explain their choices (Hubbard et al., 2017).
Self-assessment card	This card allows students to evaluate their understanding of the subject matter. It provides the criteria that help students subjectively describe their level of knowledge and skills, which they intuitively feel, but are unable to express verbally (Ganajová et al., 2022). Students' answers in the self-assessment cards show which knowledge students have and where assistance is still needed, thus providing both the teacher and students with feedback. Based on this feedback, the teacher can adjust and plan further teaching.
Learning process mapping card	Students' learning process (How did I learn this?) can be mapped using cards that provide a list of knowledge and skills developed by the student (e.g. I can explain/justify/describe/create/make...) and a list of ways students can learn them (e.g. The teacher told me. I read it in the textbook. I found it on the Internet/in the library. I discussed it with my classmates. I took notes.). The student also gets a chance to draw conclusions about their learning based on their own answers (Lénárd & Rapos, 2009).
Exit card	The exit card is used at the end of the lesson or upon completion of a topic. This FA tool allows the students to summarize the key elements of recently learned subject matter and realize what is important (Fisher & Frey, 2004). Students who summarize their knowledge achieve deeper understanding and remember it for longer (Wormeli, 2004). The students answer the teacher's questions about the goal, course, or efficiency of the lesson(s). Some students' answers can provide more objective information about the individual's learning process or their knowledge. The questions should be formulated in a way that promotes critical thinking in students instead of repeating the notes they have taken. This tool has several alternatives, e.g. 3-2-1 card, minute card, or short summary.
Mind map	The mind map can be used at the beginning of the lesson as a discussion starting point, as a knowledge assessment tool, or a tool that allows to track changes in student knowledge over time (Pendley et al., 1994; Regis et al., 1996). The mind map is a scheme that helps students arrange and visualise their knowledge. In this scheme, the concepts are arranged into relationships in a way that makes sense to the learner. Related concepts are connected by lines and represent a statement (proposition). The nature of the relationship between concepts is marked by a brief description over the connecting line. Emphasis is put on the correct hierarchical arrangement of the concepts in which specific ones are placed below the more general ones (Urbanová & Prokša, 2001).

2. DEMONSTRATIONS OF FORMATIVE ASSESSMENT TOOL IMPLEMENTATION IN THE INQUIRY-BASED ACTIVITIES FOR THE "SUBSTANCE CHANGES" THEMATIC UNIT

In accordance with the formal SA standard (ŠPÚ, 2014) for "Changes in Chemical Reactions" thematic unit, a set of five inquiry activities was developed (exothermic and endothermic reactions, factors affecting the rate of chemical reactions). This thematic unit is taught in chemistry lessons in the 2nd term of the 7th grade of lower secondary schools. All activities (see Table 2) were designed in accordance with the 5E model (Bybee, 2009) for the confirmatory inquiry level. Each inquiry activity was designed for two lessons.

Table 2. "Changes in chemical reactions" thematic unit: description of inquiry activities (Sotáková et al., 2020)

Inquiry activity
1 Exothermic and endothermic reactions
The activity focuses on exothermic and endothermic reactions. Students investigate the thermal changes in chemical reactions of vinegar with sodium bicarbonate vs. sodium bicarbonate (solution) with calcium chloride. They enhance their knowledge of exothermic and endothermic reactions by learning about their practical use (self-heating or cooling sachets, self-heating cans).
Factors affecting the rate of chemical reactions
2 The effect of concentration on the rate of chemical reactions
3 The effect of temperature on the rate of chemical reactions
4 The effect of surface area on the rate of chemical reactions
The goal of the activity is to verify the effect of several factors on the reaction rate between vinegar and sodium bicarbonate in practice. Students observe the course of this chemical reaction using simple apparatus (flask with a balloon on its neck). The chemical reaction rate is affected for example by diluting vinegar, increasing its temperature, or crushing the sodium bicarbonate tablet. These factors affect the speed with which the balloon is inflated by the released carbon dioxide. Students apply this knowledge to explain real-life situations such as starting fires, food storage methods, or kettle limescale removal.
5 The effect of catalysts on the rate of chemical reactions
This activity focuses on catalysts. Students verify how the presence of ash or sand affect how a sugar cube burns in practice. They enhance their knowledge about caramelisation and the function of catalytic converters in cars. They also learn about the lactase enzyme and its role in lactose digestion (milk sugar) and the reasons why lactose intolerance can emerge.

2.1. The use of a before and after card in an inquiry-based activity (IBA) focused on the exothermic and endothermic reactions

The following example shows how the before and after card can be used to teach exothermic and endothermic reactions (Table 3). Before teaching using this subject matter through IBA, the teacher prepares a table and formulates statements related to the following knowledge: distinguishing between exothermic and endothermic chemical reactions based on heat release and consumption; providing examples of exothermic and endothermic reactions and describing thermal processes related to substance dissolution. During the IBA introduction, students considered the truthfulness of these statements based on their existing knowledge and experience. Students circled their choice in the left part of the table. Subsequently, they completed the inquiry-based activity (see Table 2). Eventually, students once again considered the truthfulness of the statements provided and wrote down their answers in the right part of the table. They compared their assumptions with conclusions and justified them.

Table 3. Example of the before and after card for the exothermic and endothermic reactions IBA

1) Before completing the inquiry-based activity, consider whether these statements is true (T) or false (F). 2) Circle your choice in the left part of the table. 3) After you complete the inquiry-based activity, consider these statements again and circle your choices in the right part of the table. 4) Compare your decisions before and after the inquiry-based activity and explain them.

Before the activity		<i>Exothermic and endothermic reactions</i>	After the activity	
True statement	False statement		True statement	False statement
T	F	Heat is released during exothermic reactions.	T	F
T	F	During an endothermic reaction, the temperature of the reaction mixture rises.	T	F
T	F	The combustion of natural gas is an exothermic reaction.	T	F
T	F	Cooking potatoes is an endothermic reaction.	T	F
T	F	The dissolution of salt (NaCl) in water is an exothermic process.	T	F
T	F	The dissolution of NaOH (sink cleaner) is an endothermic process.	T	F

Table 4. Example of the filled-in before and after card for the exothermic and endothermic reactions IBA

1) At the beginning of the lesson, decide whether each of these statements is true (T) or false (F). 2) Circle your choice in the left part of the table. 3) Repeat the process at the end of the lesson: circle your choice in the right part of the table. 4) Compare your decisions before and after the inquiry-based activity and explain them.

Before the activity		<i>Exothermic and endothermic reactions</i>	After the activity	
True statement	False statement		True statement	False statement
<input checked="" type="radio"/> T	F	Heat is released during exothermic reactions.	<input checked="" type="radio"/> T	F
<input checked="" type="radio"/> T	F	During an endothermic reaction, the temperature of the reaction mixture rises.	T	<input checked="" type="radio"/> F
<input checked="" type="radio"/> T	F	The combustion of natural gas is an exothermic reaction.	<input checked="" type="radio"/> T	F
<input checked="" type="radio"/> T	F	Cooking potatoes is an endothermic reaction.	<input checked="" type="radio"/> T	F
<input checked="" type="radio"/> T	F	The dissolution of salt (NaCl) in water is an exothermic process.	T	<input checked="" type="radio"/> F
T	<input checked="" type="radio"/> F	The dissolution of NaOH (sink cleaner) is an endothermic process.	<input checked="" type="radio"/> T	F

As can be seen in table 4,

1. this student evaluated the statements differently before and after.
2. The student discovered that during an endothermic reaction, the temperature of the reaction mixture falls.

After completing the IBA, the teacher had to return to the statements, which the student evaluated incorrectly in the right part of the card. It was necessary to review more examples of exothermic (e.g. ethanol burning, reaction of sodium with water) and endothermic reactions (e.g. making iron and burnt lime) that were discussed during the previous lessons.

2.2. The use of a self-assessment card in an IBA focused on the influence of the solid reactant surface area on the rate of the chemical reaction

An example of a self-assessment card filled in by 27 students upon the completion of the IBA focused on the influence of the solid reactant surface area on the rate of the chemical reaction (Table 5).

Table 5. Evaluation of the self-assessment card for IBA focused on the influence of the solid reactant surface area on the rate of the chemical reaction

Cross an option to indicate which statements apply.	On my own	With the teacher's assistance	I don't understand it yet
I can explain how increasing the surface of a solid reactant influences the rate of chemical reactions.	16	8	3
I know real-life examples of the situation in which this rate is influenced by the surface area of the solid reactant.	13	13	1
I know how the surface of a solid reactant can be increased.	16	9	2
I can test the influence of increasing the surface area of a solid reactant on the rate of chemical reactions in practice.	21	6	0

Student answers listed in Table 5 indicate that students were quite sure they were able to test how the surface area of the solid reactant increases the rate of chemical reactions. Although the worksheet included a task aimed at gaining knowledge about more real-life examples in which the rate of chemical reactions is influenced by this factor, students were not sure about this one. It may result from the fact that the examples provided in the worksheet were new to them and they lacked personal experience, so this knowledge still needs to be fixed. Therefore, the teacher reviewed this

knowledge in the next lesson using additional examples (e.g. How does the surface area of sugar cubes affect the rate of dissolution in water?).

2.3. *The use of a learning process mapping card in an IBA focused on the influence of the amount of reacting particles to the rate of chemical reactions*

After completing the IBA focused on the influence of the amount of reacting particles to the rate of chemical reactions, 62 students filled in the learning process mapping card (Table 6). Students followed instructions 1 and 2 and proceeded to the evaluation. In this card, students were supposed to choose the ways in which they gained the knowledge and skills related to this topic. This card identified the most frequent ways of learning used by the students as well as the ones students would like to try, and the ones they have not tried yet.

Table 6. The learning process mapping card in an IBA focused on the influence of the amount of reacting particles to the rate of chemical reactions

Student's name:		Form:	Date:
Instruction 1: Read the statements in the first column ("I have already learned this") and in the second column ("How I learned this"). Match a letter from the first column (A to F) with a number from the second column to indicate your answer in the third column. You can also add items to the "How I learned this" if you want.			
1. I have already learned this:	2. How I learned this:	3. Answer	
A) I know the conditions that must be met for reactants to change into products.	1. I listened to the teacher's explanation.	A)	
B) I know examples of slow chemical reactions.	2. I learned it by doing experiments.	B)	
C) I know examples of quick chemical reactions.	3. I observed the teacher.	C)	
D) I can name the factors that influence the rate of chemical reactions.	4. I took notes.	D)	
E) I can explain how the amount of reacting particles influences the rate of chemical reactions.	5. I read it in the textbook.	E)	
F) I can perform an experiment to test the influence of the amount of reacting particles on the rate of chemical reactions.	6. I discussed this topic with my classmates.	F)	
	7. I reviewed it at home.		
	8. I discussed this topic with parents or someone else.		
	9. I learned it by heart.		
	10. I used information-communication technology.		
	11. Other...		
Instruction 2: After you fill in the card, count how many times you used the respective numbers and you will find out how you usually learn things. I usually learn like this: I would like to try learning using: I have not used the following ways to learn yet:			

Upon evaluation, this card indicated that students (see the frequency of different answers):

- gained the knowledge about this topic in the following ways: 1. listening to the teacher's explanation (134); 2. experimenting (81); 3. observation of the teacher (60), 4. note-taking (31), 5. consulting the textbook (19), 6. discussion with classmates (16), 7. completing exercises at home (10), 8. discussion with parents or someone else (2); 9. learning by heart (1).
- Students use the following methods most frequently: 1. listening to the teacher's explanation (32); 2. experimenting (20); 3. note-taking (10).
- Students would like to try the following methods: 1. discussion with parents or someone else (28); 2. using information and communication technologies (30); and 3. other, practical method of learning (4).
- Students have not tried the following methods: 1. using information and communication technologies (30); 2. discussion with parents or someone else (32).

2.4. The use of an exit card in an IBA focused on the influence of catalysts on the rate of chemical reactions

The exit card related to the IBA focused on the influence of catalysts on the rate of chemical reactions was filled in by 35 students. They listed 3 pieces of knowledge or skills they learned that day, 2 activities or pieces of information they found the most interesting, and 1 question they still have. This FA tool required students to formulate their own answers. Table 7 presents student answers in their exit cards.

Table 7. Student answers in the exit card related to an IBA focused on the influence of catalysts on the rate of chemical reactions

Write down what you learned today.	Answers	Number of students
Today I learned...	How catalysts influence the rate of chemical reactions.	16
	What catalysts are.	8
	What catalysts are used for.	6
	Sugar can burn.	6
	Ash is a catalyst; it allows sugar to burn.	5
	What lactose is.	5
	What lactase is.	5
	The sugar cube starts burning only after it is sprinkled with ash.	4
	Which substances are catalysts.	3
	The sugar cube does not burn if sprinkled with sand.	2
	Sand destroys fire.	2
	What catalysts are used for in cars.	2
	Nothing new, I knew this before.	3
The most interesting for me was...	That the sugar cube started burning after being sprinkled with ash.	14
	Experiment – sugar combustion.	12
	Sugar caramelisation.	6
	What lactase is.	4
	What lactose is.	3
	When sugar burns, the flame is blue.	3
	Animation about the catalysts in a car.	2
I would still like to ask..	What other substance can I sprinkle on sugar to make it burn?	3
	Does a sugar cube sprinkled with salt burn too?	3
	Why does sand not burn?	3
	What happens with sugar and salt when we heat them?	2
	I have no questions.	18

The exit card results provided the teacher with information about what students do (not) understand, what they found the most interesting, and whether they realised the point of the inquiry-based activities. The analysis showed that students had difficulties in providing specific examples of knowledge related to catalysts and formulate questions addressing this topic.

2.5. Mind map for the “Factors Influencing the Rate of Chemical Reactions” topic

After completing the respective IBA, students were asked to create a mind map of the “Factors Influencing the Rate of Chemical Reactions” topic using the following terms: amount of reacting particles, temperature, solid reactant surface area, catalysts, air supply in the fireplace, decomposition of hydrogen peroxide, cooking food, chewing food, burning sugar, vacuum packing food, storing meat in the freezer, and burning aluminium.

Students created the mind map using the terms provided (see Fig. 1) using the free MindMaps software (<https://www.mindmaps.app/>).

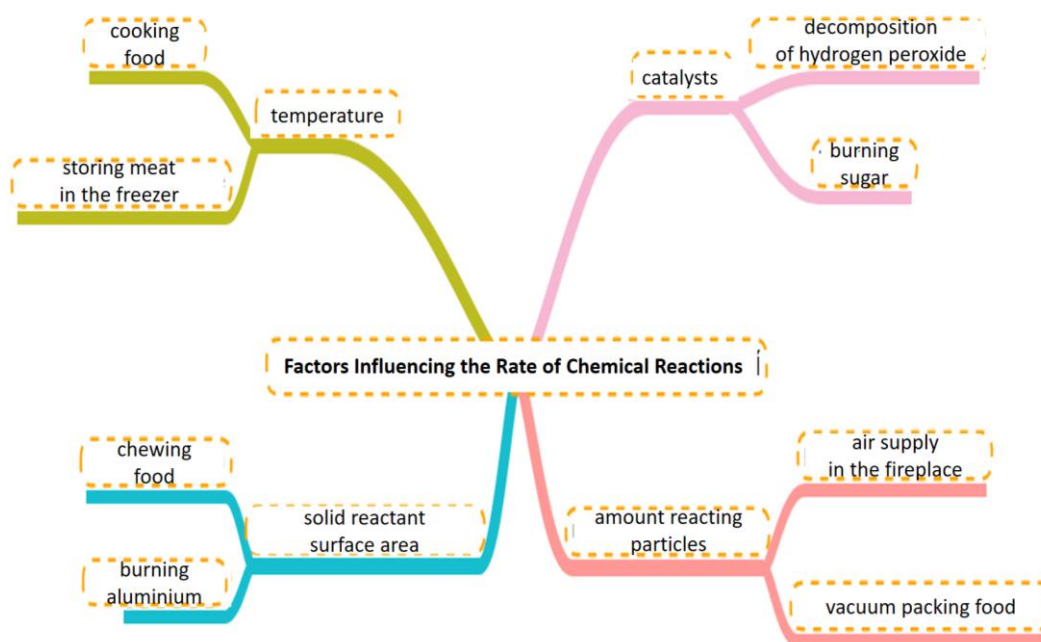


Fig. 1. Example of student work: The mind map for “The Factors Influencing the Rate of Chemical Reactions” topic

3. CONCLUSIONS

Based on the verification of IBA with the implementation of FA tools in teaching, the following conclusions can be drawn.

- Most students did not have previous experience with self-assessment and saw it during IBA for the first time.
- Students preferred self-assessment card with pre-formulated criteria such as the exit card in which they had an opportunity to evaluate what they learned, what they found interesting, and ask questions about the subject matter. Student answers in the exit card indicated that they found it difficult to connect pieces of knowledge within a broader context and need to further develop this ability. 7th graders cannot be expected to immediately formulate specific knowledge, facts, or procedures related to the subject matter correctly. Students need to complete a lot of activities including FA tools and they require lots of initial help from the teacher before they learn how to formulate what they learned on their own.
- Upon evaluation, self-assessment cards showed which knowledge students have and where assistance is still needed. Based on this feedback, the teacher can correct the previous and plan the future teaching strategies and methods.
- The use of self-assessment cards in the evaluation phase motivated students to put in more effort and focus during next classes and inquiry-based activities. It promoted responsibility for their own learning process.
- The learning process mapping card allowed students as well as teachers to observe students’ ways of learning, evaluate their effectiveness, and change the learning and teaching strategies if necessary. The most frequent learning methods employed by the students were: 1. listening to the teacher, 2. experimenting, 3. observing the teacher. Students would like to try learning by discussing the subject matter with parents or someone else and use information and communication technologies.
- The mind map verified students’ understanding of different concepts and their relationships. For primary school students, it is better to provide a list of terms to choose from and let them fill in an empty mind map. Upon completion of this map, it is important to go through it with students and analyse all relationships between the concepts. Later, students can be given more difficult mind maps; for example, the teacher can provide the key concept and a handful of terms and let students add more. Subsequently, they create their own mind map.

To increase the efficiency of FA implementation and reduce the time necessary to do so, teachers recommended using state-of-art digital technology (e.g. voting devices, interactive whiteboards, tablets, etc.) and tools such as Kahoot!, Socrative, or Polleverywhere.

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The Use of Moodle in the Teaching of Science and Pedagogical Subjects in an Academic Environment

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Abstract

In the article, we point out the possibilities of using Moodle to ensure the teaching of natural science and pedagogical subjects at universities. The contribution aims to evaluate the number of accesses in Moodle in the years 2018-2022 in the teaching of subjects focused on natural and pedagogical disciplines in the preparation of students for the teaching profession and selected professional education. In the given period, we compared the use of Moodle in education before and after the COVID-19 pandemic. We monitored the frequency of use of Moodle by students, teachers, and random browsers with total access to the given pages with guest status. We recorded an average of 2,150 views per month, in 2019, it was 2,700 views per month, in April-August 2020, it was already 3,700 views per month, the highest in October 2020, which represented the number of 8,801 views. In 2021, we did not notice a statistically significant change in the number of views compared to 2020. In 2022, the average number of views was at the level of 2019, i.e. like before the pandemic.

Keywords: *e-learning, Moodle, innovations in education, information and communication technologies.*

1. INTRODUCTION

In 2022, the European Union's NextGeneration EU Renewal Plan funded various projects in many areas of life. The year 2023 has been declared the European Year of Skills. Bringing together workers, industry, social partners, and providers of different levels of education across the European Union, the main objective is to prioritise education,

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training, retraining, and upskilling of young people in particular, but also the workforce in general. This is important in terms of increasing their chances of entering the labour market [1].

Universities have switched to various forms of online learning, especially since the beginning of the COVID-19 crisis. Since its retreat, many are offering more online learning in combination with face-to-face learning. Online learning offers many advantages to both educators and students, such as continuity, flexibility, and mutual support. E-learning represents the most modern way of teaching on any digital device. It is the implementation of information technology in the development, distribution, and management of learning or teaching [2].

E-learning has completely changed the way education is delivered to students. Unlike the traditional method, learning is in many ways easier and more efficient. E-learning is beneficial for anyone interested in studying and at the same time adapting their studies to their time and space. For a better understanding of the subject matter, lectures can be taken many times, according to one's own needs. Offers access to updated course content, and quick delivery of lessons. It helps in creating new training, policies, concepts, and ideas, it's a quick way to learn. Another important feature is its consistency, reduced cost of teaching, wide efficiency, and less burden on the environment. Due to the wide range of benefits it provides to learners, e-learning has become very popular and appreciated among students worldwide [3].

The systematic implementation of e-learning requires a comprehensive approach and thus the building of a coherent structure of all resources that can be fully used by the teacher and the student. For these purposes, so-called "Learning Management Systems" (LMS) have been developed, which can be used to implement e-learning in a broad spectrum of pedagogical practice. One of the progressive LMS is Moodle. It is a modularly oriented, dynamic learning system, therefore it can be widely adapted to specific educational requirements and conditions [4].

Moodle is software for creating learning systems and e-courses on the Internet. It is a constantly evolving project, designed based on a social constructivist approach to education. At the center of this approach is the idea that people learn most when there are interactions between them and the learning materials as well as between people themselves. An analogy between the traditional approach and the constructivist approach may be the difference between lecture and discussion. At the core of the whole system are the courses in which teaching takes place. In the courses, teachers store documents, develop activities with students, interact with them, and manage the whole learning process [5].

2. MATERIAL AND METHODS

In this paper, we surveyed the use of Moodle in 2018-2019 before the COVID-19 pandemic and during the 2020-2022 pandemic. The survey was conducted in an academic setting in a faculty focused on teaching science and education courses - Life and Earth Sciences (Biology, Physics, Geography), Ecology and Environmental Science (Ecology), and Teaching and Educational Sciences (Pedagogy, Technology), with a focus on increasing interest in using Moodle for teaching, diagnostics, and user feedback. The number of students in each year was as follows: in 2018 and 2019 (n= 899), in 2020 (n= 791), in 2021 (n= 743) students and in 2022 (n= 561) students. They were full-time and part-time students of all three levels of higher education - Bc., Mgr., and PhD.

2.1 Using Moodle

Some instructors use Moodle only to expose materials that are accessible to students without the need to log in. All the teacher has to do is give them access to the course. These students appear as non-logged-in users with the name Guest. Guest also refers to a casual web browser who is just browsing the site without being able to access the passworded courses. A logged-in user has logged into Moodle with their name and password. Moodle then distinguishes between the student and the teacher.

3. RESULTS AND DISCUSSION

We surveyed the average number of monthly Moodle page views for faculty providing science and education courses in the 2018-2022 reporting period. We evaluated guest, enrolled student, and faculty views. A guest is defined as a random web page viewer and students who were not registered. Table 1 shows the number of previews in the years of interest in selected months related to the beginning and end of the winter and summer semesters. Figure 1 shows the dynamic changes in Moodle usage in 2018-2022.

In 2018, we recorded an average of 2,150 previews per month. The average number of previews for logged-in students was 178, and the average data transferred was 277MB per month. The highest number of previews was performed in April - 3643 previews and December - 3493 previews. In the number of previews for logged-in students, the strongest month was May with 689 previews, and November with 512 previews.

In 2019, an average of 2,700 views per month were recorded, with an average of 114 views for enrolled students. The highest number of total previews was made in May at 5216. In March, the number of previews for enrolled students was 249.

In January-March 2020, the average number of page views persisted at 2,330 per month. The average number of views logged by students was 175. An overall increase in previews was found in April - August 2020, with an average

of 3760 per month. For enrolled students, this averaged 462 views in April and May. The number of uploads was highest in April 2020 at 1.33GB, which is 4 times the average of previous years.

The increase in views rose to an average of 6,670 between September and December. For enrolled students, there was an increase in average views to 470 for the year, while data transfer also increased to an average of 2.8 GB per month. The highest number of views 8801 was found in October. The highest number of views 757 for enrolled students was in October.

No significant differences were found between the months of 2021 compared to 2020. The average number of views was higher than in 2018 and 2019 at 2,970 per month. There was a decrease in the number of downloads compared to 2020. The decrease in data transferred is 420MB/month, but this is more than before 2020. The highest number of views 4157 was in May . For enrolled students, the highest number of insights was in January (n=646) and October (n=422).

The average number of views in 2022 (n=2600/month) has fallen to 2019 levels. For enrolled students, the average number of views was 27, and the number of data transferred also dropped to pre-2020 levels at 270MB/month. The highest number of previews (n=3101) was recorded in October. The highest number of views (n=95) for enrolled students was also registered in October.

Table 1 Number of selected monthly insights in 2018-2022 from Moodle server in science and education teaching in an academic environment

Month, Year	Guest	Student	Teacher	Total
December 2022	3283	33	89	3405
October 2022	2622	95	386	3101
May 2022	2772	1	29	2802
March 2022	2138	16	30	2184
December 2021	2705	184	30	2919
October 2021	3448	422	42	3912
May 2021	3688	125	344	4157
March 2021	2734	218	290	3240
December 2020	3408	242	114	3764
October 2020	7756	757	288	8801
May 2020	3284	449	315	4048
March 2020	2296	92	247	2580
December 2019	2616	65	13	2694
October 2019	2296	107	10	2413
May 2019	5105	101	10	5216
March 2019	2455	249	42	2746
December 2018	3368	106	19	3493
October 2018	1813	189	80	2082
May 2018	1669	698	25	2392
March 2018	1717	204	260	2200

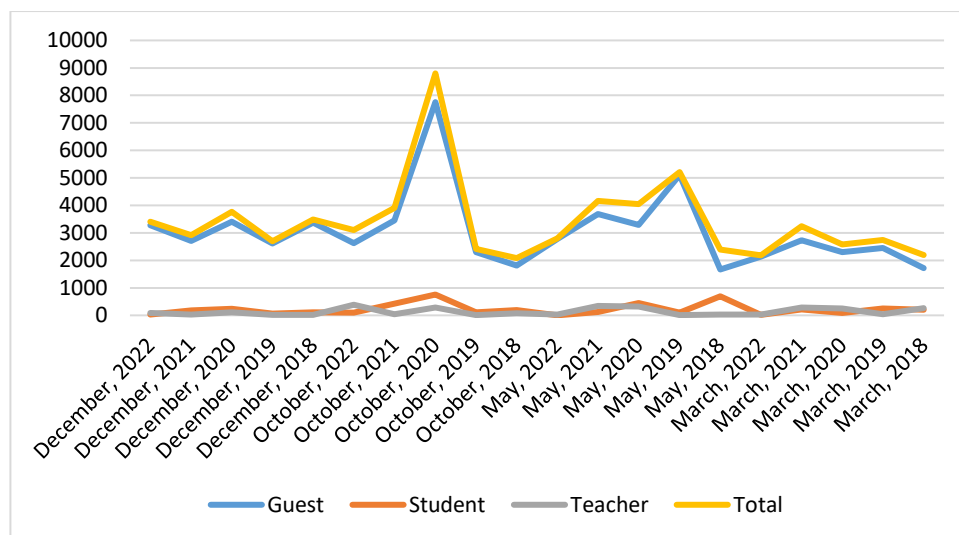


Figure 1 Dynamics of changes in the number of Moodle user views in 2018-2022 - March, May, October, December

The use of Moodle technology, which was originally designed for Internet-enabled distance learning, offers the possibility of a change in teaching. It is now used not only for e-learning but also for blended learning. There are several researches on how to effectively combine e-learning using the Internet and face-to-face learning.

Such a combined method is referred to as blended learning. Part of the learning is delivered in traditional learning spaces (mainly motivational and exposure phases of learning, exercises, and tests) and part by e-learning, e.g. core and supplementary learning materials, self-assessment tools, etc [6]. This method combines traditional teacher-led teaching with e-learning content to create more flexible learning opportunities and to gain the necessary experience.

Blended learning is advantageous for providing a large amount of learning materials for students who are characterized by considerable independence and engagement. By introducing best practices and strategies of blended learning in an academic setting, it brings several benefits to both students and educators, making learning more accessible [7].

Moodle enables educators to improve learning using open-source e-learning software. It is flexible, secure, and adaptable for any online teaching or training initiative and gives the ability to create an eLearning platform that best suits our needs [8].

Egorov et al. [9].in their research point out the need to implement blended learning using Moodle LMS, which combines different types of distance work and work directly in the educational space for students. The latest trend at universities around the world is to use e-learning as it provides more training options for students with many advantages, especially in terms of speed and convenience of accessing information [10].

The application of digitalization in modern education has been of particular benefit in the specific conditions of distance education caused by isolation due to the spread of the COVID-19 virus, which has contributed significantly to the changes in the higher education system [11].

Moodle represents one of the possibilities of applying this way of teaching to pedagogical practice. In this way, students learn to take responsibility for their learning.

The findings show an increase in Moodle preview mailings between 2020 and 2021 by all users, i.e., students, faculty, and guests. During this period, teaching not only in the academic environment took place in an online environment due to the anti-pandemic measures related to COVID-19.

4. CONCLUSION

The European Union aims to develop a truly European dimension in the higher education sector, based on shared values. Excellence and inclusion are the hallmarks of European higher education, which embraces the digitalisation of learning at all levels of higher education. The use of Moodle is one of the many opportunities to offer students a modern, up-to-date, and modifiable form of education today.

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Self-Evaluation and Reflective Competencies of Future Teachers in the Student Area

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Abstract

Practical professional preparation of future teachers creates space for the competency preparation of teachers as the basis of a teacher's professionalism. In order for a future teacher to be able to develop their professional competencies, they must reflect on their activities and be able to evaluate them constructively. Reflection on one's own activities should be a fundamental ability of teachers that prevents the stereotyping of a teacher's work and enables the teacher to verify their new approaches, methods, and student work strategies. The aim of the study is to analyze the level of reflective competencies of teacher education students. An evaluative questionnaire of its own origin with the character of a scale questionnaire was used to monitor self-assessment and assessment of the level of competencies. The reliability (Cronbach's alpha) of the questionnaire in the subscale of professional competencies in the student area was $\alpha = 0.889$. The research involved students of teacher study programs at UPJŠ in Košice (N = 82) and teaching practice supervisor at UPJŠ in Košice (N = 164). In the level of reflective competencies of teacher education students in the student area, statistically significant differences were demonstrated in autonomous assessment (self-assessment) and heteronomous assessment ($p < 0.001$). A statistically significant difference was also demonstrated in the level of reflective competencies in identifying developmental and individual characteristics of the student, identifying psychological and social factors of student learning, and identifying the socio-cultural context of student development. Findings indicate that the level of reflective competencies of teacher education students is relatively low, therefore, it is necessary to work intensively on the development of reflective competencies of teacher education students through innovative reflective methods.

Keywords: self-evaluation, self-reflection, reflective competencies, autonomous assessment, heteronomous assessment

1. INTRODUCTION

The profession of a teacher, their professional development, and the development of professional competencies are becoming the focus of interest in many research investigations. The teacher is moving away from the role of a mentor and stepping into the role of a facilitator, supporting the student in self-learning, teaching them to work with

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relevant information, and deepening the fundamentals of communication, which are the basis for the student's lifelong learning. The foundations of professional competencies are acquired by the teacher during their pre-graduate teacher training, where there is a transformation of theoretical subject knowledge into practical experiences, both in academic preparation and practical professional training. In line with the demands of practice, all reform changes need to be directed towards preparing future teachers as reflective practitioners.

Research shows that the quality of teachers significantly influences student outcomes and depends on various factors. These can include excellent subject knowledge, effective use of methods and techniques in the teaching process, as well as the quality of relationships between teachers and students, and the professional development of teachers [1, 2]. The quality of a teacher is currently associated primarily with the teacher as a reflective practitioner. Emphasis is placed on the development of a teacher's reflective competencies, self-reflection, and reflective teaching. The teacher is thus becoming the center of interest in many studies. Their process of self-improvement is the foundation of systematic and continuous professional growth and expertise. These characteristics, expertise, and professionalism are essential for understanding the profession as such. The process of becoming an expert teacher is not a one-time matter, but rather a lifelong process of the teacher's professional development, which begins already in pre-graduate training. This stage has the most potential to influence a teacher's conviction to persist and develop within their profession. The readiness of future teachers for their role as a teacher and professional reflective practitioner is also dependent on the quality of pre-graduate training.

Professional competencies of teachers are an indicator of professional development and the improvement of teaching quality [3, 4, 5]. One of the factors contributing to this quality improvement is reflection and a reflective approach to these processes. From the perspective of cognitive theory, reflection is considered an act of the mind returning to itself for the purpose of deepening its analysis [6]. During reflection, the teacher should become aware of their mental structures, subject them to constructive criticism, and restructure them if necessary. This primarily concerns the teacher's activities in relation to the students and to themselves. Hrabal & Pavelková [7] characterize self-reflection as guided reflection in various areas of the teacher's activities (communication, teaching, evaluation based on the interpretation of methods, techniques, and strategies of reflection (records from their own teaching hour, self-diagnostic data, etc.)). Self-reflection is the basis of a teacher's self-evaluation, but it is important to consider that, as it involves a dialogue of the teacher with themselves, it is to a considerable extent subjective [8]. To eliminate the degree of subjectivity, self-reflection must be mindful, purposeful, and systematic. The teacher must realize that self-reflection can help them in self-discovery, in identifying their own strengths and weaknesses. Through self-reflection, they can improve, refine their abilities, and eliminate imperfections. Self-reflection should promote self-confidence in their own progress and development.

The teacher as a reflective practitioner, based on the characteristics of reflective teaching, mediates the prescribed curriculum, while deciding which knowledge, skills, and attitudes are to be developed by them and, above all, how. They are also capable of analyzing their pedagogical actions, interpreting procedures, and evaluating their activities or implemented changes. We can consider a reflective practitioner as a researcher who thinks, analyzes their actions, opinions, attitudes, and beliefs in order to understand the interconnections, causes, and consequences [9]. Reflection and self-reflection are fundamental tools for the professional development of the teacher, their quality, and the quality of education. Integrating reflective programs into the preparation of future teachers is quite challenging because it encounters a number of implementation and institutional problems. It usually involves focusing on supporting teachers' scientific literacy [10].

However, within academic preparation, it is possible to incorporate action research, case studies, activities in seminars and discussions, micro-teaching, and a self-reflective pedagogical journal for students [11, 12].

In practical professional preparation, within the pedagogical practices of students, there is ample opportunity for the self-reflection of the student teacher. Pedagogical practices take place in the real environment of primary and secondary schools, where students not only participate in teaching units but also have the opportunity to assist the teacher in activities related to school life. Thus, students can reflect on activities that arise from their future profession. One clear advantage is the constant contact and discussion with the supervising teacher, who acts as their mentor, in addition to the concrete experience. Students observe, analyze, and critically evaluate their activities under the guidance of an experienced teacher (with at least the first certification). Through mutual discussion with the teacher, they uncover their shortcomings, improve their abilities through direct experience. During the pedagogical practice, it is advisable to maintain a pedagogical journal and supplement the student portfolio.

2. METODOLOGY

The research was focused on the comparison of autonomous and heteronomous assessment of the level of professional competencies of teacher education students in the student area. The aim of the research was to determine the level of reflective competencies of teacher education students.

For the description and analysis of the assessment of the level of professional competencies of teacher education students and supervising teachers, a variant of descriptive research was used. The goal was to gather research material that would describe in detail a central variable - the assessment by supervising teachers from primary and secondary schools of the level of professional competencies of teacher education students in three areas: student, educational process, and teacher self-development (student teacher). The individual areas contained items related to specific competency areas, i.e., at what level the student performs specific activities. For the purposes of this study, we focused on the professional competencies of teacher education students in the student area.

In the student area, we monitored the level of competencies in three factors:

- Identification of developmental and individual characteristics of the student - composed of 4 items,
- Identification of psychological and social factors of learning - composed of 3 items,
- Identification of the socio-cultural context of student development - composed of 3 items.

Supervising teachers and students had access to a self-designed rating questionnaire using a scalar format. They expressed their opinions on each item using a five-point Likert scale (1 - excellent level; 2 - very good level; 3 - good level; 4 - sufficient level; 5 - insufficient level). The rating questionnaire was developed based on professional standards for teachers in primary and secondary schools. The supervising teachers' rating questionnaire focused on heteronomous assessment of the professional competencies of teacher education students. The students' rating questionnaire focused on autonomous assessment of the professional competencies of teacher education students.

Construct validity was tested through exploratory factor analysis (PCA with varimax rotation). We subjected the questionnaire items to exploratory factor analysis using SPSS Statistics 25.0. The suitability of the analysis was confirmed by the Kaiser-Meyer-Olkin (KMO) test and Bartlett's test of sphericity. The KMO value for the adequacy of sample selection was 0.823, which can be considered very good (Hutcheson & Sofroniou, 1999). Bartlett's test of sphericity rejected the hypothesis that the correlation matrix is an identity matrix ($p < 0.001$). The test results allowed us to use exploratory factor analysis to identify the dimensionality of the tool and assess the rank of the inclusion of individual questionnaire items in further analysis. The criterion for item suitability was the communality coefficient and the minimum factor loading of the item for its inclusion in one of the factors was 0.40.

To confirm dimensionality, we further conducted a parallel analysis, identifying a nine-factor model as the most optimal solution for the analyzed version of the questionnaire on professional competencies of teacher education students. We labeled the factors in line with the terminology of the professional standard for teachers at ISCED 2 and ISCED 3. We examined reliability, internal consistency of the research tool, i.e., the relationship between the questionnaire items themselves and the relationship between the items and the research tool as a whole, using the statistical software SPSS Statistics 25.0, through the Cronbach's alpha coefficient. The rating questionnaire showed very good reliability, with a Cronbach's alpha coefficient value of $\alpha = 0.831$, exceeding the minimum value of $\alpha = 0.700$. The reliability of the student dimension had a Cronbach's alpha coefficient value of $\alpha = 0.778$, and the reliability of the educational process dimension had a Cronbach's alpha coefficient value of $\alpha = 0.799$. Correlations between individual items ranged from < 0.037 to 0.673 , and were statistically significant at the significance level of $p < 0.05$. Correlations between individual items and the total score were all above 0.50. We were able to include all items in further analysis without the need to exclude any. Based on the value of the Spearman correlation coefficient, it can be concluded that there is a strong correlation between the dimensions ($p < 0.001$). The results of the factor analysis, along with the values of the Cronbach's alpha coefficient, indicate the internal consistency of the individual factors.

2.1 Research Sample

The basic sample consisted of supervising teachers from primary and secondary schools in the Košice region, who supervised teacher education students at UPJŠ during their consecutive pedagogical practice. The selection of the research sample was subject to intentional available selection of supervising teachers at UPJŠ in Košice. The research included supervising teachers from primary and secondary schools of teacher education students at UPJŠ (Faculty of Arts and Faculty of Science) who had completed consecutive pedagogical practice. The research sample was not random. The selection of supervising teachers was also not random because only those who had students on

consecutive pedagogical practice were included in the research. The research sample for the questionnaire survey was compiled using the technique of available selection, consisting of 82 teacher education students at UPJŠ in Košice and 164 supervising teachers from primary and secondary schools.

2.2 Data Analysis

The obtained data, when subjected to the Kolmogorov-Smirnov test for normality of data distribution, showed $p < 0.5$. Therefore, non-parametric tests were used for statistical processing and comparison of the data. The Mann-Whitney U test was used to evaluate statistically significant differences. The chosen level of significance was 0.05. Descriptive statistics included the arithmetic mean (AM) and median (Me). The statistical analysis of the data was conducted using the SPSS 25.0 software.

3. RESULTS

RQ1: Is there a statistically significant difference in the level of professional competencies of teacher education students in the area of identifying developmental and individual student characteristics between autonomous and heteronomous evaluation?

The students involved in the research evaluated the level of their competencies on a scale from 1 to 5. The students rated their knowledge level focused on mastering the biological, psychological, and sociological aspects of student development with an average grade of 1.68. The teachers rated this knowledge with a grade of 3.47. The difference in autonomous and heteronomous assessment is 1.79, which is nearly a 2-grade difference. The students evaluated this knowledge significantly better than the supervising teachers. Similarly, in the assessment of knowledge of theoretical foundations of pedagogical diagnostics, students rated it with a grade of 1.70, while teachers rated it with a grade of 3.29. The ability to creatively and effectively utilize knowledge to identify individual student characteristics was rated by students with an average grade of 1.61, which was the highest in the relevant competency. However, teachers rated it with an average grade of 3.28. Students rated their level of basic practical experience in identifying individual student characteristics with an average grade of 1.73, while teachers rated it with a grade of 3.37. The overall average difference in autonomous and heteronomous assessment was 1.67 (Table 1). The level of students' reflective competencies is relatively low. A statistically significant difference was demonstrated in the level of professional competence - identifying the developmental and individual characteristics of the student in terms of autonomous and heteronomous evaluation ($p=0.002$).

Table 1. Competence - Identifying developmental and individual characteristics of the student

Knowledge/skills	Autonomous assessment (A)	Heteronomous assessment (H)	Difference in assessment (D)
has a command of biological, psychological, and sociological aspects of student development	1.68	3.47	1.79
knows the theoretical foundations of pedagogical diagnostics	1.70	3.29	1.59
creatively and effectively utilizes knowledge to identify individual student characteristics	1.61	3.28	1.67
has basic practical experience in identifying individual student characteristics	1.73	3.37	1.64

RQ2: Is there a statistically significant difference in the level of professional competence - identifying the psychological and social factors of student learning in terms of autonomous and heteronomous evaluation?

Students evaluated the level of their knowledge focused on understanding the concept of institutional socialization processes in broader socio-scientific contexts with an average grade of 1.68. Teachers rated this knowledge with a grade of 3.24. The difference in autonomous and heteronomous assessment is 1.56. The students rated this knowledge significantly better than the supervising teachers. The ability to identify the learning style and individual educational

needs of students (mainstream students, students with special educational needs) was rated by students with an average grade of 1.68. However, teachers rated it with an average grade of 3.28. The students rated their level of ability to identify individual student characteristics with an average grade of 1.67, while teachers rated it with a grade of 3.30. The overall average difference in autonomous and heteronomous assessment was 1.59 (Table 2). The level of students' reflective competencies is also relatively low in this competency area related to students. A statistically significant difference was demonstrated in the level of professional competence - identifying the psychological and social factors of student learning in terms of autonomous and heteronomous evaluation ($p=0.001$).

Table 2. Competence - Identifying psychological and social factors of student learning

Knowledge/skills	Autonomous assessment (A)	Heteronomous assessment (H)	Difference in assessment (D)
understands and grasps the concept of institutional socialization process in broader socio-scientific contexts	1.68	3.24	1.56
identifies the learning style and individual educational needs of students (regular students, students with special educational needs)	1.68	3.28	1.60
identifies individual characteristics of the student	1.67	3.30	1.63

RQ3: Is there a statistically significant difference in the level of professional competence - identifying the sociocultural context of student development in terms of autonomous and heteronomous evaluation?

Students rated the level of their knowledge focused on understanding the issues of multiculturalism in relation to the student with an average grade of 1.63. Teachers rated this knowledge with a grade of 3.27. The difference in autonomous and heteronomous assessment is 1.64. The students also rated this knowledge significantly better than the supervising teachers. The ability to have basic practical experience in identifying special educational needs of students in the sociocultural context was rated by students with an average grade of 1.71. However, teachers rated it with an average grade of 3.27. The students rated the level of ability to accept student diversity in the sociocultural context with an average grade of 1.67, while teachers rated it with a grade of 3.19. The overall average difference in autonomous and heteronomous assessment was 1.52 (Table 3). The level of students' reflective competencies is also relatively low in this competency area related to students. A statistically significant difference was demonstrated in the level of professional competence - identifying the sociocultural context of student development in terms of autonomous and heteronomous evaluation ($p=0.002$).

Table 3. Competence - Identifying the sociocultural context of student development

Knowledge/skills	Autonomous assessment (A)	Heteronomous assessment (H)	Difference in assessment (D)
understands the issues of multiculturalism in relation to the student	1.63	3.27	1.64
has basic practical experience in identifying the special educational needs of students in a sociocultural context	1.71	3.27	1.56
accepts the diversity of students in a sociocultural context	1.67	3.19	1.52

The results of the research on the level of professional competencies of teacher education students in the student area indicate statistically significant differences in the evaluation of the level of professional competencies by the students and supervising teachers. Students significantly rate the level of their knowledge and abilities better than their supervising teachers. The average difference in the comparison of autonomous and heteronomous assessment in the student area is 1.62, which represents a difference of nearly two classification levels. We confirmed the significance of this difference by verifying the hypothesis:

H1: Teacher education students demonstrate a statistically significantly lower level of reflective competencies in the student area.

Table 4. Competencies in the student area (Mann-Whitney U-test)

Group	N	Mean Rank
Teaching Practice Supervisor	164	134.26
Future teachers	82	35.46
Total	246	
Mann-Whitney U	516.500	
Wilcoxon W	3899.500	
Z	-9.960	
p	.000	

The verification of the hypothesis revealed that the students rated their professional competencies in the student area significantly higher than their supervising teachers, indicating a low level of their reflective competencies.

4. CONCLUSIONS

Preparing quality teachers for the needs of education in contemporary society is a challenge, primarily for teacher training institutions. The modern teacher is expected to have highly developed professional competencies and, above all, to embody the attributes of a reflective practitioner. Evaluation as an interpretive procedure is focused on a selected area of reality [13]. In our case, it involved the assessment of professional competencies by supervising teachers (heteronomous evaluation) and the students themselves (autonomous evaluation). Autonomous evaluation is a crucial part of the preparation for the teaching profession. It entails assessing one's own activities, justifying the assessment, and striving for improvement based on the evaluation results [14]. The autonomous evaluation of teachers is essential for the development of their professional competencies and serves as the foundation for an objective heteronomous evaluation of students.

The conducted research has highlighted significant shortcomings in the preparation and development of the professional competencies of teacher trainees. In the student area assessment, teacher trainees demonstrated a relatively low level of reflective competencies. The verification of the hypothesis confirmed that students evaluated their professional competencies in the student area significantly better than their supervising teachers. It is evident from the findings that students do not have sufficiently developed reflective competencies, which are essential for their future teaching activities.

Walberg [15] emphasized that teachers' behavior toward students significantly influences both the students' personalities and the outcomes of the educational process. As a reflective practitioner, a future teacher should be capable of identifying and analyzing problems and situations from pedagogical, psychological, and social perspectives and making responsible decisions [16]. Responsible decision-making is possible only when the teacher reflects on their shortcomings and possibilities in the identification of students' developmental and individual characteristics, their psychological and social learning factors, as well as the socio-cultural context of students' development.

The reflective teacher focuses on their activities and behaviors and generalizes them based on self-knowledge [17]. Reflective activities of the teacher aim at self-development, emphasizing flexibility, analysis, and social sensitivity in the professional development of the teacher [18]. The professional development of the teacher stems from the analysis of the principles and ways of thinking about their activities, not only in relation to students and the educational process but also in relation to themselves. Future teachers should gradually identify with the role of the teacher during their undergraduate preparation, transitioning from the role of a student.

It is evident that creating conditions for the development of the professional competencies of teacher trainees in relation to students is necessary within the framework of teacher preparation. Various role-playing activities and simulation activities can be employed to help students develop their competencies. Microteaching also appears to be an ideal option, which can be conducted both in-person and online with teacher trainees. In such cases, recording microteaching sessions can serve as a tool for students' reflective analyses. Emphasis should be placed on self-diagnosis and professional reflection, which are prerequisites for implementing reflective teaching [19]. Reflective

teaching is considered a fundamental competency for professional growth. Slavík et al. [20] primarily connect reflection with the didactic thinking of the teacher, its development, and the possibilities of influencing the pedagogical activities of the teacher. During reflection, the teacher contemplates didactic events within the lesson, analyzes them, and seeks solutions for their improvement [21]. Therefore, it is essential for teacher trainees to be prepared for their future profession in a flexible manner, focusing on the development of their professional competencies, particularly considering the global challenges facing society.

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Does E-Learning Empower Female Learners? An Investigation into Female Students' Attitudes in China

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Abstract

Gender disparities in education persist in many countries, including China, where access to quality education for women and girls remains a challenge, particularly in rural areas. However, the digital age has introduced new opportunities to address these disparities through E-learning. This study explores the attitudes of female students toward E-learning and its potential to promote educational equity. With Technology Acceptance Model (TAM) serves as theoretical framework, this study focused on 40 female high school students from low-income areas and families as participants. These participants were asked to complete a questionnaire online that contained demographic information and an attitude toward learning scale online. After statistical data analysis, the results show that their behavioural intention of e-learning is related to perceived self-efficacy ($r = .70^{**}$, $p < 0.01$), perceived enjoyment ($r = .65^{**}$, $p < 0.01$) and perceived usefulness ($r = .73^{**}$, $p < 0.01$) of E-learning positively. Besides, participants' expectations and concerns about e-learning are also reported in this paper. In conclusion, this study sheds light on female students' attitude towards e-learning and highlights the role of e-learning in promoting educational equity. In addition, this study emphasizes the important role played by offline teachers at this stage in communicating with parents and counteracting old traditional attitudes.

Keywords: E-learning, gender disparities, education equality.

1. INTRODUCTION

Gender disparities in education have been a persistent challenge, even in 21st century, in many countries over the world (DiPrete & Buchmann, 2013; Rew, 2009). China, one of these countries, in which gender-related educational constraints still exist and need to be addressed (Zeng et al., 2014). Women and girls have historically faced obstacles in accessing quality education and achieving their full academic potential. Especially in rural areas, women face more serious obstacles if they want to receive higher education (Hannum et al., 2009).

However, the digital age has ushered in new opportunities for addressing these disparities. E-learning, the use of digital technology for educational purposes (Downes, 2005), has emerged as access to education for a wider population, because it has ability to overcome constraints related to time, location, and can enable excellent educators

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to provide education to more people (Toro & Joshi, 2013). This makes women beneficiaries as well by facilitating their access to higher education. With the aim to investigate the attitudes of female students towards E-learning, this study hopes to explore its potential in promoting educational equity. Delving into the potential of E-learning in transforming the educational landscape for female students, this study also provided an in-depth exploration of its advantages, challenges, and its role in fostering gender equality.

1.1. Gender disparities in Chinese education

Gender inequality in Chinese education can be traced back to a famous time-honored philosophy. In East Asia, the longstanding dominance of Confucian education traditions, spanning millennia, has played a pivotal role in shaping the educational landscape. While these traditions have historically promoted education, they have also inadvertently contributed to gender disparities within the educational system (Romano et al., 2015; Vu & Yamada, 2023). Traditionally, there have been distinct expectations for men and women. Men were anticipated to cultivate their virtues, contribute to governance, and maintain order in society, while women were expected to obediently follow their husbands' guidance, adhere to the "three obediences and four virtues," and, at certain points in history, female education was even considered a diversion from their primary duties, which were seen as managing household affairs and raising children (Gao, 2003). This mindset resulted in the marginalization of women within the confines of traditional educational systems of the past. The influence of Confucianism, with its emphasis on hierarchy, social norms, and prescribed gender roles, has led to a multifaceted educational environment. On one hand, it has encouraged a reverence for learning and the pursuit of knowledge, thereby facilitating access to education. However, on the other hand, it has perpetuated societal norms that often relegate women to subordinate roles, limiting their educational opportunities.

In addition, economic factors within families can also contribute to the inequality in women's access to education (Song & Zhou, 2019). Even aside from gender, higher education in China already requires a lot of expense, which usually provided by the families (Wu et al., 2020). According to the research of Lin (2019), Families in urban areas will allocate a lot of resources and income to their children's education, in contrast to families in rural areas who prefer to spend money on subsistence. And for these financially disadvantaged households, limited resources may be allocated primarily to the education of male children, often at the expense of their female counterparts. Economic constraints can result in the prioritization of one gender over the other when it comes to educational opportunities, further perpetuating gender disparities in education. This economic bias can restrict women's access to educational resources, materials, and opportunities, ultimately hindering their academic advancement and potential.

In contemporary China, as a result of globalization and socio-economic development, most of the urban women no longer contend with educational inequality, and their choices are frequently endorsed and encouraged by their families. At the same time, in rural areas, female students can receive support from the government, domestic and international organizations, and philanthropists (Guo et al., 2019). However, when women encounter barriers to higher education, especially for those who lives in rural area, it is often the result of a complex interplay between traditional societal expectations and economic constraints within their families (Wu et al., 2021), which together create formidable hurdles to educational attainment.

In reality, there exists a self-perpetuating cycle, exemplified in Figure 1, where impoverished families frequently do not allocate resources for women's education. This lack of access to education, in turn, reinforces regressive gender roles, where women are expected to shoulder heavier domestic responsibilities. These enduring traditional expectations surrounding women's roles contribute to the entrenchment of old hierarchical structures within families.

Hence, shattering the cycle is of paramount significance for women and girls who aspire to pursue higher education. Since once this cycle is established, it is hard to get rid of it, moreover, the next generation has a high probability of following a repetitive path. Undeniably, it is a multifaceted challenge to break this cycle, a variety of factors, both economic and political, should be taken into consideration. However, the critical aspect lies in determining precisely at which juncture to implement the intervention, empowering them to fulfil their educational aspirations.

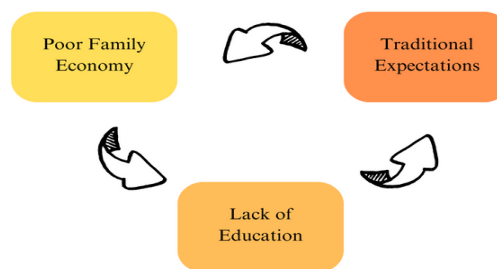


Fig. 1. The Cycle of Educational Inequity

1.2. E-learning in modern era

Before turning to this terminology, it is important to mention that, back in 2005, Nagy (2005) argued that e-learning has garnered excessive attention, particularly from prominent technology providers, which has led to its overuse and misrepresentation. To some extent, there is some truth in his observation because for a long period of time, the concept seemed to have a broad scope without too much precision research.

However, it didn't take long for notable breakthroughs to emerge in the field of e-learning research. In 2006, Pituch and Lee (2006) introduced and evaluated alternative models designed to elucidate students' intentions to utilize an e-learning system, whether as a supplementary learning tool within a traditional classroom or as an independent method for distance education. After that, Wong (2007) highlighted e-learning limitations concerning technology, personal aspects, comparisons with traditional campus learning, design, and other factors. He also suggested that e-learning may not be ideal for those lacking the self-discipline needed for independent task completion.

In the following years, with the development of computer technology, e-learning received more technological support, and it progressed steadily around 2015 (Somayeh et al., 2016). Hussain (2012) has already begun to contemplate the necessity of developing e-Learning 3.0 for the new generation, building upon e-Learning 2.0, and has raised awareness about the potential risks associated with the new version. After that, Tirziu and Vrabie (2015) presented a framework to enhance teachers' e-interactions with students and confirmed that ongoing learning and the exploration of new communication methods will facilitate improved learning outcomes and nurture mutual respect and collaboration between teachers and students.

In 2019, E-learning experienced significant expansion and encountered a myriad of challenges. This surge in interest and engagement with online education was further catalyzed by the global COVID-19 pandemic (Amarneh et al., 2021). As the Chinese saying goes, in a crisis lies an opportunity, as the pandemic unfurled, numerous countries began earnestly exploring and implementing online teaching models that minimize or eliminate the need for physical contact in traditional educational settings. In Austria, Ebner et al. (2020) introduced the situation at Graz University of Technology, describing the transition to e-learning and offering insights into the university's internal processes and the changing behavior of students and instructors, while also referencing an e-learning readiness assessment framework and discussing enablers, barriers, and bottlenecks from the Educational Technology department's perspective. At the same time, Adeoye et al. (2020) conducted an extensive investigation into the growth and obstacles of E-learning within the Nigerian context. Their research not only highlighted the challenges faced in the development of E-learning but also presented innovative solutions aimed at fostering its expansion in developing nations. These solutions were particularly relevant in addressing the persistent hurdles related to financial constraints, insufficient technological infrastructure, and other resource limitations that frequently impede the advancement of E-learning initiatives in such regions. Maatuk et al. (2022) examined E-learning usage in the University of Benghazi's IT faculty during the COVID-19 pandemic. They used a descriptive-analytical approach and distributed questionnaires to students and instructors, especially focusing on E-learning implementation, advantages, disadvantages, and obstacles. In short, scholars in various countries are actively exploring e-education to suit their own circumstances. This shift was driven by the imperative to curb the transmission of the virus, prompting institutions and educators to adapt and innovate in response to the new normal.

While the growth of E-learning offered a unique opportunity to continue education during times of crisis, it also brought to the forefront various complexities and challenges (Kibuku et al., 2020). These challenges encompassed issues related to equitable access to digital resources, the effectiveness of remote teaching, the psychological and social implications of prolonged isolation from traditional educational environments, and the need for robust digital

infrastructure (Maatuk et al., 2022). Additionally, questions arose concerning the long-term sustainability and effectiveness of E-learning as a complement or substitute for conventional in-person instruction.

1.3. E-learning in China

As early as 1990, China embarked on a journey to integrate Information and Communication Technology (ICT) into its educational landscape (Wang et al., 2018). However, given China's vast population and geographical expanse, regional disparities in education posed a substantial challenge (Wang et al., 2009). For instance, there existed a pronounced imbalance in the distribution of educational resources, both in terms of qualified teachers and access to educational equipment, between the more developed eastern regions and the underdeveloped western regions. Similarly, urban areas and rural areas also serve as a similar pair of contrasting groups (Ting et al., 2018).

To bridge this gap and promote educational equality, the Chinese government initiated the "Rural Elementary and Secondary School Distance Education Project", "Campus computer network construction project for universities in West China", "Networks between schools project" (Wang et al., 2018), with the overarching goal of optimizing the nation's higher education resources, fostering academic exchanges, and propelling the adoption of e-learning. This visionary project leverages information and communication technologies, encompassing resources like radio stations, educational CD-ROMs, educational satellite receiving stations, and computer classrooms (Jiao et al., 2014). The primary objective of this endeavor is to facilitate the sharing of high-quality educational resources between urban and rural areas, ultimately enhancing the quality and effectiveness of rural education. We can find that, e-learning in China not only serves as a powerful educational tool but also plays a pivotal role in addressing regional educational disparities and fostering a more equitable learning environment across the nation.

During the epidemic, like other countries, China has witnessed the development and optimization of various E-learning systems and platforms (Dai & Xia, 2020; Mensah et al., 2022). Notable examples include MOOC, Tencent Conferencing, New Oriental's platform, ClassIn, and some online teaching systems launched by universities. During this period, Chinese scholars deepened their understanding of E-learning. For example, He explores the evolution of MOOCs, an e-learning platform that has gained international recognition, particularly during the worsening epidemic. The discussion encompasses their development, deployment, and their overall impact. For example, Xiong et al. (2021) explored the evolution of MOOCs, an e-learning platform that has gained international recognition, encompasses their development, deployment, and their overall impact, while Dai and Xia (2020) studied the benefits of school self-developed e-learning platforms. One year later, Jin et al. (2021) proposed that various factors, including the push effect, pull effect, and moorings effect, significantly influence users' intentions to switch from offline to online learning. Besides, their study also examines the applicability of these effects in promoting online learning programs in Chinese universities post-pandemic.

Despite the flourishing e-learning landscape in China, it is crucial to acknowledge that it is not devoid of challenges. In a review of the literature, Carliner and Shank (2016) identified four major hurdles in the realm of e-learning: organizational barriers, pedagogical complexities, technological limitations, and financial constraints. Even in the post-epidemic era, the issues they raised remain unresolved, underscoring that addressing these challenges necessitates sustained long-term development rather than short-term breakthroughs.

1.4. The role of E-learning in empowering female learner

In the 21st century, despite substantial strides towards gender equality in education, disparities exist, especially in certain regions and among marginalized groups (Al-Shaya & Oyaid, 2021). E-learning, the technological online learning, may empower female learners by the following ways:

1. **Overcoming Cultural and Social Barriers:** E-learning may transcend geographical and physical barriers, making education more accessible to female learners. In many parts of the world, cultural norms, societal expectations may constraint female get access to higher education (Al-Shaya & Oyaid, 2021; Wu et al., 2021). While e-learning can offer a solution by providing an alternative route to education. With the help of e-learning, female learners, especially those from remote and underserved areas, have access to a wide range of courses and resources online.

2. **Flexibility and Achieving Work-Life Balance:** E-learning may offer a crucial advantage in the form of flexibility. Female learners frequently find themselves managing various responsibilities, such as family and

employment (Wong & Sixl-Daniell, 2020). In this context, e-learning provides the adaptability required to harmonize these roles by providing more flexible hours.

3. Ensuring Quality Education: E-learning may provide access to top-tier educational resources and instructors. This accessibility empowers female learners to tap into courses, lectures, and materials from leading global institutions and educators (Zeng et al., 2014). Such democratization of education ensures that women have equal access to the same high-quality educational content as their male counterparts.

Three common situations and measures are listed above, however, women often have to face multiple, overlapping challenges in reality. For instance, consider a dire scenario where a female student hails from an impoverished region, must work to support her family, and lacks familial support for her education. One can imagine the numerous hurdles she must overcome to access higher education. Even worse, her descendants are highly likely to be unable to access higher education, perpetuating the cycle.

In the preceding section, we talked about the vicious cycle of educational inequality, and now, e-learning may present a potential opportunity to disrupt this cycle. As illustrated in Figure 2, one perspective is to proactively intervene in the link between low family income and limited access to education. This intervention is made possible by the high-quality, cost-effective services that E-learning can offer. And certainly, such interventions require technical support from R&D organizations and financial support from government departments and cannot be accomplished in a short period of time. It's worth noting that E-learning may offer additional pathways to break this dilemma, although we won't delve into them in this discussion.

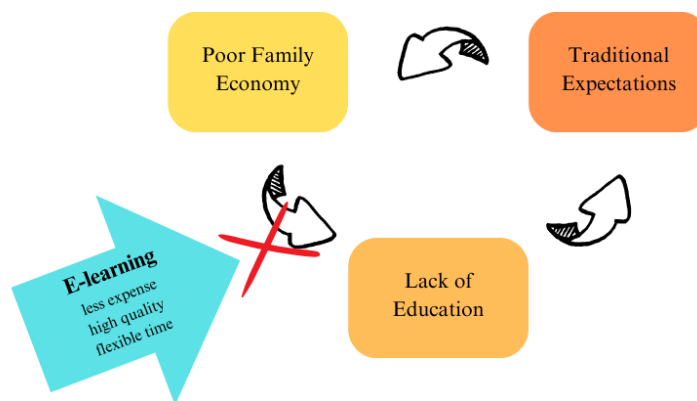


Fig. 2. Break The Cycle of Educational Inequity

1.5. Theoretical Framework

The Technology Acceptance Model (TAM), initially introduced by Davis (1989), forms the conceptual framework of this study, providing guidance on how to harness the potential of E-learning for the targeted group. Since then, various scholars have invested in the study of TAM and have broadened and enriched the model (Holden & Karsh, 2010; Marangunić & Granić, 2015). While it is worthy mentioned that in 2017, Ibrahim et al. (2017) explored the usage of TAM in e-learning, constructed model with educational technology, educational context, motivation and attitude as 4 dimensions.

In line with the TAM model, the belief in the utility and user-friendliness of technology exerts a substantial influence on users' attitudes towards that technology, subsequently shaping their decision to embrace it. Consequently, in this study, it is reasonable to anticipate that female students' attitudes toward e-learning are critical and may affect whether E-learning can be used as a tool to combat educational inequality in the future.

2. METHODOLOGY

2.1. Participants and Measurement

The study involved 40 high school girls from Jieyang, Guangdong, a city with below-average income compared to the province (Li et al., 2015). To select the participants, the researcher initially asked 96 girls to provide brief information about their intention to pursue higher education and their family income. From this group, 40 girls were chosen for the study. These selected participants came from families with incomes below the provincial average and expressed a desire to pursue higher education.

Data was collected through an online questionnaire, which included demographic information and an attitude scale towards E-learning (Liaw & Huang, 2011). The attitude scale measured four dimensions: perceived self-efficacy in using E-learning, perceived enjoyment of E-learning, perceived usefulness of e-learning, and behavioural intention to use E-learning. Participants rated their responses on a 5-point Likert scale, with options ranging from 1 (indicating "strongly disagree") to 5 (indicating "strongly agree").

2.2. Data Collection and Data Analysis

Online questionnaire responses from the participants were gathered through the "QuestionStar" software, and a total of 40 fully completed questionnaires were acquired. This was facilitated by the software's requirement that these questionnaires be answered in full before they could be submitted.

Subsequently, the collected data underwent analysis, employing statistical software SPSS 26.0. To evaluate the questionnaire's reliability, the Cronbach's alpha coefficient was computed for each dimension of the attitude scale. A higher Cronbach's alpha value indicates greater internal consistency within the questionnaire, implying that items within each dimension reliably measure the same underlying construct. After that, correlation analysis was conducted to investigate relationships between variables. This aimed to determine whether significant associations exist between the participants' perceived self-efficacy, perceived enjoyment, perceived usefulness and their behavioural intention to use E-learning.

3. RESULTS

The findings of the descriptive analysis, encompassing data on age, grade, sibling status, as well as perceptions of family support and e-learning, were depicted in Table 1. It is worth highlighting that all individuals in the sample are female, even though it was not mentioned in the table.

In Table 1., we can see that the majority of the participants do not have exclusive access to educational resources within the family. 92.5% have more than one sibling, 77.5% of them have to deal with male competitors who are more likely to receive parental investment in China. As for the reasons for not receiving adequate educational support, 67.5% of the participants reported that it was due to financial problems, but the influence of traditional attitudes cannot be underestimated, with a percentage of 47.5. Simultaneously, it's evident that these participants placed a higher emphasis on obtaining a quality education while minimizing expenditures, rather than prioritizing the convenience of the time and location.

Lastly, it is noteworthy that, contrary to our initial expectations, participants did not think that the biggest barrier was the lack of equipment and technology. The majority held the belief that e-learning cannot challenge their parents' traditional perspectives, while emphasizing the greater significance of having a tangible teacher who could bridge the gap and persuade their parents to invest more in their education.

Table 1. Descriptive analysis

Item	Value
Mean Age	17.6
Grade	
Year 1	8
Year 2	10
Year 3	22

I have more than 1 siblings	92.5%
I have more than 1 brother	77.5%
I perceived lack of family support in Education	72.5%
● Economic issues	67.5%
● Problems of traditional concepts	47.50%
● Other problems	17.5%
I expect E-learning to provide	
● better teachers	95%
● Less Expense	87.5%
● Convenient time and place	47.5%
● Others	12.5%
For me, the disadvantage of E-learning	
● Cannot change my parents' traditional views	80%
● No teacher supervises me	72.5%
● No good equipment	45%
● Decreased interaction	42.5%
● Others	15%

Upon examination, the Cronbach's alpha for the attitude scale was determined to be 0.93, suggesting a high level of reliability. And Table 2. illustrates the mean values, standard deviations, and correlations among the four dimensions of e-learning attitudes. Notably, it also reveals significant correlations between participants' perceived self-efficacy, perceived enjoyment, perceived usefulness, and their behavioural intention to use e-learning.

In Table 2., it is evident that perceived usefulness of e-learning exhibits the highest mean value, indicating that female students had a significant level of interest and agreement regarding the extensive applications of e-learning. Furthermore, the behavioural intention of E-learning is related to perceived self-efficacy ($r = .70^{**}$, $p < 0.01$), perceived enjoyment ($r = .65^{**}$, $p < 0.01$) and perceived usefulness ($r = .73^{**}$, $p < 0.01$) of E-learning positively, which implies behavioural interest in e-learning within the target group could be fostered through these three approaches.

Table 2. The Mean, Standard Deviation, correlations of e-learning attitudes

	M	S.D.	Perceived Self- efficacy	Perceived Enjoyment	Perceived Usefulness	Behavioural Intention
Perceived Self- efficacy	3.80	.80	1			
Perceived Enjoyment	3.44	.74	.85**	1		
Perceived Usefulness	4.05	.55	.78**	.80**	1	
Behavioural Intention	3.95	.65	.70**	.65**	.73**	1

** $p < 0.01$

4. DISCUSSION

Based on the current findings, it is clear that female students hailing from low-income backgrounds exhibit a strong inclination towards E-learning. They have demonstrated significant interest in various aspects of e-learning, including their perceived self-efficacy, enjoyment, the utility of this approach, and their behavioral intention to adopt it. This favorable attitude among these students holds promising potential for e-learning to serve as a catalyst in advancing educational equity (Zeng et al., 2014).

Nonetheless, the pivotal question that looms is whether e-learning can deliver on the promise of providing both quality instruction and cost-effectiveness to meet the expectations of these students (Somayeh et al., 2016). This critical issue remains an area ripe for further exploration and research. Unless e-learning can deliver fundamental benefits, such as facilitating interactions between students and teachers from reputable institutions, or offering cost-effective customized courses, it remains a mere concept or a superficial innovation (Al-Shaya & Oyaid, 2021). Realizing its full potential as an effective educational tool necessitates in-depth research and substantial support from educators and the government.

Another thought-provoking point that warrants further consideration is the indispensable role of teachers in the educational landscape. Presently, the role of teachers remains irreplaceable in the physical classroom, especially when it comes to challenging deeply ingrained societal norms and traditions (Hannum et al., 2009). For instance, teachers often find themselves on the front lines in countering age-old notions and practices, including the prevailing idea that girls should prioritize early marriage over higher education.

In this context, teachers act as advocates and agents of change (Danyluk et al., 2020; Yarrow et al., 1999). They are positioned to guide their students towards more enlightened perspectives and to challenge these obsolete traditions. Their influence goes beyond the classroom, as they play a crucial role in convincing parents or guardians to invest more in their daughters' education. Their ability to bridge the gap between students and families, along with their persuasive power, cannot be underestimated. In essence, teachers are central figures in the drive for educational equity and gender equality. Their role is pivotal, both offline in the traditional classroom and potentially online within the realm of e-learning.

5. LIMITATION

This study serves as a preliminary investigation, characterized by a limited sample size, as the main purpose is to lay the groundwork for constructing a more robust model in subsequent experiments. Although the model's full development will be realized in future research endeavors, the current study endeavors to capture the interest and engagement of scholars in addressing the educational needs of underserved and disadvantaged groups.

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Creating Ethical, Legal, and Educational Best Practices with the Implementation of Artificial Intelligence and ChatGPT in the Online Learning Environment

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Abstract

While technology is ever-changing, the field of education has battled the acceptance or avoidance of certain new ways of utilizing technology in today's classrooms. More importantly, some new forms of technology may be overwhelming for many in the fields of education and business. Thus, the emergence of newer forms of Artificial Intelligence (AI) has presented yet another challenge for educators. Consequently, this means that the crafting of new strategies and techniques for teaching students about the positive and negative approaches to artificial intelligence (AI) does not necessarily need a linear approach, but rather one that may have different directions for discovery, reflection, along with additional research to better understand all dimensions and environmental factors affecting the way students approach researching, writing, and incorporating the use of AI with their analytical and critical thinking processes. Therefore, now one approaches a new subject area or topic in any learning environment usually requires research and preparation by both the educator and learner. Equally important is the educator's creation of tools, as well as best practices, for diagnosing and assessing learners to determine how to create additional learning activities to enhance the learning experience and when adjustments are needed. While the introduction of AI has been seen by many educators in the recent period as a potential problem, many do not realize that the concept of AI has been in the literature since the 1950s as written by Turing. Consequently, AI has been slow in appearing in non-technological studies until the impact of online learning has caused a need for many to address all types of technological factors that may impact, impede, influence, and/or excel the researching and writing skills of many people in various professions, industries, organizations, and subject-matters areas. This paper will focus on the impact of AI in the field of academia, especially with a focus on AI's evolving nature, need for best practices and policies to be created and implemented, as well a deeper look at how academicians can harness the AI momentum and turn it into a tool of enhancement and learning, rather than one for potential cheating and plagiarism.

Keywords: Best Practices, Artificial Intelligence, ChatGPT, Ethics

1. INTRODUCTION

As technology changes, so does education need to change and help others understand the proper use of new technology, especially, if there is a potential human desire to either use or misuse new technological advancements. One of the key problem areas in education is the use of technology is the unethical use of using or "borrowing" materials of others and not properly crediting the source material and author(s). With the advent of Artificial Intelligence (AI) and its related AI tools, professionals in the fields of IT, education, business/management, and other

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areas are seeing a rise in numerous journal articles, news reports, as well as social media claims that AI is either a foe or a friend.

Doshi-Velez (2023) stated “There's a much greater recognition that we should not be waiting for AI tools to become mainstream before making sure they are ethical.”[1]. For many educators, they have been waiting for their administrators to create policies or issue discussion about best practices in this area, while other educators have been pioneering against the Ivy Towers of red tape and bureaucracy to create their own policies, best practices, and ethical standards to be administered across their classrooms to help set up a “standard for AI usage”. Juxtaposed to this approach, there is another set of educators and administrative staff which are moving forward to craft new strategies and techniques for teaching students about this new technology and what could be the positives and negatives with any “new and unproven” technology been introduced into the educational environment. One must keep in mind that educators cannot think linearly – as technology is usually conceived in a “flowchart diagram or mapping. As a result, learning should flow in different directions, not always predictive as some educators, administrators or writers may think. Rather, it should be a path of discovery that can segue into different turns and twists – but a student-focused educator who incorporates more student-center learning will help the students start the path of learning, yet the educator will be there to help facilitate the journey.

Consequently, one needs to celebrate the evolved usage of AI and various AI tools being offered that this can contribute to the education of all stakeholders and not just students. Thus, these new tools offer educators more teaching opportunities to work with students in terms of their analytical and critical thinking skills, rather than just relying on previous case studies, chapter reading, and pre-planned lessons. Rather, this opens up a new chapter on education where technology and education can be finally joined together in a combined movement to help students to envision thoughts, use AI technology, and see yet a new world unfold for them. Throughout this paper, more avenues and best practices will be revealed as to how one can approach AI in the classroom, yet still caution the user that there are limitations and areas for precaution.

2. HISTORICAL CONTEXT

During the past several decades, the key emphasis on student paper has been: 1) following complete assignment instructions; 2) adhering to any given rubric or grading checklist; and 3) finally, checking for potential plagiarism. As Confucius once said, “Every truth has four corners: as a teacher I give you one corner, and it is up to you to find the other three.” However, in this paper, this will be in reverse order as 3 corners have been noted above, and now the fourth corner is now the emergence of Artificial Intelligence (AI). While this is yet a relatively new area of technology for many instructors, there are several AI tools that are used by students already that have caused several issues, challenges, and problems. Rather than looking at this situation from a pessimistic perspective and see the “glass half empty here”, the practical instructor who truly believes in the principles of learning and growing should embrace this situation as a learning moment or rather what others have called the “teachable moment”. On the other hand, this is also a good time to help solidify the student-instructor relationship and work with the new technology in terms of discovering and applying new knowledge, skills, and abilities that can be associated with AI and use it as a tool for discovery, learning, growing, and developing everyone’s mindset, writing, researching/, analytical, and thinking skills. While many organizations, educational institutions, and governmental agencies, both domestic and international, are dealing with similar issues as plagiarism and AI use, especially with the new Chatbot GPT 3.5 and GPT 4.0 being utilized, all leaders and managers must consider not only ethical, legal, and educational/learning practices, this may have a set of limitations. However, the true progressive organizations who choose to be proactive and become a change agent in their field will address each of these areas and not only document their process towards developing best practices, but also share them with others in their industry and field. Thus, this leads to a need to have a basic understanding of several defined terms before this paper can envelop into a larger discussion arena.

3. ETHICAL AND LEGAL CONSIDERATIONS

Kolb (1981) wrote that not all adults learn in the same way. This means that some learn more visually, and others may learn with their auditory skills. He went further to state that “Learning is the process whereby knowledge is created through the transformation of experience” [2][3]. Thus, the process of both teaching and learning are unique experiences for everyone. It is unique in how the student learns, but also present a special and specific learning experience for instructors as they learn to assess and implement various methodologies to help reach out and teach all their students. A good instructor will realize that there are limitations, and sometimes even the best situational learning may not fit all learning environments are satisfy the learning needs of all students. Juxtaposed to this way of thinking, the concept of unlearning may be of more value today than ever before.

On the other hand, Hedberg (1981) noted that in some cases one might have to “unlearn” before we can “learn” in a different way. For example, when does a learner or teacher realize that the learning process is not happening due to barriers? Thus, Hedberg would rather have us acknowledge that we might need to unlearn what we know about a certain topic, concept or approach/experience and start all over with a “tabula rasa” or a clean slate and start moving forward at that point.[4] This is one concept that even project managers, major architects, and other leading professionals need to move forward – by forgetting one way of doing something and learn a new pathway. In fact, the same is true now for research with the ever-changing format of AI tools, especially with the use of different versions of ChatGPT.

4. CREATING NEW THINKING IN RESEARCH METHODOLOGIES

Can you remember the way you were taught research as a student in grade school? Did you need to learn new ways of research when you enrolled in higher education? As everyone progresses up the educational chain, research methodologies and tools also change, especially with newer technology being introduced. As the Internet and its various associated search engines changed, Google became popular and eventually a recognized word in various dictionary. However, as students learned that there were more variety of ways of doing research and a plethora of search engines appearing continuously, they had to rethink how they normally “Google” their research requests, but rather they needed to plan out how to start their research methodology for any research project in a different manner. Thus, the new generation of learners and instructors had to consider different learning patterns and learning curves to master the Internet as a tool for not only research and discovery, but also as a tool for everyday life, especially as experienced during the Covid-19 Pandemic period. Not less than the period following the height of the Pandemic, new AI tools started to appear, such as ChatGPT, which also posed a dilemma for many instructors in terms of how they could handle its use and teach students to be ethically, legally, and educationally prepared for the use of this new research tool. Here is another important skill that they need to keep in mind that is simple – ChatGPT is based on “machine language or pre-programmed or pre-recorded groups of words, concepts, etc.” As such, it cannot draw conclusions like the write could or should – so critical/analytical thinking skills will be very important to learn and use along the way. This is where the educational instruction for students will be critical. Further, this can provide yet another teachable moment for the instructor to leave “breadcrumbs” along the way to see if the students can adapt to this new addition of research technology, as well as learn how to use it ethically, responsibly, and professionally.

4.1. Ethical and Legal Considerations

One of the large educational concerns is the misuse of AI tools. For example, there may be a greater temptation presented to students and others to use the output of AI-generative tools and not mention the use of these various applications. However, who is at fault now? Is the instructor responsible for the lack of lecture and “hands-on” application of such tools with the students or is the educational administrative the ones responsible for preventing bad outcomes? As more use of such tools and development of more case studies on the temptation of the use of AI tools either in a positive or negative light will help to raise up the level of concern as many have yet to realize that this could be the onset of larger ethical issues.

What are ethic issues with AI usage? There are several ethic issues confronting the usage and potential applications of AI in research writing. According to Eschrich (2019), he points out that the following are key ethical concerns or issues for society.[5]

- Privacy and surveillance
- Bias and discrimination
- The role of human judgment

The key here is to make sure there are ethical principles and standards being used with AI in the classroom, office, and other organizations that may use this technology. However, this may all depend on the stakeholders, gatekeepers, policy makers, and management of any organization to ensure such safeguards are put into place as a checks-and-balances mechanism.[6]

While ethical issues and standards may be a question for various gatekeepers, leaders, and managers, there is yet another side to consider, namely, the legal standards or standing for such new technology in terms of the output. Thus, what are the legal implications of AI and AI tool usage? For the purposes of this article, the issue of copyright will be the key focus on any type of intellectual property created with the use of AI. According to a recent publication by

Gourvitz and Ameri (2023) [7], they noted the most significant announcement of the year in terms of copyright as follows, “On March 15, 2023, the U.S. Copyright Office announced that works created with the assistance of artificial intelligence (AI) may be copyrightable, provided the work involves sufficient human authorship.” [8][9]

For many attending various AI workshops, the topic of copyright has been announced as not being an issue for people using work generated by AI programs, such as ChatGPT 3.5 and 4.0, as well as other AI-programs. However, as noted above by the United States Copyright Office, this change in the viewing of the percentage of actual human “authorship” can be a game-changer and make new works given a possible coat of copyright protection.[10] However, this should be viewed on a country-by-country basis, but it will depend on the ranking parties of each country and how they view copyrights, AI-generated work, and how they deal with intellectual property. Consequently, following the discussion of both ethical and legal issues, the next key topic that needs to be consider with this new way of researching and generating of new writing ideas and topic should be viewed from a socially responsible perspective.

4.2. Socially Responsible Perspectives

Who needs to be socially responsible in situations, whereas students may be starting to misuse AI tools to get their homework done quicker and/or trying to obtain grades for work that may be considered a completely different set of ills or poor choices? Some might argue that teachers should always be accountable in all cases. However, could other peers, parents, and future educational choices be playing a greater influence? McCombs (2023) took a different look at the impact of education in terms of the behavioral perspectives of learners. She noted, “By addressing student learning needs and negative behaviors from a place of trust and positive relationships, students are better able to make good choices during learning as well as outside the classroom. These learner-centered practices help students and their teachers to better cope with negative peer pressure and bullying throughout any learner’s journey through the learning system.” [9] Thus, to better prepare one’s students to be socially responsible, educators need to look at the students’ learning needs and try to understand how they view trust, ethical, legalities, and being socially responsible. With all these elements considered, various educational stakeholders need to think “outside of the box” and concern all possible situations, outcomes, and ethical/legal issues that might be involved with the teaching and learning of any new technology.

4.3. Real World Applications and Rubrics

Instructors, educators, and administrators need to create well-defined AI guidelines for all to follow, especially for full-time and part-time instructors, students, and staff to follow. These guidelines should include specific notations as to what it is, what is acceptable and socially responsible usage of AI tools, as well as what ethical/legal issues may be involved that would necessitate possible disciplinary action, if such policies are not followed. Consequently, following this line of reasoning, another best practice to consider is the following section focusing on the use real world applications and associated rubrics. Why would this be needed? If you do not instill some type of measurable mechanism to acknowledge the student’s learning, this could be problematic in that students may not see a connection as to why to follow certain instructions, guidelines, and policies with some types of research used for their assignments. Therefore, the following section will address the key focus of the paper in terms of what are best practices and how they are related to AI for everyone in the learning environment.

5. WHAT ARE BEST PRACTICES?

According to Merriam-Webster.com (2023), best practices are “a procedure that has been shown by research and experience to produce optimal results and that is established or proposed as a standard suitable for widespread adoption.” [11] Many organizations and industries used this term in a variety of ways, but the definition here will be the one focused on for the duration of the accompanying discussion. Best Practices are captured by many to reflect what they have observed, experienced, or read about in a variety of contextual settings. [12] Equally important at this juncture of the discussion, one needs to use a common definition of what is Artificial Intelligence (AI). According to Merriam-Webster.com (2023), artificial intelligence is “the capability of computer systems or algorithms to imitate intelligent human behavior . . . a branch of computer science dealing with the simulation of intelligent behavior in computers.” [13] While this definition may be viewed, edited, and rewritten by various organizations, especially educational administrators, a common ground will need to be establish for all stakeholders to view AI in one specific framework. Finally, before one can proceed with the next technological change known as ChatGPT, another definition needs to be established. According to Britannica.com (2023), Chat GPT is a “software that allows a user to ask it

questions using conversational, or natural, language.” Also, it is defined as “Language models produce text based on the probability for a word to occur based on previous words in the sequence.” [14] While it may seem easy to start, the mastery of certain skills in wording one search and how to use reported outcomes to gain more research or develop ideas will depend on these “probable use” of programmed language.

The main thrust of this paper will focus on how previous held belief, values, teaching strategies and techniques have focused on one way of presentation of ideas, concepts, and theories can be theoretically altered “overnight” with the introduction of AI tools, such as ChatGPT 3.5, 4.0 and more products on the educational and business horizon. While the introduction of AI has been seen by many educators in the recent period as a potential problem, many do not realize that the concept of AI has been in the literature since the 1950s as written by Turing, [15] [16] AI has been slow in appearing in non-technological studies until the impact of online learning has caused a need for many to address all types of technological factors that may impact, impede, influence, and/or excel the researching and writing skills of many people in various professions, industries, organizations, and subject-matters areas. This paper will now focus on the impact of AI in the field of academia, especially with a focus on AI’s evolving nature, need for best practices and policies to be created and implemented, as well as a deeper look at how academicians can harness the AI momentum and turn it into a tool of enhancement and learning, rather than one for potential cheating and plagiarism.

6. EDUCATIONAL BEST PRACTICES AND ADAPTATION

While business organizations, corporations, and other entities have focused on what they view as best practices, as well as sharing some of their own best practices, sometimes there are certain types of these practices that do not fit all types of organizations, contexts, or needed improvements. On the other side of the spectrum, what might be an outstanding best practice in business may not be useful in the educational environment. Many discovered during the period during and after the Covid-19 Pandemic that there was a stronger need for better Sustainability Plans and Business Continuity Plans. It was during this global and historical period that more educational institutions designed, adapted, developed, implemented, and evaluate a wider range of “educational best practices” to use within the confines of their own educational system, but also to share with the larger global educational community. The question of the how and why education should create such practices was easily driven by many educators who were “forced to transition over to online learning” with little or no experience in this type of new technological classroom and associated tools used in a Learning Management System (LMS). The following will highlight how this segment of historical creation differed from previous decades of teaching.

While online learning is relatively a young form of new classroom teaching during the past 20+ years, the former expression of learning in this area was known as distance education. While there has been numerous struggles and battles in the educational community over the true value of online learning, it was discovered almost overnight by most of the global and business communities. Without this form of learning for training and development, as well as for education, there could have been a delay in the educational functionality in almost all countries for those who did not embrace it as the Pandemic prevent live Face-to-Face (F2F) learning for 2+ years for many students and teachers. During this time, both seasoned and new-to-the-scene online instructors commenced a historical precedent of transitioning all learning all over the world. Of course, there were struggles, especially for new online educator, educational administrators, and administrative staff as they had the momentum effort of making online learning “happen” and quickly.

During this period of instant online learning, also known as remote learning, there were many that were not ready for such a transition. Many did not realize where the potential online learning resources or subject-matter experts did reside. It should be noted that during this time many domestic and global conferences were forced to go virtual as travel was not possible for almost everyone, except for essential personnel. Some of the best educational practices were developed at this time but underlying all these efforts – the need to share learning techniques, teaching strategies, as well as instructional/technological tips, tricks, and skills were appreciated by many. Some of the key themes during and even after the Pandemic were focused on lessons learned with the Pandemic. Even in 2023, this has been a key theme for many – and what was one of the key best practices was to focus on the use of one’s subject-matter experts. These were the individuals who were the most knowledgeable in their field not only in their own teaching environment, but appreciated by others as they shared their presentations and papers in this area. Also, special conference sections were organized to help struggling new online instructors to learn more not only about online teaching and learning, but to discover best practices in presenting material in this new type of environment. Specifically, the author of this paper was a keynote speaker for a major European virtual conference, and he was invited to visit some of the sessions. One session was composed of several East European instructors who attended the section to listen to other speakers to find out more about this new type of learning. During the session, the author threw out some assessment questions to find out the level of these online teachers and determine how they were

“acclimated to their new computer learning systems”. Their answers range from a quick tutorial video to less than 1 day to learn this new system and start teaching immediately, and sometimes their systems were very rudimentary. Now the work began in the session when the guest (the author of this paper) jumped in after learning more about the participants and give them a 5-minute primer on how to use online learning to improve not own their technological skills, but to also learn how to share their learning with their students and show everyone that online learning was all connected to learning, researching, writing, communicating, and networking with colleagues, friends, and more. Basically, the participating speaker showed the similarities of using social media and linking it to communicate messages to engage students and to show how the best practice of “Reach One, Teaching One” could start with them. This was the start of a domino effect – soon all the participants were chiming in for more learning and sharing (which is what we all want to see in any conference setting). Finally, it was clear during this period, the sharing of educational best practices was needed more and appreciated more than any other time in the history of education. It should be noted that for the parameters of this paper, another segment will be introduced as a ‘new educational best practice’ to help online, hybrid and F2F instructors to learn how to harness the uniqueness and beauty of AI tools in the learning environment, which will be discussed in the next section.

7. CREATING THE CONTEXTUAL SETTING FOR AI TOOLS IN THE LEARNING ENVIRONMENT

While technology is ever changing, it should be noted that some changes happen whether the users are fully prepared or not. It should be noted that both instructors and students should be aware that the Internet, technology, and AI are all tools for their gateway to their future, especially with their research efforts. One best practice to use here is the use of non-linear approaches to ChatGPT in the context of learning how to use AI. For example, instead of doing just a quick research item, the instructor can demonstrate the use of selecting a topic. It should be noted that this is an important teaching moment, so instructors need to be present for this learning lesson so to facilitate learning, as well as to monitor what is discovered and instruct learners how best to use their new ideas and concepts in a constructive, ethical, legal, and structural pathway to creating a dynamic document that they create – and not others. and development it with ChatGPT as an idea creator and outline assistant. Another best practice is to take a more student-centered approach and have the student immediately pick a current topic that has been seen as a problem in the news, literature or social media and determine if it is a problem or issue, as well as ways to discover solutions for said issue or problem. Have the students participate in a Zoom session in a team to have the group determine the best “wording” for ChatGPT and see how the findings look like and discuss the outcomes. The instructor will then have all the groups in the Breakout Rooms assemble back into the Main Discussion Area to report their findings. Key areas to look for in the reporting area:

- What was the selected problem?
- How did the group work their search and why did they word it in a certain way?
- Did they have to revise their search in another way? Why?
- What did the group think of the initial findings about the issue or problem?
- Did they consider revising their search again?
- How did they frame their approach to finding a solution?
- What did the group think of the solutions provided by ChatGT?
- Did the group feel like they could start drafting a paper now and add in another research to be found online?
- How did the group members feel about this learning event? Any comments, suggestions, or recommendations?



Figure 1. Google (2023). GPT Search - Search Engine Featuring ChatGPT.

8. CONCLUSION

While many in educational institutions will focus on processes, procedures, and policies pertaining to new technology and/or strategies/methodologies, more attention should be focused on the delivery of the technology and educating and/or training faculty with such usage in the classroom. While some institutions of higher education will focus on training their personnel, namely, instructors and staff with the use of new technology – some will offer little or no training in this area. Thus, it may behoove the instructor to seek out his or her own education and/or training in the interested technological sector, as well as following up on his or her own content knowledge to make sure that he or she has adequate background knowledge, as well as the ability to determine the best possible ways of maximizing his or her students’ learning experiences and academic achievement. While this paper is part of a larger work-in-progress, it should be noted that as more and more technology is offered to educational institutions, more emphasis or attention from upper management will be needed to help ensure that all stakeholders are better prepared to embrace, use, and appreciate the use of technology in the classroom.

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Developing Competencies Related to General Didactic and Pedagogical-Psychological Skills during Students Practical Teacher Training

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Abstract

Practical pedagogical training is a crucial component of teacher education, allowing future educators to gain practical experience and develop their professional competence. It is foundational in preparing individuals to become effective and competent educators. It provides them with the skills, knowledge, and experience needed to meet modern education's challenges and positively impact their students' learning and development. This study examines students' perceptions in the Primary Education program at the Faculty of Education, University of Maribor, regarding the development of general didactic and pedagogical-psychological competencies during their practical training. The research explores whether students' satisfaction with their chosen study program influences their perceived skill development. The study uses a descriptive and non-experimental empirical pedagogical research method and involves 239 students. Findings reveal that students consider practical pedagogical training highly valuable for integrating theoretical knowledge with practical skills. They particularly recognise the importance of planning, implementing, and evaluating lessons. Additionally, students who are very satisfied with their study program perceive the highest skill development.

Keywords: teaching, students, didactics, training, competencies

1. INTRODUCTION

Practical training is a compulsory and important part of the studies of future teachers, as it allows students to be gradually, professionally supervised, introduced to and trained for their future profession [1] and thus to get to know it directly [2]. Therefore, It is unsurprising that students also recognise practical pedagogical training as valuable and want more of it during their studies [3]. The lack of practical pedagogical training during studies is also reflected in the accounts of teachers collected by Javornik [4] in her research on professional development. Due to the importance of practical pedagogical training in the formation of professional competencies of future teachers and the fact that students want more of it, in our research, we wanted to find out what students of the Primary

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Education programme at the Faculty of Education, University of Maribor, think about the development of competencies related to general didactic and pedagogical-psychological knowledge and skills.

2. PRACTICAL TRAINING FOR STUDENTS

Practical training is one of the essential forms of active study work at all levels of education. It is the basis of lifelong learning, a fundamental prerequisite for personal development, the acquisition of skills and modern competencies required by the knowledge society, quality learning and changes in the workplace [5]. Hence, practical training is an exceptional experience that helps students to become aware of their profession and to develop professionally. It allows them to grow professionally and develop their personal and professional identity [6]. Cencič and Cencič [7] and Juriševič et al. [8] define practical training as learning in the workplace. It is an integral part of the educational process, in which knowledge transfer from the mentor to the trainee, the student, plays a decisive role. It directly links study, profession and vocation, and practice and theory. It is about actively testing the student in concrete situations, acquiring competencies and creating new knowledge through experience transformations. For the student, this is the first contact with an authentic working environment, in which he or she is confronted with learning about his or her work and developing his or her own approach, which is also the case in the teaching profession.

Therefore, practical pedagogical training is an indispensable part of education for the student teacher. It gives the student experience in an authentic working environment and is an important component of a teacher's professional development. During practical training, the student can try out the teaching profession and find out whether he/she has chosen the right profession [9].

2.1. Practical teaching training as an integral part of the primary education programme

Practical training is a central component of contemporary teacher education programmes [4, 10, 11]. Within the Primary Education programme, practical pedagogical training is evenly distributed across the entire vertical, allowing future graduates to continuously reflect on theoretical knowledge and test it in authentic situations. In the first year, an observation placement is planned, which gives the student an insight into the work of a classroom teacher. In the second year, an integrated placement follows, in which the student is already involved in specific segments of the teacher's work, gets to know the teacher better and gains the necessary experience. In the third year, guided teaching practice is carried out in connection with all subject didactics. In this form of teaching practice, the student prepares several individual teaching units under the guidance of the teacher and carries them out entirely independently. In this way, the student becomes accustomed to teaching independently and, simultaneously learns about the different forms of work in primary school. In the fourth year, a guided and concentrated teaching practice follows. In the first semester, the student completes a 3-week guided teaching placement, and a 2-week concentrated guided teaching placement in the second semester. The presence of teaching practice in all years allows it to be intertwined with the core pedagogical and didactic subjects. It represents an interplay of theoretical knowledge with practical work [12].

The implementation of practical pedagogical training across the whole vertical is necessary, as it is the practical training that should enable students [13]:

- an in-depth understanding of the professional roles of practitioners,
- learning about oneself - one's suitability for the profession,
- developing basic professional skills in planning, managing and critically analysing the educational process and other activities.

Graduates of Level I of the Classroom Education study programme cannot teach independently in the classroom; they can do so only after completing Level II of the study programme, which is a continuation of the undergraduate studies in the sense of complementing and deepening them. The study programme will enable candidates to acquire the knowledge and experience that will qualify them for independent professional work in primary education's basic, developmental and applied fields [14].

At Level II, practical pedagogical training is also one of the students' study obligations. It is carried out as a condensed practical training of 180 hours. It depends on the module chosen (if the student chooses the science and technology module, the practical pedagogical training is carried out in the following primary school subjects: mathematics, environmental studies, science and technology). Within the framework of the condensed practical training, the student carries out teaching work independently under the guidance of a mentor teacher [15].

Within the pedagogical practice, the student [1]:

- is directly involved in the delivery of lessons through observation - the so-called hospitalisation;

- becomes familiar with the organisation and working methods of the institution, the mentor's work and the work of other teaching staff;
- familiarise with the teaching, counselling and working methods in organised morning care or extended stay;
- actively participate in the work of the school team;
- is involved in the work of parent-teacher conferences, tutorials and extra-curricular activities;
- is involved in the delivery of lessons and assists or assists the tutor;
- is involved in the delivery of lessons and provides learning support to pupils.

The students are responsible for applying the knowledge and information acquired by the faculty during practical training in practice [16].

Many authors [17, 18, 19] note that practical training is an integral part of undergraduate studies, as it enables students to acquire practical knowledge and skills to integrate the theoretical and practical aspects of teaching and pedagogical work, and to develop professionally [20].

2.2. The importance of practical teaching training for students and their professional development

The importance of practical training is also recognised by students - future teachers, as Valenčič Zuljan [19] in a study involving first-year students of the Primary Education programme at the Faculty of Education, University of Ljubljana, who evaluated the impact of practical training on their conception of teaching, found that students highly valued the impact of practical training on their professional development. In addition, they are keen to collaborate and make independent pedagogical performances.

Despite all these advantages, Čagran et al. [10] conclude that insufficient attention is paid to students' practical training. The problems that arise in the context of practical pedagogical training are also highlighted by Bizjak [21], who talks about the fact that carrying out tasks in place of the student is not always welcome or effective. He urges and reminds tutors to strive to encourage discussion of different interpretations of what is happening, to reflect, to look for alternative solutions and to analyse what is happening critically.

Kukanja Gabrijelčič [1] points to the problem of student involvement in practice. Teachers do not involve students in activities, even if they want to. This is also shown in a study by Kiggundu & Nayimuli [9] in which they found that student teachers felt irrelevant in the context of practical training, as they were often excluded from many school activities.

In this paper, we present an empirical study in which we were interested in the extent to which students perceived that they had developed competencies related to general didactic and pedagogical-psychological skills during their practical teacher training.

3. RESEARCH

3.1. Research purpose

The aim of the study was to determine to what extent students of the classroom education programme perceive that they have developed competences related to general didactic and pedagogical-psychological knowledge and skills during their practical pedagogical training.

We were interested in whether there are differences between students in terms of satisfaction with their chosen study programme.

3.2. Methodology

The descriptive and non-experimental method of empirical pedagogical research was used.

3.3. Research sample

The study is based on a non-randomised random sample of 239 students of classroom teaching at the Faculty of Education, University of Maribor.

The students included in our survey differ in terms of:

- Gender and year of studies (Table 1)
- Satisfaction with your chosen study programme (Table 2)

Table 1. Description of the student research sample

		Primary education students	
Variable	Category	f	f%
Gender	Men	15	6.3
	Women	224	93.7
Year of studies	1st year	37	15.5
	2nd year	53	22.2
	3rd year	55	23.0
	4th year	41	17.2
	5th year	53	22.2
Total		239	100.0

More female students (93.7%) than male students (6.3%) participated in our survey. The lowest number of students is in the 1st year (15.5%), followed by 4th year students (17.2%) and 2nd and 5th year students (22.2%). The highest number of students who participated in the survey is in the 3rd year (23.0%).

Table 2. Number (f) and structural percentage (f%) of students according to their satisfaction with their chosen study programme

		1	2	3	4	5	Total	M	SD
Satisfaction with your choice of study programme	f	6	13	21	134	64	238	4,0	0,90
	f%	2,5	5,5	8,8	56,3	26,9	100,0		

Note: 1 - very dissatisfied; 2 - dissatisfied; 3 - neither satisfied nor dissatisfied; 4 - satisfied; 5 - very satisfied; M - arithmetic mean; SD - standard deviation

The table below shows students' satisfaction with their chosen study programme. The answers were given on a 5-point scale, where 1 means very dissatisfied and 5 means very satisfied. On average, students are satisfied with their study programme (M=4.0; SD=0.90).

3.4. Data collection process

The questionnaire used to collect the data was adapted from the doctoral dissertation of Rus Kolar (2016) entitled Practical pedagogical training in second cycle study programmes - a comparative analysis between faculties of the University of Maribor. The questionnaire contains several content strands. The questions are closed-ended. The relevant section for this paper concerns students' self-assessment of the development of skills related to general didactic and pedagogical-psychological knowledge and skills during practical pedagogical training. For this content strand, students gave their answers on a five-point rating scale (1 - very dissatisfied, 2 - dissatisfied, 3 - neither satisfied nor dissatisfied, 4 - satisfied, 5 - very satisfied).

The data for the research was collected through a questionnaire on the website 1.ka and was available from May until June 2023. The link to the questionnaire was sent together with the invitation to participate in the research to the providers of practical pedagogical training at the Faculty of Education, University of Maribor, who invited their students to fill it. Incomplete questionnaires, where students filled in only demographic data, were excluded from further processing and analysis.

3.5. Data processing procedures

The data were processed and analysed using IBM SPSS. Data processing was carried out at the level of descriptive and inferential statistics. First of all, descriptive statistical methods were used to process the data. To compare several independent samples, we used a non-parametric test - the Kruskal Wallis test.

4. RESULTS

In the results section, first in a table 3 we present the results of the students' assessment of the development of each competency in relation to general didactic and pedagogical-psychological skills.

Table 3. Numbers (f) and structural percentages (f%) of students' ratings of developing new skills during practical teaching training

		1	2	3	4	5	Total	M	SD
Understanding and applying curriculum theories and basic didactical knowledge.	f	4	34	96	95	8	237	3,3	0,82
	f%	1.7	14.3	40.5	40.1	3.4	100.0		
Analysis, synthesis and anticipation of solutions to professional and didactic problems.	f	3	30	104	92	8	237	3,3	0,78
	f%	1.3	12.7	43.9	38.8	3.4	100.0		
Applying knowledge effectively in practice to solve a variety of problems.	f	4	23	77	114	19	237	3,5	0,84
	f%	1.7	9.7	32.5	48.1	8.0	100.0		
Interdisciplinary integration of content.	f	3	36	79	99	20	237	3,4	0,89
	f%	1.3	15.2	33.3	41.8	8.4	100.0		
Planning, implementing, monitoring and evaluating the learning process and setting long-term and short-term learning objectives.	f	9	28	70	110	20	237	3,4	0,94
	f%	3.8	11.8	29.5	46.4	8.4	100.0		
Encouraging motivation and developing independent and active learning strategies in students.	f	2	26	55	124	30	237	3,6	0,87
	f%	0.8	11.0	23.2	52.3	12.7	100.0		
Understanding the broader (philosophical, sociological, moral-ethical) dimensions of education and teaching in their professional environment and society.	f	7	52	83	82	13	237	3,2	0,94
	f%	3.0	21.9	35.0	34.6	5.5	100.0		
Planning, monitoring, evaluating and guiding your own professional development (and progression) through lifelong learning.	f	16	30	84	90	17	237	3,3	1
	f%	6.8	12.7	35.4	38.0	7.2	100.0		
Creative and autonomous action.	f	6	25	74	105	27	237	3,5	0,92
	f%	2.5	10.5	31.2	44.3	11.4	100.0		
Professional (self-)criticism, responsibility and initiative.	f	2	16	76	113	30	237	3,6	0,82
	f%	0.8	6.8	32.1	47.7	12.7	100.0		
Evaluating and reflecting on practice .	f	4	18	59	117	39	237	3,7	0,89
	f%	1.7	7.6	24.9	49.4	16.5	100.0		
The use of psychological observation techniques in pedagogical practice.	f	13	31	90	80	23	237	3,3	1
	f%	5.5	13.1	38.0	33.8	9.7	100.0		
Commitment to professional ethics.	f	8	30	78	88	33	237	3,5	0,99
	f%	3.4	12.7	32.9	37.1	13.9	100.0		
Responding appropriately to new situations.	f	5	21	72	105	34	237	3,6	0,91
	f%	2.1	8.9	30.4	44.3	14.3	100.0		

Note: 1 - very small; 2 - small; 3 - neither small nor large; 4 - large; 5 - very large; M - arithmetic mean; SD - standard deviation

Table 3 shows the extent to which students developed new skills during their practical teaching training. The answers were given on a 5-point scale, where 1 means very little and 5 means very much.

On average, students consider that during their practical pedagogical training, they have developed to the greatest extent the *Evaluation and reflection on practice* (M=3.7), and to the most minor extent *The understanding of the broader (philosophical, sociological, moral-ethical) dimensions of education and teaching in their professional environment and society in general* (M=3.2).

Differences between students in their satisfaction with their chosen study programme

Table 4 shows the extent to which students developed new skills during their practical teaching training in relation to their satisfaction with their chosen study programme.

Table 4. Kruskal-Wallis test of differences in the new skills developed by students in the context of practical teaching in relation to satisfaction with the chosen study programme

	Satisfaction with your chosen study programme	N	\bar{R}	χ^2	P
Understanding and applying curriculum theories and basic didactical knowledge.	Very dissatisfied	6	123,42	19,322	0,001
	Dissatisfied	13	84,42		
	Neither satisfied nor dissatisfied	21	78,48		
	Satisfied	133	118,43		
	Very satisfied	64	140,09		
	Total	237			
Analysis, synthesis and anticipation of solutions to professional and didactic problems.	Very dissatisfied	6	156,00	12,549	0,014
	Dissatisfied	13	97,42		
	Neither satisfied nor dissatisfied	21	86,62		
	Satisfied	133	117,48		
	Very satisfied	64	133,70		
	Total	237			
Applying knowledge effectively in practice to solve a variety of problems.	Very dissatisfied	6	137,25	25,355	0,000
	Dissatisfied	13	86,31		
	Neither satisfied nor dissatisfied	21	86,81		
	Satisfied	133	112,03		
	Very satisfied	64	148,98		
	Total	237			
Interdisciplinary integration of content.	Very dissatisfied	6	163,42	17,859	0,001
	Dissatisfied	13	92,69		
	Neither satisfied nor dissatisfied	21	90,00		
	Satisfied	133	113,43		
	Very satisfied	64	141,27		
	Total	237			
Planning, implementing, monitoring and evaluating the learning process and setting long-term and short-term learning objectives.	Very dissatisfied	6	127,00	11,773	0,019
	Dissatisfied	13	73,00		
	Neither satisfied nor dissatisfied	21	112,10		
	Satisfied	133	116,10		
	Very satisfied	64	135,88		
	Total	237			
Encouraging motivation and developing independent and active learning strategies in students.	Very dissatisfied	6	149,50	10,469	0,033
	Dissatisfied	13	80,65		
	Neither satisfied nor dissatisfied	21	112,36		
	Satisfied	133	115,32		
	Very satisfied	64	133,77		
	Total	237			
	Very dissatisfied	6	166,42	11,514	0,021

Understanding the broader (philosophical, sociological, moral-ethical) dimensions of education and teaching in their professional environment and society.	Dissatisfied	13	80,27		
	Neither satisfied nor dissatisfied	21	100,40		
	Satisfied	133	118,01		
	Very satisfied	64	130,59		
	Total	237			
Planning, monitoring, evaluating and guiding your own professional development (and progression) through lifelong learning.	Very dissatisfied	6	132,58		
	Dissatisfied	13	74,65		
	Neither satisfied nor dissatisfied	21	102,07	11,892	0,018
	Satisfied	133	117,50		
	Very satisfied	64	135,40		
Total	237				
Creative and autonomous action.	Very dissatisfied	6	102,42		
	Dissatisfied	13	79,69		
	Neither satisfied nor dissatisfied	21	97,60	12,335	0,015
	Satisfied	133	118,54		
	Very satisfied	64	136,52		
Total	237				
Professional (self-)criticism, responsibility and initiative.	Very dissatisfied	6	94,58		
	Dissatisfied	13	99,81		
	Neither satisfied nor dissatisfied	21	79,12	21,040	0,000
	Satisfied	133	115,99		
	Very satisfied	64	144,53		
Total	237				
Evaluating and reflecting on practice.	Very dissatisfied	6	130,08		
	Dissatisfied	13	69,35		
	Neither satisfied nor dissatisfied	21	107,93	10,815	0,029
	Satisfied	133	119,63		
	Very satisfied	64	130,37		
Total	237				
The use of psychological observation techniques in pedagogical practice.	Very dissatisfied	6	155,17		
	Dissatisfied	13	83,96		
	Neither satisfied nor dissatisfied	21	120,71	9,897	0,042
	Satisfied	133	113,41		
	Very satisfied	64	133,79		
Total	237				
Commitment to professional ethics.	Very dissatisfied	6	174,83		
	Dissatisfied	13	106,54		
	Neither satisfied nor dissatisfied	21	98,55	10,330	0,035
	Satisfied	133	114,40		
	Very satisfied	64	132,57		
Total	237				
Responding appropriately to new situations.	Very dissatisfied	6	123,83	18,621	0,001
	Dissatisfied	13	85,58		

Neither satisfied nor dissatisfied	21	83,33
Satisfied	133	116,44
Very satisfied	64	142,35
<hr/>		
Total	237	

The Kruskal-Wallis test is statistically significant ($p < 0.05$) for all statements, which means that there are statistically significant differences between students in terms of satisfaction with the study programme.

The statements *Understanding and application of curriculum theories and basic didactic knowledge*, *Professional (self-)criticality, responsibility and initiative* and *Responding appropriately to new situations* are the most agreed with by students who are very satisfied with the study programme. Students who are neither satisfied nor dissatisfied with their studies agree to a lesser extent. Students who are very dissatisfied with the study programme agree the most with the statements *Analysis and synthesis and anticipation of solutions to professional and didactic problems*, *Interdisciplinary integration of content*, *Commitment to professional ethics*. Students who are neither satisfied nor dissatisfied with their studies agree least with the statements. Students who are very dissatisfied with the study programme agree the most with the statements *Promoting motivation and developing independent and active learning strategies in students*, *Understanding the broader (philosophical, sociological, moral and ethical) dimensions of education and teaching in one's own professional environment and in society*, *Applying psychological observation techniques in teaching practice*. Those who are dissatisfied with the study programme agree the least. With the statements: *Applying knowledge effectively in practice to solve a variety of problems*, *Planning, implementing, monitoring and evaluating the learning process and setting long-term and short-term learning objectives*, *Planning, monitoring, evaluating and guiding one's own professional development (and progression) in the process of lifelong learning*, *Creative and autonomous action*, *Evaluation and reflection on practice*. The students who are very satisfied with the study programme agree the most. Those students who are dissatisfied with the study programme are the least likely to agree.

5. DISCUSSION WITH CONCLUSION

In practical training, students learn about life and work in a school and the role and tasks of a class teacher. Over the years of study, practical training increases the student's autonomy and active involvement in the educational process. The aim of our research was to find out to what extent students of the classroom education programme perceive that they have developed competencies related to general didactic and pedagogical-psychological knowledge and skills during their practical pedagogical training.

We found that the practical pedagogical training provided the highest level of integration of theoretical knowledge with practical knowledge, training in systematic observation of teaching, training in planning, implementation and evaluation of teaching, awareness of the necessity of continuous reflection on own practice, and awareness of the importance of continuous professional development and professional growth. According to Cencič and Cencič [7] and Juriševič et al. [8], practical pedagogical training is primarily about actively testing students in concrete situations, acquiring competencies and creating new knowledge. Kristl et al. [22] say that in the context of practical training, students receive information, interact with the environment, participate in the implementation of activities and their planning, and learn the importance of evaluating their own work.

Comparing the results of the survey conducted and the doctoral dissertation research conducted by Rus Kolar [2] shows that students in both surveys rated high the achievement of the goal related to the planning, implementation and evaluation of lessons. Students who are very satisfied with their studies consider that the objectives of integrating theoretical knowledge with practical insights, competence in planning, implementing and evaluating lessons have been achieved to the greatest extent. Valenčič Zuljan et al. [16] note that students, future teachers, perceive practical pedagogical training as an important part of their professional preparation, as it allows them to experience the professional role of a teacher, to familiarise themselves with the way of working, to learn about their own suitability and thus to develop their motivation to pursue this profession. Cvetek [20] believes that practical pedagogical training enables students to acquire practical pedagogical knowledge and skills.

The survey has some limitations that can be attributed to the survey sample. Findings cannot be generalised to the entire population of students of Primary Education at the Faculty of Education, University of Maribor, as we could not satisfy the random sampling condition.

It is also essential to have in mind when generalising the findings that they are based on students' subjective assessments, which do not necessarily reflect the reality of the situation. Students who showed willingness and were motivated to participate were included in the study.

It is precisely because of the great importance of practical teacher training for the professional development of future teachers that this area must continue to receive much attention. It would be worthwhile to examine and analyse the opinions and attitudes of mentor teachers towards the involvement of students in practical training in further research.

In conclusion, this research underscores the importance of practical pedagogical training in molding future educators. As they navigate the transition from theory to practice, students not only gain competence but also refine their professional identities. With this understanding, teacher education programs can strive for a more comprehensive and integrated approach to practical training, further enhancing the bridge between pedagogical theory and classroom practice.

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The Design Process of Intelligent Affective Support System for Distance Learners

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Abstract

Several studies in the literature have demonstrated the interaction between emotions and the learning process, influencing cognitive aspects such as perception, attention, memory, motivation, thinking, and problem-solving. Thus, understanding emotions within the context of learning is crucial for optimizing learning outcomes, personalizing instruction, and fostering learner engagement and motivation. However, detecting emotions in online learning environments presents challenges compared to face-to-face settings due to the absence of nonverbal emotional cues. This difficulty can lead to feelings of loneliness and disconnection among students, potentially resulting in decreased interest and withdrawal from the course. In recent years, efforts have been made to address this gap in online learning platforms through advancements in the field of affective computing. Affective support systems, integrating intelligent support systems and affective computing techniques, aim to regulate negative emotional states and enhance students' emotion regulation skills, thus enhancing the online learning experience. In this study, specifically focusing on the English I course at Anadolu University Open Education Faculty, a system was developed to assess the engagement levels of online students using facial expression analysis and provide affective feedback to students whose engagement level falls below a predefined threshold. The system aimed to improve students' cognitive, affective, behavioral engagement, satisfaction levels, and perceived learning outcomes. In this research, we will elucidate the design process of the affective support system that has been developed to fill this gap in the existing literature. Additionally, we will present the findings of the pilot study. This research provides valuable insights and serves as a model for institutions offering distance education to large audiences, such as Anadolu University Open Education Faculty, by demonstrating the effective integration of affective support into online learning environments.

Keywords: Cognitive engagement, Behavioral engagement, Emotional engagement, Facial expression analysis, Affective intelligent support

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Examining Competency-Based Mathematical Problems That Support Mathematical Literacy

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Abstract

Mathematical literacy can be broadly defined as the capacity to apply mathematical knowledge and skills to real-world situations and to interpret real-world situations with mathematical knowledge and skills. Accordingly, the ultimate goal is to raise mathematically literate individuals in the field of mathematics education. In this regard, the Organization for Economic Cooperation and Development (OECD) conducts a research study, namely the Programme for International Student Assessment (PISA), to assess the mathematical literacy capacity of students who have completed compulsory education. In this context, the PISA mathematical literacy framework comprehensively addresses the cognitive processes involved in solving real-world problems, along with the seven fundamental mathematical competencies employed in these processes. The purpose of this study was to examine how the concept of competency-based mathematical problems is addressed in the mathematics education literature and to examine the mathematical competencies strongly employed in solving PISA mathematical literacy problems. The data were obtained by document analysis. It was concluded that, the concept of competency-based mathematical problems, when considered independently from real-world problems, or in other words, mathematical modeling problems, may fall short of supporting mathematical literacy.

Keywords: Competency-based Problem, Document Analysis, Mathematical Literacy.

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The Formation of Teaching Beliefs and the Key Moment in the Career Path

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Abstract

The research investigation was preceded by the definition of the theoretical background, namely; teacher beliefs, teacher personality, meaning of life). The theoretical starting points form the so-called background to the subsequent results arising from the research investigation. The research inquiry is developed through qualitative research methods (autonomous writing and supplementary interview. Five respondents with different lengths of teaching experience who teach in secondary or higher education institutions were included in the research. The results show that teaching beliefs are perceived positively by teachers. Teachers are satisfied in their profession, they consider it meaningful. The teaching profession captures the progress in knowledge and knowledge of the future generation. The entry into teaching practice is accompanied by so-called personal dilemmas, which become easier to manage with increasing length of teaching experience.

Keywords: teacher beliefs, psychological aspects of teacher beliefs, professional biography, teacher, qualitative design.

1. INTRODUCTION

The research study focuses on the issue of the formation of teacher beliefs in the professional biography of teachers. Since teacher beliefs as such are not yet clearly defined and there is still no unified overarching definition, it is important to enrich the existing scientific knowledge in this area. Teachers' beliefs are the subject of research not only by Czech but also by foreign authors. Fishben and Aizen characterize teacher beliefs as beliefs in the profession, reflected in all areas of human life, manifested in learning and behaviour of a person. Ševčíková and Plischke define teacher beliefs as a dynamic phenomenon "lived in practice", it is changeable, influenced by experiences in everyday pedagogical reality. Authors further state that Hanušová considers satisfaction in the profession, professional socialisation, professional competence or professional identity as part of teacher beliefs.

Teaching is considered to be a profession that tops the list of prestigious professions. Teachers are not only subject to a number of demands, but also to a certain degree of responsibility for the education and training of the young

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generation, who will subsequently become active participants in the labour market. The teaching profession and the role of the teacher are thus beneficial to all concerned. If teachers see their work as a mission and do it with joy, they pass on their enthusiasm to their pupils or students, motivating them not only to succeed in their studies but also to succeed in their careers.

The main aim of the research study was to investigate the ways in which teachers' beliefs are formed, what circumstances of formation influence how teachers work in their teaching practice, how they approach their teaching profession, and what they experience in their profession.

The first part of the research study is devoted to defining the theoretical background providing insight into the issue under study from the perspective of professional literature and research studies conducted so far.

The research investigation is carried out using qualitative research methods. The main research method consists of autonomous writing by the respondents. The respondents were asked to tell their journey through the professions. The assignment was not specified to maintain greater authenticity. In order to refine the data collection, a so-called supplementary interview to help capture the topic in a broader context.

The survey results indicate that teachers are satisfied in their profession. Their teaching beliefs are positive. They see meaning and fulfilment in their profession. Teachers approach the teaching profession responsibly. They enjoy deepening their knowledge, the desire for knowledge and the progress of their pupils or students. It has been confirmed that teaching beliefs are truly a phenomenon "lived in practice." Early in their careers, teachers face a number of personal dilemmas in terms of sufficient expertise, preparation for teaching, or student discipline. As teaching experience increases, belief in one's own abilities and the resulting teacher's self-confidence. The results indicate that the pros of the teaching profession outweigh the cons outweigh the disadvantages.

2. THEORETICAL BACKGROUND

Teacher beliefs are defined in different ways in the literature. Contemporary scholarship does not yet have an unambiguous "universal" definition that clarifies the nature of the phenomenon. Authors have made different comments on the definition, depending on the focus and current context of research. The issue of professional beliefs is not only a question of the teaching profession, but also affects all professional fields.

In relation to beliefs, Fishben and Ajzen consider beliefs in the profession to be an important theme that is reflected in every area of human life related to human learning and behavior. Breen, Bernat and Gvozdenko mention that if an educator knows the strategies and expectations of his or their students, they can design curricula and teaching practices that engage students.

Straková et al. mention that teacher beliefs, sometimes also referred to as beliefs, are an important part of professional identity. It relates to the teacher's thinking, how the teacher perceives different situations, where he or she sees the meaning of his or her profession, what he or she believes, what my values and attitudes are, how he or she handles work demands or workload. Thus, professional beliefs can be considered as an essential part of a teacher's teaching activity and his/her way of thinking, which fundamentally influences decision-making processes, action and reflection. Teacher beliefs are reflected in all activities, in every interaction in relation to pupils, students, colleagues or oneself.

Li and Pajares note that teachers' beliefs in relation to their work predispose the teacher's behaviour towards students. The authors consider beliefs to be a more important factor than knowledge about lesson preparation. Beliefs are formed at an early age and are hardwired into a person embedded in a person at the beginning of their university studies.

Ševčíková and Plischke characterize teacher beliefs as a phenomenon "lived in practice" Exploring a given topic and expanding existing knowledge can support novice teachers who may experience increased satisfaction in the teaching profession.

When teachers were asked to define their professional beliefs, it was found that, they could recall certain aspects or milestones with emotional overtones. Define these beliefs in professional terms is not easy, often it seems impossible. Beliefs Teachers' beliefs also vary according to personality characteristics and individual peculiarities. Other a teacher who is an artist, a teacher who is a humanist, or a teacher who is a teacher of technical subjects. The variety of interpretations and phenomena occurring towards to the aforementioned topic has meant that many foreign studies have been concerned only with examining individual fragments of the underlying teacher beliefs. Teacher

beliefs are, according to the authors mentioned above, is composed of parts in the form of beliefs, values, knowledge, experiences and experiences.

Ševčíková, Plischke and Chudý describe that Hanušová refers to the teacher's beliefs to the concepts of job satisfaction, professional socialization, professional competence and professional identity.

Slavík mentions that teachers' professional convictions are formed and shaped when dealing with everyday professional situations. It is therefore changeable and influenced by environmental phenomena. Ševčíková, Plischke and Chudý in this context agree with Plevová and Petrová's ideas that teachers' professional beliefs include many factors that are linked to teachers' personal constructs and mental representations.

3. METHODOLOGY

Given the nature of the issue under study, the research is conducted using qualitative research methods. The use of qualitative methodology has enabled the phenomenon to be examined in a broad perspective of interrelationships and contexts.

3.1 Biographical design of qualitative research

The research investigation is based on the essence of biographical design, which according to Švaříček and Šed'ová consists in a comprehensive capture of the phenomenon under study if we need to find out its development. Biography creates descriptions and interpretations of events based on a life story, through the experiences and memories we have stored in our memory. This is the so-called systematic research leading to the reconstruction of a past or future life through the individual's current view of the situation. Hendl mentions that biographical design finds similarities and patterns in life paths. Based on this, it can explain and appropriately interpret personal or social phenomena. Biography focuses on internal perspectives of individuals (sometimes referred to as emic perspectives), the interaction of the individual in the social environment or the experiences of the individual in different roles at different moments in life. In the stories respondents' stories, a full biography of the respondent was captured, seeking to capture in detail the entire experience of the individual.

The research is conducted using a combination of two qualitative methods. Main research method is the respondents' autonomous writing in the form of a free narrative with the topic "The formation of teacher beliefs in the professional biography of a teacher". The respondents were asked. The following question - What is your professional story? What do teacher beliefs mean to you? The autonomous writing was then loosely followed by a supplementary interview. Supplementary interview allowed for a comprehensive capture of the formation of teachers' beliefs in the context of their diverse aspects. The respondents' professional stories revealed a variety of moments, memories and experiences in relation to the teaching profession. Respondents mentioned initial impulses, motivation towards the teaching profession, their early teaching experiences and their pedagogical beginnings.

The main objective of the research study was to clarify the nature of the formation of teacher beliefs in the professional biography of a teacher. We were interested in how teachers feel about what they experience, on what basis they make decisions and for what reason they act in a given way.

3.2 Research sample

The research sample consisted of five teachers. Three high school teachers, one high school and college teacher with both elementary school and middle school experience, and one college teacher. The teachers have different qualifications and different lengths of teaching experience.

Respondents were included in the research through the method of intentional (purposeful) selection. According to Švaříček and Šed'ová, this is the most widespread and most frequent method of selection method used in research with qualitative methodology. Searching for individual of research participants was preceded by a timely determination of the key criteria, which was assisted in reaching out to those respondents who were suitable for the research. In selecting respondents, the following criteria were established. Since the thesis deals with the issue of teacher belief formation in a teacher's professional biography, the first criterion was to approach respondents who are currently active in the field of teaching practice and are actively engaged in direct teaching activities. The next criterion was based on the length of teaching experience. Teachers with different lengths of teaching experience were deliberately selected. The different time aspect of being in the field helped to identify possible correspondences and differences among the respondents with regard to teaching experience or experience. Subsequently, respondents who did not know each other

were selected for the study to avoid any mutual influence or sharing of stories, thus supporting not only the validity but also the reliability of the research investigation.

3.3 Description of respondents

Respondent I. Adriana – 55 years old, now a high school and university teacher with extensive teaching experience. Successful graduate of a master's degree, then a doctoral degree in teaching with an approbation in pedagogy, biology, basics of social sciences, physics, chemistry. During her teaching career she also taught pupils at primary school. She is a full-time teacher.

Respondent II. Kateřina - 35 years old, secondary school teacher with 10 years of teaching experience. Graduate of a master's degree in pedagogy - education for Health Education - Teaching for Secondary Schools. She currently teaches pedagogy and accompanying subjects at the secondary school of education. Her pupils are students of Pedagogical Lyceum or Pre-school and after-school pedagogy. She is a full-time teacher.

Respondent III. Eliška - 38 years old, nurse in the internal ward and ICU. High school teacher teacher of practical subjects at a secondary medical school. Eliška is a successful graduate Master's degree in general nursing with a specialization in intensive care. She is in her third year of part-time teaching. In the framework of extension education she has successfully completed the pedagogical minimum.

Respondent IV. Šimon - 43 years old, university teacher and educator in a children's diagnostic institute with 20 years of experience in the field. Graduate of the master's degree programme in special education, then graduate of the doctoral programme in pedagogy. He is engaged in teaching and academic activities on a part-time basis. He teaches students of the social pedagogy programme at the bachelor's and postgraduate level. He is also a participant of Virginia Satir's psychotherapy training with a focus on systematic training in family therapy.

Respondent V. Marek - 30 years old, secondary school teacher with five years of experience in the field. Master's degree graduate degree in Information Technology and Physical Education for Secondary Schools. Currently currently working at a secondary industrial school. He teaches the subjects of his degree. Teaching profession full-time.

3.4 Method of data collection

The main method of data collection in the case of the research was the so-called autonomous writing of respondents. The given method was chosen with regard to the nature or specifics of the topic of teacher belief formation. Autonomous writing, sometimes also referred to as autonomous writings, allows respondents to describe their life experiences or important life moments without the intervention or correction of the researcher. Respondents were invited to share their experiences of shaping their teaching beliefs. Respondents were not provided with an assignment containing more specific requirements. Based on this, the essence and meaning of the chosen method was preserved. Research participants conveyed their memories through the story of in written form. The scope of the story was also not specified.

The second way of supporting data collection to gain a holistic view of the topic of teacher beliefs and their formation was through the researcher's collaboration with respondents. This was done on the basis of a supplementary interview, which was used in case of any ambiguities or the need to complete certain aspects. Švaříček and Šedřová mention in this context the importance of combining both types of methods.

Respondents were given a timeframe for story submission. Respondents were given 21 days (3 weeks) to develop their narrative. Subsequently, the data was analysed and, where necessary, supplemented with new accounts obtained by asking by interviewing individual participants. Statements clarified unclear or incomplete information that was mentioned in the written form. Respondents were able to write their stories in a setting and at a time of their choosing. Questioning through interview took place at pre-arranged times on online platforms (MS Teams, Zoom or Messenger). The length of the interview was based on the length and completeness of the statements given in the written form. Interviews ranged from 10 to 15 minutes.

3.5 Method of data analysis

The data were analyzed through the method of autobiographical hermeneutics narrative with elements of thematic analysis. The authors of the concept of the data analysis method are Rosenthal and Rosenthal, as cited by Hendl. It is a biographical analysis and reconstruction of a case, where the focus is on what the individual has experienced and what the individual narrates. In the work with research data, no categories were predefined. Individual statements were considered in the context of the overall narrative. The data captured a sequential, temporal sequence of events unfolding in the professional biography. The narrative included information about the past, present and future of the respondents. The presentation of past memories is influenced by the perception of the respondents in the present and their attitudes towards the issue.

The data analysis itself was preceded by the conversion of the individual stories into documentary form. This was followed by multiple readings of the text, which allowed an initial idea to be formed for further work with the data and to carry out an initial thematic analysis of the accounts. The data work was subjected to the following steps - analysis of the autobiographical data, textual analysis and its division into thematic areas, designing types and comparing cases with each other.

4. RESULTS

Moments, memories that are underlined by of different experiences, the stories are countless. We therefore asked the respondents, what they consider to be the most powerful or important moment in their professional journey. In short, that they remember most when asked the question.

In this context, four subcategories emerged capturing key moments for educators. The key milestones represented high school studies. A period related to making decisions about subsequent future employment and objectively assessing one's abilities or potential needed for the profession. Teachers also consider the period when, according to they say they have discovered their vocation, their gift for the profession. A strong moment is also the first entry into the profession and getting acquainted with the reality of teaching in real practice. The perception of the need and desire for for change, for enrichment in their working lives is also seen by the respondents as a key milestone in the teaching profession.

4.1 Secondary school - deciding on future employment

For Katerina, the most powerful moment related to her teaching profession was the actual the process of deciding on her future career. This was during the period of studying at secondary school. The respondent wanted to be a firefighter, but was aware that mathematics, chemistry and physics were not subjects in which she had satisfactory academic results. She found that in this field she would not be her career path. So her love of children and her positive attitude towards the arts, whether visual or music education, which is why the respondent took the teaching route. In her testimony she mentioned that the decision to pursue higher education was particularly important to her and crucial. *"Deciding what to do after high school was a pivotal moment for me, such a moment that I'll never forget, suddenly you realize that the way you decide is going to will be with him for the rest of his life. Since I found that I wasn't really good at calculus, I took ...I went the teaching route, and that math ignorance was the reason."* Katherine's decision and in retrospect, she is positive about her decision. She is happy in her profession.

4.2 Discovering your professional mission

"To stimulate and discover the good in people and thereby create a better, safer world. I realized that this is my life's mission, for which I have a gift." He mentioned in his testimony Simon, a university teacher. Finding that gift and life mission is, in the words of the respondent, the key moment that he considers pivotal. It is because of the aforementioned mission and the identification of his strengths, he chose the right education and the subsequent life path. Simon has had a positive experience with the Don Bosco Centre. On the basis of a motivating approach of the staff there, he has come to the realization that he too can be the one who will encourage others to develop and discover their strengths. The family environment in which the respondent he grew up was, in his words, not very stimulating and did not offer many opportunities for learning. Simon found that he would provide his charges (students or clients)

with more than just moral, but also material support. When by material support we mean mainly stationery, books or notebooks or notebooks.

Marek, a high school teacher, also considers the discovery of his professional vocation to be a key moment. The respondent has been through a number of jobs with different focuses. It was only in education that he found his true place in the profession. *"I am glad for the experience in the ski school. It made me, to think about teaching. If I hadn't been in that ski school and experienced the joy of giving someone or when kids go down a hill by themselves for the first time, I don't know if I would have gotten into it."* Mark's career path was outlined by life circumstances that led him, as they say, at the right time to look in the right place to respond to an interesting job offer. He never really you never know what and how life can change in the right direction. Mark has found that it doesn't matter but it is important to move on. With the help of to be able to develop and support others and be a guide on their life journey.

4.3 First teaching experience - starting a job

Adriana, a high school and university teacher, considers the encounter with the teaching profession and her first entry into the profession as a key moment in her teaching experience. As she herself she mentioned - *"It was a challenge. And I like challenges. Being a teacher is always a challenge for me. I remember my first day and my first week. It was a mixture of anticipation, excitement and worry about whether I would be able to do it."* Adriana did not perceive the initial fears in teaching practice negatively. She considered them as something that inherent in the beginning of teaching practice. The greatest fears she felt were about her failure in the form of a blackout or short circuit. She was also unsure what to expect from her students, the tools and technology then available in the school. She taught chemistry, which was the dominant subject for her pupils. She devoted her maximum attention to her preparation for teaching. She felt responsible for her pupils and the knowledge they had acquired. *"I knew that I could only relieve the pressure of responsibility by knowing as much as I could about the subject myself."* Coming into the job and coming face to face with the reality of teaching worked out well. Adriana is always discovering new things, which she then passes on to her pupils or students. In doing so, she does what she enjoys and is never bored in her work.

4.4 The desire to move forward

For respondent Eliška, the key moment was the desire to move forward, and as she mentions - *"to do something more."* After 19 years of working in healthcare, the respondent was eager to diversify her working life. She felt the need to acquire new knowledge and to broaden her horizons. Subsequently, an offer came from a secondary medical school to teach practical subjects - practice as a nurse. Eliška got her wish. She is now pursuing both jobs. She currently feels happy in her job and finds her work fulfilling, rewarding and pushes her further.

5. CONCLUSION

The research study addressed the issue of teacher belief formation in the professional biography of teachers in relation to key moments in their professional journey. The theoretical part of the thesis was devoted to the definition of key concepts, which are very closely related to the problem under study. The empirical part and the subsequent research investigation was conducted using qualitative research methods. The research sample consisted of five high school and university teachers with different lengths of teaching experience and with different approbations Individual data was collected through the method of autonomous writing followed by a supplementary interview for a more comprehensive understanding of the context. The autonomous writing did not contain detailed instructions; respondents were asked to tell us their professional story, their journey through the profession.

The main aim of the research investigation was to describe and identify the ways in which teachers beliefs are formed and what moments or experiences teachers consider key.

The final part of the research study provides a comprehensive overview of the main results of the research investigation. The implementation of the research investigation was preceded by the definition of research questions. One main and one specific research question were set.

HVO – How are teachers' beliefs shaped in the context of related to motivation for the profession in a teacher's professional biography?

SVO – What do teachers consider key moments in their profession?

Data were analyzed using the sequential objective data analysis method. Individual findings were categorized according to their content for better clarity. The aim of the research was achieved. Through five life stories (professional parts of the teachers' lives), the ways in which their teaching beliefs were shaped were described, through motivation for the profession, key moments in the career path, professional situations dealt with and experienced in teaching practice, the recipe for success in professional life to finding meaningfulness of the teaching profession and personal satisfaction.

The results show that teachers' beliefs are in some cases already formed since childhood, for the respondents the teaching profession is a dream come true. Teaching beliefs are perceived positively by teachers. Respondents expressed themselves in connection with their beliefs: motivation for the profession, the successes and hardships of teaching practice or a key moment, that happened on the professional path.

The respondents are satisfied in their profession. The pros of the profession always prevail outweigh the cons. They perform their profession with joy and love. They perceive it as meaningful. They have joy in imparting knowledge and in the progress of their students. In some cases, there are personal dilemmas about whether they are sufficiently educated or competent for their profession. This is partly due to the fact that the role of the teacher is to some extent conditioned by favour and interaction of pupils or students. Any distress in the profession was not an incentive for teachers to leave the teaching career. They managed to overcome the obstacles. They find appropriate strategies and keep moving forward.

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Comparison of Global Business Literacy of Hungarian and Slovak University Students

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Abstract

Literacy related to functioning in a global world and knowledge society is generally considered a key literacy. This is particularly important for the students of business, economics and management who aspire to engage in an international business environment. Besides specific classroom-based approaches, as well as internalization activities abroad, there are also other factors that influence global business literacy. The present study is aimed at comparison of the level of global business literacy and its dimensions between Hungarian and Slovak university students, in terms of national culture and gender. For this purpose, data obtained from a survey completed by 284 Hungarian and Slovak university students were subjected to a two-sample t-test and the Mann-Whitney U test. The results showed some statistically significant differences between the two samples. While Slovak students are more self-aware, Hungarian students are more self-efficacious, develop relationships more easily and show higher media literacy. With regard to gender, women report higher self-awareness and men seem to perceive higher level of international business knowledge.

Keywords: global business literacy, national culture, globalization, gender, students

1. INTRODUCTION

As highlighted in UNESCO's Global Literacy Challenge [1], literacy in general should be a central agenda of education due to its importance for functioning in a global world and knowledge society. Literacy that underpin the notion of global citizenship is labeled as global literacy [2], which, in the context of effective functioning in a global business environment, is called business literacy [3], or global business literacy [4].

Current empirical literature provides relatively strong evidence on factors influencing global business literacy. One stream of literature highlights factors related to internalization activities abroad, such as short-term study abroad programs [5, 6], long-term study abroad programs [7, 8] or international internship programs [9]. Another stream of literature is emphasizing internalization activities at home as an effective alternative especially for those students who cannot participate on study abroad activities. In this regard, we can mention well designed courses on international business or cross-cultural management [10], various complementary teaching techniques, such as experiential learning [11] or blended learning [12], especially in virtual international environment. There could be also some complementary co-curricular activities, such as campus programs involving contacts of local students with international ones [13] that can enhance global literacy or related competence.

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However, other potential factors such as foreign language proficiency, age or gender have received little attention in the empirical literature. This is particularly true also for the cultural background, since there are only limited studies of a culturally comparative nature. Moreover, majority of studies dealing with global literacy of young people are conducted in the context of North America, Western Europe or China. To fill some of these gaps, the present study is aiming to compare the level of global business literacy of university students in two Central European countries, namely Hungary and Slovakia, thus considering respondents' cultural background as well as their gender.

Both of these countries report similar level of economic, social and political dimensions of globalization. The latest values of KOF globalization index [14] are 83.84 for Hungary and 83.20 for Slovakia. However, there are significant differences in relation to the cultural values of both countries. As resulting from the Hofstede's Country Comparison Tool [15], the biggest difference is shown in the power distance dimension, where Slovakia is a culture with extremely high power distance and Hungary shows rather the opposite. Another obvious difference is in uncertainty avoidance dimension. While people in Hungary prefer avoiding uncertainty, Slovaks show no clear preference on this dimension. Similar, though smaller differences were found in individualism, which is typical for Hungarian society, where people usually look after themselves and their immediate family first. Slovakia scores less in this dimension and is considered as a relatively individualist society. In the remaining dimensions, the differences between the two countries are much narrower. Differences in individual cultural dimensions can thus be predictors of the existence of differences in some dimensions of global business literacy, which studies focused on other cultural contexts have already shown. In this regard, we can mention a study by Graf [16] who in the U.S. and German context showed that national culture is a significant variable determining inter-cultural competencies in both countries.

When looking at the global competence of 15-year-old students, Hungary and Slovakia scored below the OECD average in all of the investigated dimensions. The biggest differences between the two countries were found in attitudes towards immigrants, which is more negative in Hungary and in self-efficacy regarding global issues, which is shown to be higher in Hungary [17]. Hence, we assume that there will be differences in some dimensions of global business literacy between Hungarian and Slovak university students.

2. METHODOLOGY

The aim of the present paper is to identify the differences between Hungarian and Slovak university students in the level of their global business literacy and its dimensions in terms of national culture as well as gender. For this purpose, the online survey was conducted among Hungarian students studying at the University of Debrecen, Corvinus University of Budapest and University of Pécs, as well as among Slovak students studying at the Faculty of Business Economy of the University of Economics in Bratislava, with seat in Košice, Slovakia. In the both countries, the responses of only those students who in specific cases stated their national culture as Hungarian or Slovak were taken into consideration. The final number of respondents included in this research was 103 Hungarian and 181 Slovak students. In terms of gender, the research sample consisted of 186 women and 96 men. Two students who did not answer the gender question, were not subject to gender-related analysis. The students filled out the questionnaire electronically, via MS Forms platform, during the last week of the summer term of the academic year 2021/2022, after completion of the particular course under the supervision of the teacher. The survey Slovakia was translated to local languages while the survey in Hungary was in English.

The assessment of the level of global business literacy of the involved students was carried out on a basis of the instrument developed and validated by Arevalo et al. [4], from which 38 statements were taken and divided into five dimensions (namely relationship development, self-awareness, self-efficacy, technical competence and willingness to learn) and, in line with our previous considerations [18], supplemented by two more dimensions, namely conscious media use (two statements were taken from Koc and Barut [19] and two from Jones-Jang et al. [20]) and risk-taking (one statement was taken from Dohmen et al. [21] and three statements from Donthu and Gilliland [22]). The respondents expressed the extent to which they agree with each of 46 statement on a 7-point Likert-type scale. In general, the higher the score, the higher the achieved global business literacy, risk-taking tendency and more conscious use of media. In addition, some background information including age and gender were a part of the survey. Descriptive characteristics of the research sample according to studied dimensions of global business literacy, in terms of national culture and gender are shown in the table 1.

The analysis of differences in the level of global business literacy between Hungarian and Slovak university students was carried out on a basis of two tests. A parametric two sample t-test as well as a non-parametric Mann-Whitney U test, which compares the mean ranks and is suitable also for non-normally distributed data, were used. The null hypothesis being tested is that there are no differences in the level of global business literacy between Hungarian and Slovak students or men and women respectively. An alpha level of 0.05 for all statistical tests is used and statistically significant differences are marked in bold while presenting the results.

Table 1. Descriptive characteristics of studied dimensions of GBL

Dimension	Country	N	Mean	Std. dev.	Gender	N	Mean	Std. dev.
Relationship development	HU	103	5.36408	0.86532	Men	96	5.13715	0.88622
	SK	181	5.09503	0.75916	Women	186	5.22867	0.76654
Self-awareness	HU	103	4.85159	0.64972	Men	96	4.93998	0.62770
	SK	181	5.17985	0.67106	Women	186	5.12227	0.70366
Self-efficacy	HU	103	5.25242	1.13974	Men	96	5.13876	1.08636
	SK	181	4.81186	1.08991	Women	186	4.88710	1.14536
Technical competence	HU	103	5.01402	0.82221	Men	96	5.07292	0.79010
	SK	181	4.83111	0.75300	Women	186	4.81713	0.76277
Willingness to learn	HU	103	5.47694	0.99950	Men	96	5.31112	0.92853
	SK	181	5.38328	0.84292	Women	186	5.47446	0.88980
Conscious media use	HU	103	5.57286	0.87771	Men	96	5.53646	0.96039
	SK	181	5.30110	0.78205	Women	186	5.33199	0.74639
Risk-taking	HU	103	3.30097	0.95445	Men	96	3.39453	0.90090
	SK	181	3.37638	0.72301	Women	186	3.33602	0.76449

Source: own processing

3. RESULTS AND DISCUSSION

First part of our analysis was devoted to identification of differences in the particular dimensions of global business literacy between Hungarian and Slovak university students, i.e. in terms of national culture. Following table shows results of a two-sample t-test and the Mann-Whitney U test.

Table 2. T-test and Mann-Whitney U test for national culture

Dimension	T-test		Mann-Whitney U test			
	Mean difference HU-SK	Sig. (2-tailed)	Mean rank HU	Mean rank SK	U	Sig. (2-tailed)
Relationship development	0.26905	0.007	162.34	131.21	7277.5	0.002
Self-awareness	-0.32825	0.000	117.25	156.87	6721.0	0.000
Self-efficacy	0.44057	0.001	164.16	130.18	7091.0	0.001
Technical competence	0.18292	0.058	154.49	135.68	8086.5	0.063
Willingness to learn	0.09365	0.401	152.60	136.75	8281.0	0.117
Conscious media use	0.27171	0.008	162.72	130.99	7239.0	0.002
Risk-taking	-0.07541	0.487	136.21	146.08	8674.0	0.330

Source: own processing

Both tests gave us the same results. Hungarian students develop relationships especially with foreigners more easily, they are more media literate and report higher self-efficacy. Better establishment and development of relationships in the case of Hungarian students can be related to relatively low power distance in the country and thus more equal relations between people [23] that are easier to develop. Better performance of Hungarian students with regard to self-efficacy is in line with the results of OECD global competence assessment, in which Hungarian students outperformed Slovak ones in the dimension of self-efficacy regarding global issues [17]. Self-efficacy in general is related to all aspects of life and expresses self-confidence of a person to deal with life's challenges, expectation of positive results and control of actions, which is manifested especially in an unfamiliar environment [7]. More conscious use of media in the case of Hungarian students can be related to higher uncertainty avoidance in Hungary compared to Slovakia. On the other hand, Slovak students are more self-aware. It is often considered as awareness of self in relation to teams/collectives/ culture of which an individual is a member, whereas culture is supposed to be dominant in collectivistic cultures [24]. Hence, higher self-awareness of Slovak students can be explained by lower tendency of individualism

in the Slovak society. Further, we took a detailed look at the differences in global business literacy in terms of gender. Table 3 provides results for the whole sample of 282 students (two students did not answer the gender question).

Table 3. T-test and Mann-Whitney U test for gender – whole sample

Dimension	T-test		Mann-Whitney U test			
	Mean difference Men-Women	Sig. (2-tailed)	Mean rank Men	Mean rank Women	U	Sig. (2-tailed)
Relationship development	-0.09152	0.369	136.44	144.11	8442.0	0.453
Self-awareness	-0.18229	0.033	125.79	149.61	7419.5	0.020
Self-efficacy	0.25167	0.076	153.17	135.48	7807.5	0.084
Technical competence	0.25579	0.009	161.71	131.07	6988.0	0.003
Willingness to learn	-0.16326	0.151	132.40	146.20	8054.0	0.178
Conscious media use	0.20447	0.050	159.18	132.37	7230.5	0.009
Risk-taking	0.05851	0.567	144.81	139.79	8610.0	0.624

Source: own processing

In general, women appear to develop relationships more easily than men, are more willing to learn and are more self-aware, but only the difference in the last-mentioned dimension is statistically significant. In the remaining dimensions, men seem to perform better, however, statistically significant difference was proved only in the case of international business knowledge (i.e. technical competence) and perceived conscious media use. To better understand whether these results are indeed a matter of gender, we took a closer look at the differences between men and women in both analyzed countries separately. Following table shows results for Hungary.

Table 4. T-test and Mann-Whitney U test for gender - Hungary

Dimension	T-test		Mann-Whitney U test			
	Mean difference Men-Women	Sig. (2-tailed)	Mean rank Men	Mean rank Women	U	Sig. (2-tailed)
Relationship development	-0.37402	0.031	44.32	55.75	958.5	0.053
Self-awareness	0.00773	0.954	50.42	51.42	1214.5	0.866
Self-efficacy	0.33248	0.153	55.08	48.09	1067.5	0.237
Technical competence	0.36544	0.025	59.26	45.12	892.0	0.017
Willingness to learn	-0.18942	0.354	47.69	53.36	1100.0	0.337
Conscious media use	0.41041	0.021	60.00	44.59	861.0	0.009
Risk-taking	0.01382	0.943	51.29	50.80	1227.0	0.934

Source: own processing

While Hungarian women seem to be significantly better in establishment and maintenance of relationships (based on results of t-test), Hungarian men showed significantly higher perceived technical competence as well as media literacy. The results regarding significantly better performance of Hungarian men are basically in line with the overall gender-related results. Difference in global business literacy between Slovak men and women is shown in the table 5.

Table 5. T-test and Mann-Whitney U test for gender - Slovakia

Dimension	T-test		Mann-Whitney U test			
	Mean difference Men-Women	Sig. (2-tailed)	Mean rank Men	Mean rank Women	U	Sig. (2-tailed)
Relationship development	0.03172	0.798	92.32	90.44	3357.5	0.824
Self-awareness	-0.24249	0.026	76.90	97.00	2667.5	0.018
Self-efficacy	0.11497	0.518	95.37	89.14	3193.0	0.464
Technical competence	0.14979	0.222	101.06	86.72	2886.0	0.092
Willingness to learn	-0.17017	0.215	84.25	93.87	3064.5	0.258

Conscious media use	0.01954	0.894	95.69	89.00	3175.5	0.429
Risk-taking	0.10030	0.395	95.52	89.08	3185.0	0.448

Source: own processing

In the case of Slovak students, only one statistically significant gender-related difference was shown, namely in the dimension of self-awareness, where women perform better. Overall, there have been detected significant differences between men and women in both countries, however, these differences are shown in different dimensions of global business literacy. This finding is in line with the conclusion by Karanikola [25] who found that gender affects only some of the sub-scales of global competence. In the case of (Hungarian) men, their higher perceived knowledge of international business (i.e. technical competence) and higher consciousness in the use of media can rather be attributed to their higher self-confidence, which according to Casale [26] appears in adolescence and persists through early and middle adulthood until it diminishes in old age. Higher self-awareness of (Slovak) women compared to men has not have strong empirical support in the existing literature, since rather opposite findings occur. For instance, Trentini et al. [27] in regard to emotional self-awareness found that girls had less externally oriented thinking and showed greater difficulties in identifying feelings compared to boys. Hence, further investigation of self-awareness – gender nexus is an interesting future research challenge.

4. CONCLUSION

The paper was aiming to identify the differences in the level of global business literacy on a sample of Hungarian and Slovak university students, considering the cultural context as well as gender. Our analysis performed via two-sample t-test and Mann-Whitney U test revealed significant differences in some dimensions of global business literacy, namely relationship development, self-efficacy and conscious media use, in which Hungarian students perform better. On the other hand, Slovak students show higher self-awareness. These differences can be, at least partially, explained by cultural differences in the dimension of power distance, uncertainty avoidance and individualism between the Hungarian and Slovak culture.

There are also some gender related differences shown in the analysis. While men seem to perceive higher technical competence and more conscious use of media, women appear to be more self-aware. However, findings related separately to Hungary and Slovakia slightly differs in terms of gender. Thus, there are rather specific gender differences related to particular aspects of global business literacy, which may likely be influenced by some cultural characteristics. However, this assumption needs further investigation within future research.

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**Transport, Logistics, Tourism and Sport Science
(IAC-TLTS)**

Sports Product, Financial Management and Marketing as a Fundamental Factor for Sports Industry! Theory of Economic Dimension of Sport

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Abstract

This paper aims to explore the fundamental functions of the sports industry, through the theory of the economic dimension of sport, where the leading factors are sports production as well as financial management and marketing. With the rapid development of computer network technology and explosive multiplication of big data information in the age of information digitalization, it has always been an urgent problem to be solved regarding how to effectively analyze data and discover the economic value hidden behind data sources in scientific research. Sports industry is the product of social development to a certain historical stage. The management mode of sports has correspondingly changed from amateur to professional, from non-commercial to commercial, and sports has become an important economic resource. It has become an indispensable part of the national economy and industrial structure. Business activities in the field of sports are gradually active, and the image of sports industry has been basically established. Sports industry has become a new growth point of national economy and shows attractive development prospects and great growth potential. The vigorous development of sports industry has provided an important practical basis for sports economic research, and the continuous updating of sports economic research results has provided important theoretical and practical guidance for the development of sports industry. The sport economy as a whole is not a separate statistically measured sector, but is part of various other industries and economic sectors. With this paper, we will keep the reader's attention on the sports product which is the main driver of the sports industry. Sports product in the broadest sense of the word and its use today is one of the most significant ways of production and reproduction in social life. The question arises as to how the economic importance of these sport-related activities can be measured. From an economic point of view, sport is an activity which has repercussions in many different areas of the economy. The conclusions of this paper are based on theoretical indicators of the influence of sports products, financial management and marketing in the creation of the economic dimension of sports.

Keywords: Sports product, sports industry, financial management, marketing, economy, sport.

1. INTRODUCTION

The importance of sport today is an indisputable fact. This paper aims to explore the fundamental functions of the sports industry, through the theory of the economic dimension of sport, where the leading factors are sports production as well as financial management and marketing. With the rapid development of computer network technology and explosive multiplication of big data information in the age of information digitalization, it has always been an urgent problem to be solved regarding how to effectively analyze data and discover the economic value hidden behind data sources in scientific research.

Sports industry is the product of social development to a certain historical stage. The management mode of sports has correspondingly changed from amateur to professional, from non-commercial to commercial, and sports has

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become an important economic resource. It has become an indispensable part of the national economy and industrial structure.

Sports product in the broadest sense of the word and its use today is one of the most significant ways of production and reproduction in social life. Today's professional sport begins with the exploitation of human resources in their most developed and most perfect organized form, whose benefit becomes inevitable in a material, valuable, but also cultural, aesthetic and ethical point of view, which must be verified through the labor market, similarly to other parts of the economic action.

Sport marketing in a global environment is fascinating reading for any advanced student, researcher, or professional working in sport business and management, sport development, marketing, strategic management, or global business. In an environment where consumers are bombarded with marketing messages, organizations are challenged with the task of effectively reaching their target markets. Marketing communication tools, such as sponsorship, are leveraged to yield a return on investment.

All this social interest in sport¹ and the beneficial consequences that have been demonstrated, have moved the interest to the field of management and economy of sport. In this sense, the promotion of sport, new cultural habits, globalization and the influence of marketing and business management principles on sports organizations and events have generated high-impact research that has increased academic interest in sport and its socio-economic impact. In the same way, research and knowledge generation in this area are important because of the increasing economic investment in sport and sporting events (Dos Santos and Moreno, 2020).

1.1. *Sports product - the core of the sports industry*

Sports product in the broadest sense of the word and its use today is one of the most significant ways of production and reproduction in social life. Today's professional sport begins with the exploitation of human resources in their most developed and most perfect organized form, whose benefit becomes inevitable in material, value, but also cultural and ethical terms, which must be verified through the labor market, similarly to other parts of economic activity.

Boyd and Walker describe a product² as "*something that responds to a need or want in terms of use*" (Harper W. Boyd & Orville C. Walker, 1990:82). The authors say that the product is a solution to the problem, in that its purchase ensures the benefit. Which means that consumers are buying a benefit, not a product (see below, Figure 20).

According to them, sports products can be:

a. *Sports events*

The primary product of the sports industry is a sporting event. Sports events refer to the sports competitions required to produce all related sports products and consist of four components: games, players and sports arenas.

b. *Sports goods*

When talking about the term sports products, it means the material products that are produced, distributed and purchased in the sports industry. These include sports equipment, merchandise and various sports memorabilia, for example: sports club books, scarves, pendants, stickers and anything else related to the sports club.

c. *Personal sports training*

It includes products that are manufactured for use by sports participants at all levels. Examples are fitness and spa centers and health services.

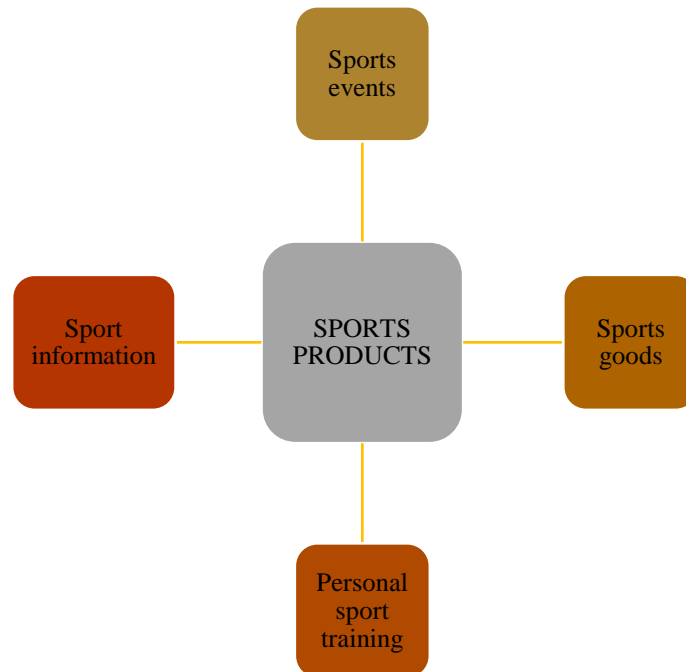
d. *Sports information*

These products supply consumers with sports news, statistics of various sports matches, various sports stories. They may also include educational materials.

¹ Maniel Alonso Dos Santos & Ferran Calabuig Moreno, (2020). Management, marketing and economy in sports organizations, *Sport in Society, Cultures, Commerce, Media, Politics*, Vol. 23,2020, Issue 2. Management, marketing and economy in sports organization, Pg. 175-179.

² Harper W. Boyd & Orville C. Walker. (1990). *Marketing Management: A Strategic Approach*, Irwin, pp. 82.

Figure 1. Sport product presentation according to Boyd and Walker



According to Geber-Nel, the product is the essence of the sports industry. Sports products³ can be extremely diverse and complex, which is evident when considering different types of sports products (Geber –Nel, C. 2004:79).

According to the author Herceg, (Krešimir Herceg, 2014) sports products (see below, Figure 21), can be ranked from the aspect of tangible objects such as:

- a. *sports t-shirts,*
- b. *sports hats,*
- c. *sports scarves,*
- d. *sports souvenirs and more.*

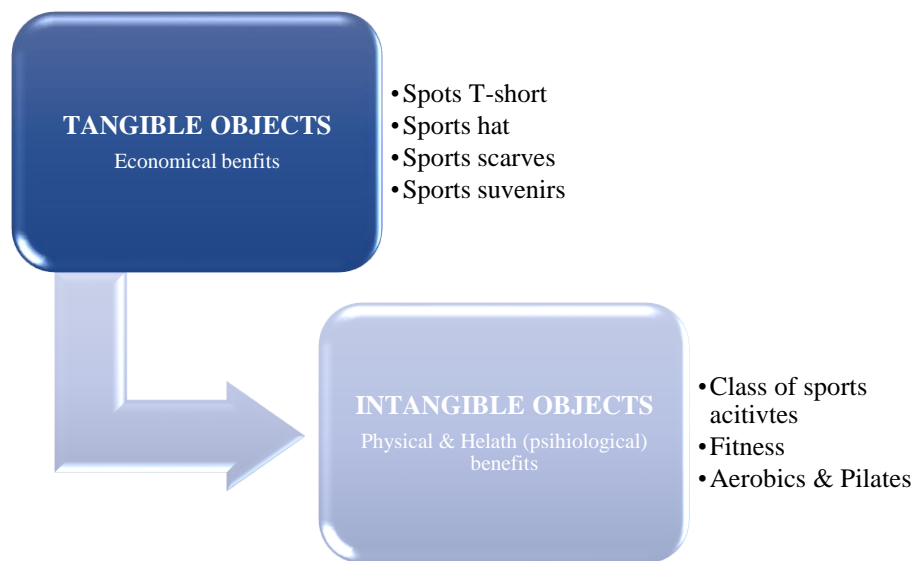
To intangible object such as:

- a. *classes in sports activity,*
- b. *fitness,*
- c. *aerobics or pilates etc.*

Also, Herceg will point out that the range of scope of sports products shows that intangible products have a physical and health (psychological) benefit for consumers, while tangible products have an extremely economic benefit for sports companies.

³ Gerber-Nel, C. (2004), “Determination of the brand equity of the provincial, regional and national rugby teams of South Africa”, Doctoral dissertation. South Africa: UNISA.

Figure 2. Sports product presenting according Krešimir Herceg



1.2. *The theory of sport definition and financial management and marketing and ethics in sport*

According Yang Ye Lin the sports economy⁴ as a whole is not a separate statistically measured sector, but is part of various other industries and economic sectors. National statistical offices measure sport explicitly only by the category “operation of sports facilities” in NACE⁵ and is a classification of industries according to their economic activity. Other categories such as the production of sport articles, sport retail, and sport tourism are ignored in the statistical definition (Zhifeng Yang Ye Lin, 2022).

1.2.1. *Financial management and sports marketing*

Financial management in sports involves the use of accounting and financial decisions, as well as processes in a relatively unique revenue and expenditure system in sports organizations. It is very important for sports managers to understand the financial principles related to revenue such as: revenue from ticket sales, revenue from sales of branded sports equipment, revenue from betting, revenue from sponsorships, revenue from TV broadcasting rights, revenue from sales of souvenirs from the fan shop, income from transfers of athletes, but also income from state subsidies and grants. On the one hand, it would be desirable for sports managers to have knowledge of the history of the commercial development of sports, but on the other hand, sports managers should be visionary in finding ways for Indian financial projections for sports. The direction in which the sport is moving today in the part of the shareholder organization indicates that a rapid transformation of the sport from and its listing on the world stock exchanges is necessary, it will show that this will reduce the dependence of the sport on borrowing from the public sector and will move to be financed by the private sector.

What are the goals for the development of financial management for managements in sports and sports organizations (see, below Figure 3), and they are:

1. To give sports organizations a **good understanding of performance** evaluation using financial statements.
2. To know how to use **management accounting information** in resource planning and control, how modern management accounting methodology can support resource management and control.
3. To know about **management and execute with resources** in business strategy and planning.
4. To use the **possibility of alternative financing** to achieve organizational goals.
5. To know how **to manage financial data** in long-term capital decision-making.
6. **Knowledge of international aspects** of financial strategy, how organizations manage risk.

⁴ Zhifeng Yang Ye Lin (2022). Sports Product Marketing and Economic Growth Econometric Dynamic Analysis Model Based on Random Matrix Theory Volume 2022 | Article ID 3081378 | <https://doi.org/10.1155/2022/3081378>.

⁵ NACE stands for “Nomenclature statistique des activités économiques dans la Communauté européenne”

Figure 4. Goals for the development of financial management for managements in sports and sports organizations



1.2.2. What is sports marketing

According Mullin and cor. sports marketing⁶ can be defined as a business orientation that deals with current and potential buyers (visitors, subscribers to sports channels, media, sponsors, brokers, etc.) who are interested in the offers of sports organizations, as well as products and services related to sports, with the intention of achieving their long-term goals. According to Mullin, Hardy and Sutton, sports marketing is an element of sports promotion that includes a wide variety of sectors of the sports industry including broadcasting, advertising, social media, digital platforms, ticket sales and community relations (Mullin, B. J., Hardy, S., & Sutton, W. 2014).

Like other forms of marketing, sports marketing strives to satisfy the needs and demands of customers. This is achieved by providing quality sports services and products related to sports. However, sports marketing is different from conventional marketing because it has the opportunity to increase the consumption of non-sporting products and services through sporting events that have great popularity. In the last 30 years, sports organizations have evolved towards professional and managed structures, so they manage to apply business principles in order to market their own products, as well as plan their operations and manage human resources and other aspects of organizational activities in sports. The unique nature of sports organizations and the variation in missions and goals has led to the development of many criteria by which to evaluate the performance of sports organizations.

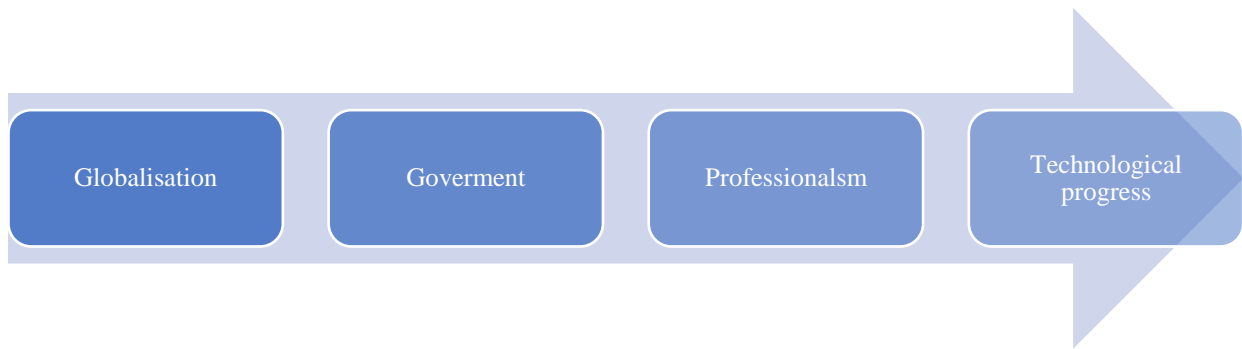
The power of sports marketing is nigh-on unparalleled. Whether harnessed by those within the sports industry or brands outside of it, the enduring popularity of sports naturally makes it an incredibly powerful marketing tool for businesses.

In the process of establishing a modern concept of sports marketing, the role of the sports manager is very significant. This is a person who should possess strong organizational performance that will be of significant benefit to the sports industry during the promotion of a sports product. In practice, there are several factors (external) that have an impact on sports marketing and the way sports organizations function (see below, Figure 4), and they are:

1. Globalization as a process
2. Government policies i.e. decision
3. Professionalism in the performance of duties
4. The technological progress of society

⁶ Mullin, B. J., Hardy, S., & Sutton, W. (2014). Sport Marketing, 4th Edition. Human Kinetics.

Figure 4. Graphical representation of the external factors who have an impact on sports marketing and the way sports organizations function



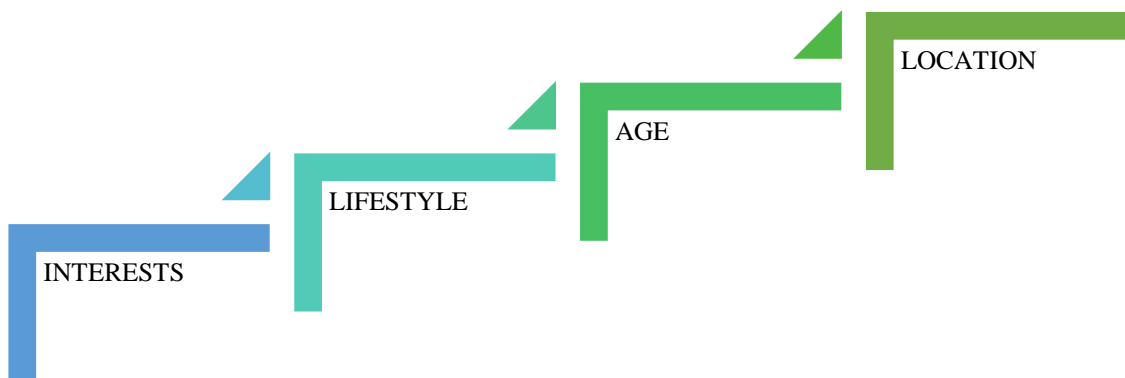
What are focus groups for a successful marketing strategy in sports?

Targeting a specific audience hugely increases the chances of your sports marketing campaign succeeding, as you'll be speaking more directly to those who want and need your products or services. With so many sports fans out there, don't think that this will represent a small number of people either.

In order to target such a section of sports lovers, you need to work out aspects like:

1. **Interests:** What sports are your target audience interested in? The more you can appeal to their exact interests, the better chance you have of attracting your ideal customer to your brand.
2. **Lifestyle:** Whether your target customer enjoys sports primarily as a spectator, a casual participant, or as more of a dedicated hobby or career will affect the nature of your campaign.
3. **Income:** How much are your audience willing to spend on your products or services? This will also impact how you market towards them.
4. **Age:** Different age ranges value different marketing approaches — younger audiences mainly prefer social media marketing, whereas older audiences are more accustomed to traditional types of advertising.
5. **Location:** The location of your audience will impact your strategy going forward — for instance, do you opt to team up with a local sports team, or will an international athlete help you market towards a more international reach.

Figure 5. Focus groups for marketing strategy in sport – Target



1.2.3. *Build up shrewd partnerships and sponsorships*

Sports marketing campaigns are ripe for carefully considered partnerships and sponsorships. By teaming up with well-known sports stars and teams, brands can piggyback on their profiles to increase the reach of their campaigns, while also improving their reputation by associating themselves with such popular figures. There's a reason sports sponsorship in particular is such a big industry, offering numerous benefits for brands and earning sports stars millions, if not billions, of pounds in the process.

1.2.4. *Be smart with your content channels*

In the digital age, brands have so many options when it comes to reaching their target audience. That said, the potential opportunities for in-person advertising with sports marketing are more plentiful than in most industries. These include sponsoring entire events, running your marketing campaigns at sports arenas, or in television breaks during big sporting contests.

However, even if you decide to go this route, that's not to say you can't utilize the power of online media to further amplify your campaign. You have so many options at your disposal, including social media platforms like Instagram, Twitter and Facebook, to dedicated video platforms such as YouTube, TikTok and Vimeo. Again, your best option depends on your target audience.

1.2.5. *Time your campaign to perfection*

As the saying goes, timing is everything. And when it comes to sports marketing, it can certainly be make or break. After all, sports is closely tied to seasonal competitions and live events, so considering the timing of your campaigns is all-important. For instance, you may want to:

- a. Capitalize on the pre-game hype of a big sports event by running advertisements during this time.
- b. Jump on chances to congratulate winning teams or athletes when everybody is watching.
- c. Keep track of what celebrity sportspeople are doing and release content featuring them when they're most visible during the season.

2. CONCLUSION

This study contributes to sponsorship literature relating to the effectiveness of sponsorship; and new perspective in the field of sport strategy for marketing, product and management. The study found that sponsorship created awareness of sponsors among sports consumers. This would imply that sponsorship can have an impact on the sponsors brand equity. Awareness levels should not be taken for granted by sponsors as awareness of the brand may impact what alternatives consumers consider during the decision-making process.

The conclusions of this paper are based based on theoretical indicators of the influence of sports products, financial management and marketing in the creation of the economic dimension of sports.

Several conclusions from this expert paper can be cited as relevant:

1. It is very important to clearly define what is a sports product generally, so that we can build positive sports policies.
2. Financial management has a major role in building a professional sports system and promoting visible sports results.
3. Sport, especially professional sports, cannot be imagined without economics, in the new modern sport it (economy) is everything, it is imperative.
4. Today, the sports industry is one of the leading industries in the world, and there are many relevant examples of this.
5. And finally, if we correctly set up the triangle between the sports product, financial management and marketing, the final sports result from an economic point of view is guaranteed.

It is therefore very important to have as much research as possible of this kind, all with the aim of helping to understand the role of and the meaning of sports, especially professional sports in the area of business, economy, marketing and management, especially the financial one. If we carefully analyze the world economy and compare it to the income of professional sports, we will see that it is making a significant profit, which ranks it among positive economies with strong social impact. It is therefore important to invest in the sport through which it will be created strong and recognizable sports product (brand).

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Building Music Tourism through Pop Music Festivals, Musical Events and Outstanding Concerts in Romania

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Abstract

This paper explores some issues on music tourism in Romania, since music tends to be in our contemporary times an important touristic resource which contributes both to tourism development and to cities and communities' progress. In the latest decades, music had the power to attract people from different places, spaces and cultures in certain areas for great experiences when it comes about its music tastes and musical preferences. Music has the power to bring people together resonating at unison with their music idols and musical genres which they cherished. In this regard, festivals, the largest musical events and impressive concerts of important musicians and singers, shows of various artists touring the world represent the main cultural events which frame new perspectives for analyzing the music and music tourism. These musical events often turn cities into real music scenes with specific musicscapes with people travelling to them in its will to consume and experience music according to its musical passions and preferences. Iconic and outstanding artists, singers and musicians and their related impressive shows and concerts attract people from everywhere, thus transforming their performance acts in touristic destinations and important venues for people and tourists. Against such a background, this paper unveils some aspects regarding music tourism emergence in Romania in the latest decades and explores the pop music culture (popular music) since this country became an important venue for countless festivals, concerts and related musical events. As a communist country until 1990 when occidental musical values were largely censored, Romania opened after this year to the global musical values and gradually hosted important musical events from festivals to relevant concerts which, currently, more than ever, attract a large number of domestic and foreign tourists. In this regard, music tourism is built as an important cultural touristic resource which directly conquer for communities' development generating true musicscapes and turning cities in real music scenes. The study is designed through a geographical perspective and is based on methods as ethnographic participant observations, media search analysis and YouTube research. The results unveil that Romania became an important country in the field of music tourism with relevant musical events which attract people in order to consume, experience and share their preferred music tastes and music preference and artists. This less explored Romanian background invites for further studies and analysis in order to build the music tourism in Romania as a key resource for urban and cultural development of the cities and places/communities with similar patterns of the largest international cities where music was always used as a cultural resource for local, regional, national and international development.

Keywords: music tourism, concerts, festivals, urban development, musicscenes, Romania

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1. INTRODUCTION

Music is considered as a cultural value and an outstanding attribute for communities from the ancient times to present. It unveils the local cultures and cultural practices and experiences, which determine people to travel in different places and spaces in order to consume diverse types and genres of music and artists' musical performance. In this regard, by "grounding music practice in the specifics, social dynamics and materiality of physical and geographical locations, and by considering how music makers characterize place through social practice and through social engagement with the urban environment" [1, p. 3], music become a particular resource in the contemporary local, national and global culture, which, more than ever, make people to travel framing new forms of tourism as music tourism. It is a "rapidly expanding and diverse tourist niche, although rarely acknowledged by geographers or tourism scholars" [2, p.1]. Consequently, "the idea of music tourism – travelling to another place to hear music played – is a historical phenomenon associated with industrialization and modernity, notwithstanding examples such as the troubadour movement of the medieval period in southern France. In the nineteenth century, as distinctions started to appear between classical music and popular music, European elites would venture out to see the music of the canonical composers played at festivals, while the working classes paid to see travelling performers play popular songs in the music halls" [3, p. 3]. This realities frame both the emergence and the consolidation of music tourism in a time when music tends to be an inseparable value and practice of our daily life, a cultural norm of our contemporary societies, a certain attribute of the cities and a resource of the present social, economic, urban and cultural development. Music is an inseparable part of our existence [4-11] and, in a world of movement, it frequently causes and motivates us to travel often to distant places or cities to consume and experience specific music based on our musical preferences, and to resonate at unison with other communities and fans with common musical tastes, music thus becoming a certain binder bringing peoples and cultures together. And this is happened through the lens of music tourism which beyond an economic activity turns to a real instrument for rethinking the local urban development. Against such a background, this paper deals with the question of music integrated in cities and towns as a cultural creative resource in local development through music tourism, which determine people to travel worldwide to resonate at unison through their common tastes for specific music genres or for their cherished artists. The paper focuses on a specific country, Romania, a place where music increased as a cultural resource, mostly used in multiple and different musical events which in the latest decades attracted a large number of tourists especially after 1989, because before this year, even we can talk about the music as an integral part "to the geographical imagination" as Smith pointed out [12], this key aspect could be hardly imagined as a cultural resource for universal cultural development because of the communist regime which totally censored the Romanians access to the global and universal popular culture and music, promoting only the local and national music without aiming it as a cultural background for development. In this regard, in communist Romania for decades music and, particularly popular music was only a mean for local and national entertainment for Romanian people with domestic and national artists being on the national scenes and on the poor media channels of that times, particularly radio and TV with the latter also being to a large extend dedicated to communist propaganda and not to the people which frequently sought TV as an instrument for its owns entertainment. During the Romanian communist times there where some attempts to bring the international music in the country but soon these endeavors were sopped. Avidly thirsty for universal and global music with its 80s legendary global and international artists and looking for live performance and to meet their music idols, Romanians were privileged after 1990 by the presence with outstanding popular music singers coming in Romania to unveil their music to a people which, for decades, was not allowed to consume occidental musical values.

A key moment remains the presence of the legendary Michael Jackson in concert in Romania in 1992, a time considered a certain step of Romania to normality [13], and the year of 1991 when the first international pop music festival was designed encountering a massive success by the Romanian audience and fans. These two stances however unveiled that Romania as a geographical place of music, together with its cities and towns could be a certain music scene for all those who cherished popular music and therefore, this reality could certainly turn to the music usage as a cultural resource for development through the music tourism. The post-socialist Romania, through multiple, diverse and complex musical events demonstrated that musical and popular music culture could be a certain avenue through which music tourism could be not only built or designed but also seen as a key tool for both the urban and cultural development of some places and of Romania in its whole. Iconic and emblematic tours, concerts, festivals and spectacles argue this statement, and from this perspective, this paper explores how music tourism emerged in Romania in the last three decades from an incipient and shy demarche to the contemporary astonishing festivals, which attract people from all across the globe, proving that music tourism has to be considered both in local agendas of development as well as, used as a platform for the national cultural identity promotion at the various international scales. Considering this, the paper is structured as follows: first, a theoretical section is designed to unveil the major concepts and theories, which considers music as an integral part of the present development of places and communities with music tourism being an important economic and cultural activity; second, the methodological flow of the research

unveils the main used methods in the study for in the third part of the paper, the results and discussion providing the main aspects of music as a representative tool in building music tourism in Romania as an avenue for the present development through and by music with circulates in every environments from digital to physical one.

2. MUSIC AS A CULTURAL VALUE, TOURISM, TRAVELING FOR MUSIC AND MUSIC TOURISM: A THEORETICAL APPROACH

In some previous personal works authored in the latest years, being largely inspired by relevant exceptional papers signed by various outstanding scholars with relevant scientific interests on music geographies, I mentioned that music is an important cultural trait, norm and value for all the people, for all of us and for all communities, because music is a part of our lives and each of us often use music in various ways in our daily lives, listening to music according to our preferences and to our individual musical tastes which define our personalities from individual/particular to collective tastes of communities, and using music in various backgrounds and important events of our lives. This is because music represents “an integral part of the human experience” as Johansson and Bell (2009, p. 1) [14] argues. In terms of geographical analysis, music represents a central aspect because it makes sense to our lives, identities and the cultural reproduction. It is not about the place, space and time in approaching music issues, but it is also about the music as a cultural norm and an economic resource, which could lead to the communities’ development. One of the most relevant scholar which set music in a central position in the contemporary geographic academic debate is Kong (1995, 1997) which objectively argues that music plays an important role in our lives and societies so its study in geographical approaches represents a legitimated action in the contemporary geographies of our communities. It is because the multiple geographic trends of music which could be studied unveil multiple stories of a place, multiple cultural meanings and, of course, diverse economic questions which in the latest decades largely captured the scholars’ attention. In the mentioned trends, there are pointed out the issues of culture and society, the analysis of symbolic meanings, the music as a cultural communication, the cultural politics of music, the cultural politics of music, the musical economies and the music as a mean of the social construction of identities [15, 16].

These trends unveil that music is not only a hobby, being more than that, strongly being connected to the power and the politics and to the social construction and the reproduction of spaces and cultures; music is a process and a way to see and perceive the world [17]. Furthermore, music is legitimately connected to the power and represents an economic resource, being a part of the cultural heritage of places and of cultural identities of different communities [18]. In this respect, related to our global flows and with the contemporary movement for music and of music, it reveals the global culture production and the consumption of music [19, 20], with people traveling all over the world to connect with various types and musical genres as well as with different artists for which it develops a strong attraction based by their music and performances. In their turn, the artists and musicians play an important role travelling in order to share their music, talent and performances with different audiences from the world over. Consequently, the “mainstream musicians helped to construct subvert, and circulate meanings associated with travel” [21, p. 730]. From a spatial perspective, with popular music being a cultural form deeply rooted in space and place, it tends to turn into a circulating value generating the appearance of a new niche tourism form as music tourism. The latter unveil that “people travel to places to experience a particular kind of music in its proper context or to experience a meaningful personal connection with musical landscapes” [14, p. 49]. It involves both nostalgia and emotions evoking the process of visiting different places for music [22]. “Whether associated with classical or popular music, or linked to visits to places of performances (such as opera houses), places of musical composition, places enshrined in lyrics (...), places of births and deaths (...) or museums, grew in significance in the last decades of the 20th century. It has shaped distinct patterns of recreation and tourism, transformed some places, become a valuable source of income generation, and reshaped memories and identities of music and musicians” [23, p. 9]. From its classical forms, to the contemporary impressive and spectacular forms of iconic shows and concerts, music tourism became a tourism phenomenon arose in all regions of the world involving different and various music genres and various artists attracting people for unique experiences. Music tourism is an integrative part of cultural tourism involving music as a new reason for traveling and entailing social, economic, cultural, environmental and political aspects which highlight music as a distinct part of various travel experiences [23].

The social context is built through the construction of specific music communities of people cherishing the same tastes for music and the common preferences for different artists, thus generating relevant audience and large communities of fans in different parts of the world, which considering their possibilities, they had the chance to travel in order to meet their favorite artists and to experience their preferred music. Then, the social perspective could be approached as a social reproduction of the musical tastes and of the artists’ relevance in the musical landscape generating social and cultural groups of people, which resonate at unison towards specific music and artists. The economic background is also notable, since the music consumption through festivals, concerts and outstanding shows directly contributes to the local development and economic progress of a place or a certain city. Frequently large

festivals and outstanding shows are organized either in small and medium sized municipalities/communities in order to contribute to their economic development and cultural promotion, or in large emblematic cities which have certain resources to support music tourism, thus enhancing their cultural visibility and identity.

The cultural aspect of music tourism can be approached through the lens of music as a cultural norm and value often associated to the local identities or to the global cultures. The environmental perspective is also a complex question, when it comes about the music involvement, but the most important attribute of this issue remains the local generated landscapes made and framed by music and through music. In this regard, cities turn to real music scenes with certain and unique musicscapes [24-31]. The cultural landscape of a city, with no single doubt, is changed through music tourism when festivals and large music events are designed and organized in certain cities. The political aspects of this tourism niche is largely argued by various scholars and portray the close links between music and the various political contexts. There are multiple cases when music remains a central mean for political promotion, largely used in political campaigns or, on the contrary, the historical background of some regions and places unveiled that music and some genres of music could be censored according to political reasons. All these are questions which have to be considered when it comes the tourism development through music tourism which has to be carefully built in order to advance new avenues for local development of places and for the local urban marketing using music as a relevant resource for people and tourists. Musical landscapes of the cities as sites or destinations for tourists are also an important topic for academic inquiry and scientific research because they are places illustrating creativity, the music and musical events production, places of musical performances [23], places of musical preferences and common tastes for specific musical genres or artists and venues for festivals, live-performances, concerts and musical tours. In this regard, music tourism addresses different types of music from the spatial perspective. First, local music frequently associated with indigenous culture and musical practices attract tourists interested by specific and frequently isolated communities which largely are untouched by the global flows of our contemporary times. Small ancient communities located in particular areas in underdeveloped and developing countries could be a veritable sample.

Then, the national music of different countries could frame emblematic venues for national concerts and domestic musical performances of national artists promoting the national identities, the natural cultural traits transposed in music and through music. Language and music lyrics are vectors in cultural diffusion of the national cultures of countries. By far, maybe the most representative and iconic places of music remain the venues for large festivals, massive concerts, tours and live performance of iconic and legendary artists from Elvis Priestley and Sinatra to passed away singers as Michael Jackson or Whitney Houston songstress and to the present legendary artists as Ed Sheeran, Metallica, Taylor Swift, Lady Gaga or Céline Dion, to name only a few. Cities as Las Vegas, Nashville, San Francisco, Paris, and London remain outstanding venues for musical events [32], which annually attract an impressive number of tourists in order to live and practice great musical experiences. Consequently, music tourism has to be focused on all these types of music which connect the cultural values of music to certain places and spaces. Nowadays, the global music plays an important role in the music tourism aspects involving multiple facets which have to be depicted in order to understand both the tourists' practices as well as the music meanings, which determine people to travel often to distant places. The audience, in this respect, is an important vector in music tourism because it frames also certain social and cultural groups of peoples with common tastes for specific music and artists connected in our global times in universal communities and specific music landscapes, in particular urban places where they gather together resonating at unison with a specific music genres or artists. The geographical location of music remains important in the scientific background of music tourism because music venues for people and tourists often framed important touristic destinations. On the other hand, both the world cities and provincial cities remain important venues and destinations for music tourism, thus becoming real places of music, either they are locations for important musical events, birthplaces of outstanding artists of music, places of musical heritage or places for music production [32]. Consequently, they are also relevant locations for music industry which together with music tourism highlight the music importance in the contemporary economies development through cultural values and traits, under the present umbrella of globalization [19, 25, 33].

Music tourism become, therefore, an instrument of development strategies within local economies to ensure new paths for economic growth providing critical questions on how music can shape and design places in order to sustain the local development through music tourism [23] since music represent an 'universal cultural expression' [3, p.3]. The local music policies through the lens of the place-based cultural policies can contribute to the local economic development of places through music [19], considering the places and the cities as sites as landscapes with specific sounds and affects, as music scenes with particular musicscapes which frequently illustrate the people demand for music [33, 34]. In this respect, "music and tourism have come together to define the attractiveness of specific places" [22, p.188] where musical events are organized and addressed to a wider audience. Music festivals remain perhaps the most important cultural and musical events that attract a large number of people and tourists. In this respect, popular music festivals also should be mentioned here, because mass music and the popular music culture remain by far one largely embraced by the side of people and communities. Beyond their cultural meanings and the sense of

music consumption through the lens of various tastes for different music genres and for various artists from local to the global pop music stardoms, music festivals represent important opportunities for local development of places, for social progress and also for social inclusion, thus ensuring the cultural cohesion at different spatial scales [35].

Music festivals and particularly pop music fests are also relevant cultural manifestations which attract the local planners' attention since they could be successfully used as tools for local urban and cultural marketing, enhancing the cities and towns development as well as the communities' growth in economic, social and cultural terms [36, 37]. All these are closely related to the festivals typologies and to the people motivations which seek to attend to a certain festival [38, 39]. This is because beyond the music consumption, the attendees also are involved in different touristic activities which in their whole contribute to the local and regional development [40, 41], the latter activities of tourists which attend to popular music festivals ensuring the commercial success of these music festivals [42]. Even though these features frequently fit to large urban habitats as world and capital cities, metropolises and regional cities, such practices and experiences using music and pop music festivals are welcomed in provincial cities where these cultural activities represent a creative work for the local development [43] turning small and medium-sized municipalities in creative cities with a relevant potential for further development. Musical events, therefore, appear as instruments and activities for local development contributing to the local economic progress, to the cultural representations of local cultural identities and to the local, national and international initiatives for using music as a valuable resource in developing and promoting musical tourism and in regenerating certain areas and communities. In this regard, between popular music, music events and urban regeneration a close connection is established as well as between music and the built environment [1]. Furthermore, between live music, which represents the central cultural act of the contemporary musical events regardless of their type or musical genres, and the urban landscapes, urban life, urban cultures and urban experiences multiple relations appear because the circulation of music and live performances with live music being embodied in the urban environment remain a significant part of our material culture and material environment and spaces [29].

The music culture and the urban life unveil that sound inhabit the city [44] and this truth argues that music represents an important cultural trait of both the cities and the contemporary urban geographies [45] with popular music being in a central position for framing and reframing specific policies for urban regeneration and cities reimagining [46]. All these aspects concerned on pop music festivals, legendary concerts and live performances are the main factors which highlight the importance of music tourism in our communities, in our lives and in our cities, with popular music and its agents being the main cultural resource which could be used in the contemporary social, cultural and economic development of different places and spaces. Against such a background, the study focuses on the most important cultural events of popular music in Romania, through the lens of music tourism, which has to be considered and reconsidered, built and rebuild as a real phenomenon for urban identities. Considering the main and representative musical manifestations in Romania with significant potential to be approached as a touristic resource, this study unveils in the next section some relevant aspects of Romanian music tourism using music festivals and concerts as cultural attributes of places, which could build the music tourism as an important resource for the social, cultural and economic development from local to regional and national scale.

3. STUDY AREA, METHODOLOGICAL FLOW OF THE RESEARCH AND THE GEOGRAPHICAL LOCATION OF MUSIC

Romania is an Eastern European country, largely dominated by communist regime until 1990, a historical political context which did not allowed popular music and particular popular music and its related cultures to be consumed by the people. This is because of some certain fears that popular international music could represent both a way and a mean of people revolt. However, during the communist regime the national music enabled people to travel in Romanian cities to a reduced extent. Largely, the international popular music, especially American and West European music was politically censored as well as strict restrictions were designed to not allow the large masses of people to gather, which under music euphoria could generate political protests. An attempt to counter this reality was the appearance of the International Golden Stag Festival in Brasov back in 1968, a similar music festival as San Remo from Italy was, which few years later in 1971 stopped for good from the above mentioned reasons [4] leaving room in Romania only for national music and its related cultural events – music festivals with national audience. From this perspective we can discuss the evolution of musical events and music tourism through the lens of three separate layers of time: the communist one – framed by national popular music and small festivals with domestic audience, the post socialist times which marked the first contacts with the Western popular music generating a real music euphoria and the contemporary period, when large international festivals and concerts mark the Romanian cities. Regardless of the period on which we refer, the most important musical location remain significant places for both the music events organization and for people and tourists interested by different music genres or specific artists. The old cities with important music festivals are Constanta, Brasov and Bucharest (Figure 1).

The first is an old city dating back to antiquity and emerged as an important economic and touristic city based on its location in a coastal area with a wider opening to the Black Sea. The coastal resort Mamaia as a distinct part of the city became the hearth of the first most important domestic festival held in Romania. The second, as a medieval urban settlement is also an important touristic city located in the inner-core of Carpathian Mountains. Both of them, however, argue the close connection of musical events and festivals with the local tourism potential of some Romanian places. With no single doubt, the third as the capital of Romania remains iconic for multiple music events, festivals, tours and concerts since it is the most important Romanian city in terms of the local urban infrastructure, of the cultural and touristic potential and of the economic development. In the present days it remains the most important venue hosting iconic concerts and emblematic spectacles belonging to the global and international tours of the contemporary outstanding artists, singers and musicians. It is not only a venue for popular music culture but also for music events in which classic music or folklore acts as a central cultural form of manifestation. These are the first three important venues for people and tourists in order to face with Romanian singers and with national pop music culture. In the last decade, other important cities joined hosting important music festivals which made them recognizable from the world over. Cluj Napoca is just an example. An old antique city, which marked the global musical map with its iconic Untold Festival. On the other hand, cities as Timisoara, Craiova and Iasi, all of them with medieval historical and cultural backgrounds become places where festivals of nostalgia and emotions were held highlighting the popular music culture of the 80s and 90s. They are also important Romanian cities and touristic venues but of them, by far, Timisoara marked the musical map of Europe since it remains the real hearth of anticommunist protests and the cultural hearth of the Romanian political communist regime breakdown which was also celebrated with and through music. *Pro Musica Band* remains an iconic sample in this regard [47], arguing that popular culture including here of course popular music, evoke the fall of the communist regime [48]. The post-90 period opened a new stage for popular music in Romania starting with the post-socialist dawn with international legendary artists performing in Bucharest, of which, Michel Jackson being perhaps the most important singer which would opened in 1992 the appearance of large and impressive concerts and live music performances, the starting stage for various international artists, which would come in Romania to meet their Romanian fans and, of course, the incipient forms of (perhaps) unofficial music tourism, since all these stances determined people to travel in order to meet both their preferred music and their music idols after decades of political censorship on music and on the pop music culture.



Fig.1: The most representative geographical locations of music in Romania: the places of music events, concerts and festivals (the source of map <https://www.homeplus.ro/cumpara/harta-romaniei-razuibila-model-deluxe-large-59-4-x-82-5cm-tub-si-726>, online accessed, September 2023)

The geographical location of music and its related events are close connected to the national historical backgrounds, to the political reasons and to the touristic backgrounds of the Romanian cities. From nostalgia and past emotions, to international entertainment through music, the present study is based on several methods. Literature research and the study of the available online resources were the main sources of documentation in order to portray the evolution of music events and music tourism in Romania. Then, participant and ethnographic participatory observation developed in several cities (Brasov, Constanta, Bucharest, Amara, and Timisoara) which are venues for important music festivals and outstanding concerts allowed to frame the most important aspects which could contribute to the music tourism development in Romania. For understanding the true impact and the reality of the festivals and music concerts a

selection of videos were critically examined via YouTube, since this online channel remain an important research tool being largely recommended in the contemporary qualitative research [49, 50].

4. RESULTS AND DISCUSSION: FROM MUSIC CENSORSHIP TO MUSIC EUPHORIA IN ROMANIA – BUILDING MUSIC TOURISM THROUGH MUSIC FESTIVALS, LIVE PERFORMANCES AND OUTSTANDING CONCERTS

4.1. Music festivals and musical events in communist Romania

As it was mentioned above during the state-socialist stage the political regime of that times in Romania largely controlled all the music when it comes about the national artist performances, the music messages shared to the audience, the spectacles, shows and concerts as well as the music festivals which largely were designed at the national, regional and local scales. It was impossible to imagine at that times large musical events with an international participation both from the side of performing artists or of the audience. Two music festivals remain emblematic in Romania until 1990. They are the national festival of pop music Mamaia held in the sea resort with the same name near the city of Constanța and the Golden Stag Festival, which run between 1968 and 1971, the second being an international music event which suddenly appeared as a political will and in the same abrupt manner it come to an end in 1971 [4]. The first one started in 1963, its main objective being the Romanian pop music promotion at a national scale. It was initially designed as a pop music creation one, with further developing multiple artistic sections. In 1976 it was interrupted for being relaunched in 1983 and it run until 2012 [51, 52]. It was a very successfully musical event which retained the attention of a large national audience at that times, and it also was the most important pop music event in which Romanian artists were addressed through music to a large audience. The music tourism at that times was a touristic form which combined the summery tourism with artistic and music activities. The festival audience, included largely only Romanian people. During post-90 times the festival encountering a continuous decline and in 2012 it come to an end. Perhaps one of the main reasons in this regard was the general decline of old popular music performed in Romania in the face of the international pop music which was strictly censored in Romania until 1990. The new musical tastes of the people, the contact with occidental music (Western European pop music and American one – disco, Eurodisco, dance, Eurodance, techno, rap, hip-hop and house performed by legendary singers or bands), the appearance of a new music generation could be several reasons for explaining the festival decline. In 2012 it stopped for in 2023 to be relaunched as an anniversary edition [53] (Figure 2). The festival was and still remains an emblematic one for the Romanian music pop culture and it could revive enhancing the music tourism through the lens of the Romanian popular music, since by its name and evolution, the most representative Romanian singers and artists are connected regarding their artistic careers [54]. For the state-socialist period this festival was the most important in the context of the national popular music production which sustained the national artistic background through domestic music performed by outstanding Romanian artists and singers.

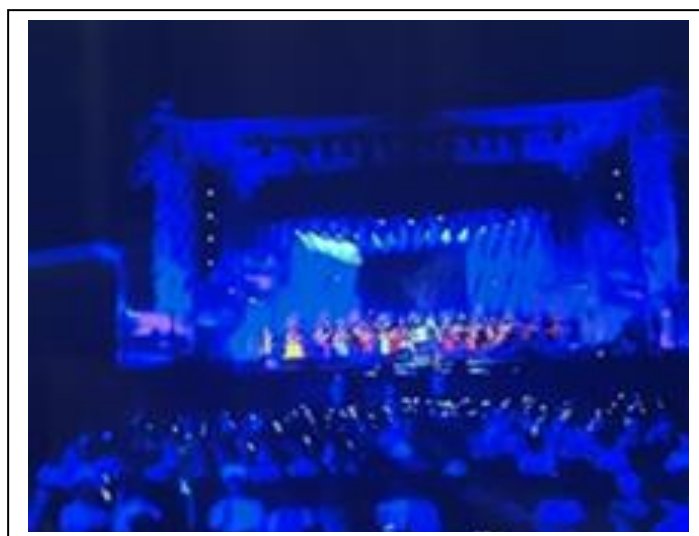


Fig. 2: An image of Mamaia National Festival musicscape at the anniversary 2023 edition (Source: author, 2023, picture taken from TV live transmission)

A similar way with ups and downs fit to the Golden Stag Festival, which was created in 1968 as a political will to illustrate that Romania was an opened country to the cultural and artistic European values. It brought together important artists of that times from Western and Eastern Europe and enhanced, perhaps, some incipient forms of music tourism at a national scale as the previous mentioned national festival generated, considering the spatial music movement through the lens of artists traveling for performing and of the people which attended to these festivals. To the Golden Stag Festival which suddenly was stopped in 1971 attended important European artists from UK, Portugal, Austria, Belgium, Czechoslovakia, Bulgaria, Italy, Finland, Poland, Switzerland, Germany, Spain etc. and outstanding artists as Julio Iglesias, Caterina Casselli, Amalia Rodriguez, Cliff Richard, Dalida etc. performed in successfully music recitals(concerts). In all, it was an international European musical event with positive echoes all through Europe [4, 55] An important aspect arises in terms of the places of music, with the musical events being organized in some of the most relevant touristic sites of Romania, in particular the city of Constanța and Mamaia resort renowned for the summer littoral tourism, through its openness to the Black Sea and the city of Brasov, the most significant Romanian city for mountain tourism, the city being placed in the very heart of the Romanian Carpathians. In addition, the Romanian capital Bucharest, as the most important metropolitan city of the country was the place for important musical events with most of them being organized under the National Romanian Television involvement and coordination. This media institution (Figure 3 and Figure 4) was the most important organizer for most, if not all the national musical events at that times. It is the case of the Annual Festival of Melodies (Melodies, Melodies Song Contest) with an important tradition during the state-socialism which reflected the national identity of Romanian pop music. It was an event of music creation and production and sought to promote the national musical values and it was held at the Place Hall from Bucharest (Figure 5) [54]. In the context of music, this venue has an interesting signification since it is closely related by the Romanian communist politics, because this entertainment place was also the place where the former president Nicolae Ceausescu held its political congresses unveiling that a place frequently associated under communism with the formerly political regime turned some times to a place of national popular music.



Fig. 3: The main studio of Romanian National Television
(Source: author, 2023)



Fig. 4: The Romanian national television Headquarter
(Source: author, 2023)



Fig. 5: The Palace Hall a place and venue for important musical events in Romania
(Source: author, 2023)

Cenaclul Flacăra (*The Spark Cenacle*) was another important and significant event during the communist times in Romania, being the most powerful cultural movement of the Romanian youths. Some sources pointed out that it was perhaps the most important cultural movement of this type of cultural acts from entire Eastern Europe and it promoted between 1973 and 1985, folk and rock music under the non-conformism umbrella. It was censored by the Romanian authorities because it promoted the liberty, the freedom, the aspects of free thinking and culture diffused through music and lyrics to the Romanian audience. Also this cultural movement was strongly opposed to totalitarian censorship. It is also pointed out that this cultural manifestation has more than 1600 representations that brought together more than 6 million of people and after 1990 it continued with about 1000 spectacles [56]. Besides, at the lower scale, many festivals and song contests of popular music were organized in other towns of Romania as for instance Slobozia, Călărași, Onești, Deva, Râmnicu Vâlcea or in touristic resorts as Amara. All these musical events promoted the national music patrimony and at different scales determined people to travel in order to attend this popular music festivals arguing in an incipient form of manifestation the music tourism appearance even though this music form was not designed in particular ways. The travel for music consumption will continue to expand after 1990 when international music largely penetrated in the very post-socialism dawn the Romanian borders, after decades of censorship.

4.2. Music festivals and iconic tour-concerts in post-socialist Romania and the present day. From large outstanding festivals and concerts to musical fests of provincial towns

The post-90 period under the new openness to the European cultural, economic and political values was a stage when Romanian people largely came in direct contact with its preferred artists and music. A time when global and international artists had the chance to come in Romania and to perform for Romanian audience and for their Romanian fans. The first important musical event in this regard was International Festival of Popular Music Bucharest, organized in three editions during 1991 and 1993. With both a positive and negative criticism at that times this Romanian international festival created the opportunity for the Romanians to see live for the first time legendary international artists as, among others, Boney M., Al Bano and Romina Power, The Gibson Brothers and Sandra, Boy George, Bonnie Tyler, La Toya Jackson, London Beat, Jennifer Rush etc. [57] It was a wonderful and unbelievable background for the Romanians to see their idols live, for which people from different parts to Romania went to Bucharest to meet and see their preferred artists.

Another key post-socialist moment for the popular music development in Romania in connection with people as popular music audience, tourists and tourism was the outstanding concert of Michael Jackson held in Bucharest in 1992. It generated a massive euphoria in all Romania and will remain an emblematic moment for the music culture in post-socialist Romania. Furthermore, in a context of ambiguous political transition of the post socialist dawn and of the close connection between music and politics, an interesting aspect was the moment when Michael Jackson welcomed Romania and Romanians from the Parliament Palace balcony (Figure 6) [58] a place ardently desired by Nicolae Ceausescu to be used in order to address to the Romanian people. Considering the communist breakdown and the collapse of the totalitarian regime Ceausescu had not the chance to address to Romanian masses because of the Romanian anti-communist revolution from December 1989. In this respect, however, we could argue that music as a cultural norm and value has the power to break all the borders from time to space and from censorship to political totalitarian regimes. This site remains a symbolic and representative one, the more so as its front public place named the Place of Constitution where multiple musical events are organized. Furthermore, this building represents an

important touristic attraction for foreign tourists. After these musical events appearance an impressive number of festivals and concerts were organized in Romania, The Golden Stag Festival in Brasov was relaunched with several breaks and the pop music Romanian Festival Mamaia continued till 2012.



Fig. 6: The Parliament palace as the emblematic site from which Michael Jackson addressed to Romanian people in 1992; in the front part of it the Constitution Place is an important venue for organizing large musical events and concerts (photo taken by the author, 2023)

A large number of concerts as individual performances or parts of international tours of the greatest legendary artists of all times were organized in Romania after Michael Jackson live performance from 1992. The artist returned in Romania few years later with a new concert and other artists and international bands performed in front of the Romanian audience. We cannot name them all, obviously, but Metallica, Scorpions, Belinda Carlisle, Alan Walker, Dr. Alban, Modern Talking etc. or recently Bonnie Tyler are several names in order to portray different pop music genres from pop to rock and from disco to dance. Against such a background, and related to the mentioned political aspects related to music, we can mention here The Scorpions (Figure 7) which remains perhaps the most emblematic music group highlighting the communism failure through their global hit *The Wind of Change*. Countless concerts, festivals and musical events followed unveiling that Romania could be a fertile background for both music consumption and music tourism. Legendary international artists performed in music recitals in different festivals, of which we can mention The Golden Stag which framed a unique musicscape in the city center of Brasov through an imposing stage (Figure 8) surrounded by old architecture and the beautiful landscape of the neighboring mountains.



Fig. 7: The musicscape framed by Scorpions in concert in Bucharest Romania (photo credit: Dr. Ramona Ivan)



Fig. 8: The Golden Stag Festival stage from Brasov City (photo taken by the author, 2018)

After three decades from the communism breakdown, based on a significant musical background and on a valuable Romanian music patrimony grounded in the past, music remains an important cultural and touristic resource which attracted people to share their common tastes and experiences for and through music. New important festivals appeared and large concerts were organized in Romania. Alongside with traditional festivals as Mamaia and the Golden Stag Festival, new festivals and live concerts appeared in the last decade excepting the pandemic times. It was a global breakdowns of music events which largely altered not only music, but also tourism and the musical tourism. Countless artists had to postpone or to definitely cancel their tours and concerts. It was the case of Romania where, for instance, amongst others, one of the most representative global artists Céline Dion which scheduled for the first time a concert in Romania has to postpone her concert as part of the artists' global tour Courage (Figure 9). This iconic and legendary artist would have been for the first time in Romania, largely expected by a large community of fans as well as the concerts as part of this tour would have been for the first time in several countries from this part of Europe. The concert was repeatedly postponed and then cancelled for good. After the pandemic breakdown the concerts and festivals were relaunched to a larger extent and Romania became again a fertile venue for multiple musical events at the international scale. Festivals as Untold, Summerwell or After Hills, promoting new popular music and generating both new muscscapes and soundscapes appeared and were organized, attracting a large number of domestic and international tourists from all across the Europe. This unveils that this new type of festivals are strongly demanded by the people and consequently contribute to the music tourism development in Romania.



Fig. 9: A sample of a concert ticket at the Courage World tour of Celine Dion scheduled for the summer of 2020 (source author, 2020)

Untold festival is, perhaps, the most representative in contemporary Romania. The festival started in 2015 in the city of Cluj Napoca which was awarded at that time as the European Capital of Youth and the first edition had an audience of 60000 participants in each day. Since then it was continuously held with a break during the pandemic

times and in every edition it brought together tens of thousands of participants from Romania and abroad. If the first edition was based on a budget of about 6 million Euro the 2019 edition disposed by a budget of 26 million Euro, with a total audience of about 372000 participants. On the festival scenes performed the most important artists of the contemporary period which are placed in the global music mainstream in the context of pop culture based on dance, techno, and trance or house music. In 2015, the festival was awarded as the Best Major European Festival, a significant distinction for such a musical event organized in Romania. From representative artists which performed on the festival scenes, selective we can mention Avicii, David Guetta, Armin van Buuren, ATB, Robbie Williams, Tiesto, Scooter, Afrojack etc. in all very cherished artists by the teenagers [58-62] but not only whose performances and music generated euphoric and overwhelming muscscapes and soundscapes. Currently the festival is on the 6th position in a global chart of top 100 festivals [63], a significant position (Figure 10), which objectively argues that such music events are both on demand and have the power to contribute to the cultural and economic development of the places and cities.



Fig. 10: Untold Festival on the 6th position in Top 100 festivals (Source: www.facebook.com, online accessed September, 2023)

Other relevant festivals in the same vein are Summer Well held in Bucharest, After Hills organized in the city of Iasi and Nightwish, all with a highly resonance in the Romanian musical landscape and with important economic development impact in local cultural and economic development of the cities.

A specific music festival with a unique muscscap of disco-dance music, which strongly remind about the 80s and 90s popular music culture and tends to rapidly develop both in Romania and in the cities of Eastern European Countries revealing deep feelings of nostalgia and lived emotions in the past is Dikoteka Festival (Figure 11 and Figure 12). Its specificity stands on the fact that cherished artists of the past as outstanding representatives of pop music culture of the 80s and 90s performed in Romania and in countries of Eastern Europe they being, as it was mentioned censored in Romania in the 80s. In this regard, their devoted and enthusiastic fans but not only, are so excited to see the artists of their youth. Artists and bands as Modern Talking, Sandra, C.C. Catch, Fancy, Bad Boys Blue, Snap, La Bouche, and Mr. President etc. (Figure 13) are only just few names mentioned in the contemporary music landscape of Romania reviving the pop and disco music in the unique Diskoteka festival held in different Romanian cities as Timisoara, Cluj Napoca, Bucharest or Craiova.



Fig. 11: The musicscape of Diskoteka Festival organized in Timisoara in 2019 (source and photo credit: Dr. Ramona Ivan, 2023)



Fig. 12: The central festival point of Diskoteka Festival placed in the city center of Timisoara (photo taken by the author, 2019)



Fig. 13: Diskoteka Festival poster advertising the musical event and the artists which performed within this festival back in 2019. (photo taken by the author, 2019)

Beside these major festivals, large concerts and live performances as well as other impressive musical events, countless cultural manifestations in terms of music fests are frequently organized and held in many cities and towns of Romania occasioning different local fests and celebrations. The music festivals organized by Romanian MTV, ZUTV or Radio ZU, Europa FM Radio, Magic FM Radio etc. or other music events organized by different media institutions are also representative in the national background of Romania. Music represents the major cultural value which frames all the celebrations of different communities contributing to the music and cultural tourism development. In this regard, occasioning different celebrations and fests at the local scale, the cultural events using different types and genres of music characterize countless cities and towns (Figure 14). Fests and celebrations as the anniversary moments of some places, towns and cities, celebrations of different anniversary moments in terms of local cultural identity aspects (religious, cultural, economic, historical, social, political etc.) are often reasons for organizing various musical events and local festivals which, through the invited artists, could attract a large audience at a local and regional level. The cities and towns fests are frequently celebrated with and through music, regardless of its types, forms or genres which are addressed to the local masses and to the local and regional audiences. This is why during these fests the cities and towns are tailored made places using music as a vector of both celebration and communication revealing specific musicscapes and soundscapes closely related to their cultural identity. Often the latter is celebrated by people in different ways, with music festivals remaining the central attractions of all these local celebrations. The artists which perform in these festivals promote the national music patrimony they being significant and renowned singers or bands in the landscape of the national pop music backgrounds of a country. In addition, other local and regional artists from neighboring countries could attend to the delight of participants but these local festivals always make use of outstanding and cherished artists from Romania.



Fig. 14: A picture of a local music festival held in the municipality of Lugoj with Holograf Band, an outstanding Romanian Rock band, performing in the front of a local large audience (Source: photo taken by the author, 2019)

From largest cities to medium-sized municipalities and small towns and from imposing musical events to local festivals, Romania remains an important venue and a significant country when it comes about the music and music tourism. The above discussed musical background focused on the pop music culture is also enriched by other significant festivals, music concerts and events with other music genres as folklore and classic music. This aspect argues that Romania has an impressive number of musical events which together with the national music patrimony provide a significant opportunity for music tourism development, which, of course, sustain the local, regional and national development in terms of economic and cultural perspectives. Music and tourism could shape new forms of music tourism in order to make visible both the Romanian cultures and its cultural background so evident in the cities and towns landscapes. These aspects have to be taken into account in order to design new policies and national, regional and local strategies to use music as a cultural resource and the music tourism as an economic activity which directly contribute to the local, regional and national progress in terms of both economic and cultural paths. Furthermore, yet some renowned location for music performances could be addressed as traditional locations for future musical events regardless of their type, music genres and addressability.

4.3. Building music tourism in Romania

With a music censorship for decades until 1990 which rapidly was replaced with the music freedom after 1990, through the above mentioned aspects related to music and tourism, Romania demonstrated since the earlier dawn of post-socialist times that it is a fertile place with a productive background for music tourism. This argument bases on the first musical events organized in Romania and by the outstanding concerts and live performances of legendary global artists, musicians and singer which choose this country as a properly place for their concerts, considering the Romanian audience as a worthy public which fully deserve their music. The musical events development after 1990 was undouble close related to the national music heritage, to the national music patrimony and by the national passion for music and for music consumption. This statements stand on the national music background of Romania with relevant national and international pop music festivals developed under the state-socialist regime even they encountered different syncope or supported major interventions of censorship. Romania prove that it could be a place where music, as a cultural resource, could be successfully used in order to sustain economic development, cultural tourism and music tourism. A randomly glance at the various legendary and global artists, bands, singers and musicians unveils that almost all important international artists and pop-stars scheduled, established and sustained concerts and live-performances in Romania either they are individual musical events as parts of global tours, or recitals within different outstanding music festivals and Romanian song contests. In this regard, such concerts and music performances illustrate also the audience demand for different genres of music and for specific artists and this increasing phenomenon, directly or indirectly, contributed to the music tourism development from incipient forms in the early dawn of post-socialist Romania to the present days, when complex musical events tends to became musical phenomenon themselves. As we observed, the major locations for all the festivals, concerts, tours and live

performances remain the major cities with Bucharest so far being placed on the first position followed by different cities as Cluj-Napoca, Timisoara, Brasov, Iasi, and Craiova etc. Then, provincial cities remain important music locations when it comes about local and regional festivals close connected to local communities' celebrations. Places and sites as National Arena, Romexpo, The Constitution Place, The Romans Arenas, The Polyvalent Hall, The Palace Hall, The Romanian Athenaeum all from Bucharest, Cluj Arena, from Cluj Napoca and countless urban large squares and places which support the development of a musical event argue that Romania disposes by a grounded infrastructure for this type of musical spectacles even at a large or impressive scale with thousands of people attending. In terms of geographical place of music in Romania we can distinguish beyond the capital city and the major regional cities, urban settlements (Constanta) located in the Black Sea area (as a region with a massive touristic potential), or in mountain areas with a significant mountain tourism potential as Brasov city, or in Transylvanian hills area as the case of the city of Cluj Napoca is. Then some relevant touristic resorts remain important in the festivals and musical events presence as touristic resorts located in the coastal area (Mamaia, Costinesti, Venus, Saturn, Mangalia etc.). Considering the historical background of the cities and towns, festivals and concerts are designed in old cities of antiquity (Cluj Napoca, Mangalia), in medieval cities (as Bucharest, Brasov and Iasi) or in the new resorts as Mamaia, Costinesti etc.

Then, Romanian music industry development with music production houses, music entrepreneurs and companies advertising and music management institutions often close linked with the international ones, is responsible for music tourism development and for the contemporary progress of all music events and musical manifestations. The music events which took place in the last decades of Romania argue that music could be certainly a cultural resource which could be largely exploited through the lens of music tourism in favor of the national audience demand and expectations but also in favor of the local economic and cultural development of the cities and regions. This is why music and music tourism have to be considered on the local agendas of various decedents in order to use this resource for local and regional development of communities, framing, therefore, fruitful backgrounds for new policies on local, regional and national development through music and its related features, resources and economic processes. On the other hand, an important aspect remains regarding the music genres and types which define the musical events framing specific identities to different festivals, concerts and live-performances. The most important genre which sustains the contemporary musical events are represented by the pop or popular music culture even here we can refer on dance, trance, house, techno and electronic music, or to disco, Eurodance or Euro disco as part of a times of nostalgia for the Romanian people. In addition, we cannot deny the cultural significance of Romanian classic music or Romanian folklore, with all these music genres contributing to both the development of important national and international musical events as well as to the music tourism development.

In this regard, music tourism development could certainly represent an avenue for future social, economic and cultural development of different places of Romania especially if we consider the music industry development at the national scales and the touristic development as an economic activity. In the touristic portfolios of many tourism agencies we can find offers which sustain and encourage the music tourism both at the national and international scales unveiling that this tourism niche represents a really opportunity for economic and cultural development of places. Then, music tourism is both an activity and a process which sustain the local development through urban and cultural regeneration of the cities and towns. These realities are legitimated truths since Romanians remain large music consumers and they are interested in participating to different musical events and especially when it comes about large and important national and international festivals or to the outstanding concerts of the global artists which are successfully included in the musical international stardom. From these large spectacular events which frame euphoric muscscapes and soundscapes in different cities, Romanians remain significant consumers of domestic and national music being present and showing their interests in participating to local music events.

The musical tradition of a national is also emblematic in line with the music tourism development. From the old Romanian pop music festivals of the 60s, 70s and 80s to the contemporary thrilling and electrifying landscape of contemporary spectacular festivals, Romania demonstrated that it remains a country with an impressive potential concerning the music employment for entertaining the public and the audience and represent a country with multiple opportunities in this regard. On the other hand, the spirit of nostalgia towards the old pop music, when political censorship oppressed both the access to international music and the global music consumption, this represents an opportunity for ensuring the national success of different cultural events which bring in the spot light outstanding artists of the 80s and 90s popular music culture. This is proved by the general triumph of Diskoteka festivals which besides Untold and its related festivals promoting the new music, argue that music consumption, music demand and music tourism in Romania are a contemporary certainty which open new avenues for sustaining the music tourism development. Summing it all up, Romania is, with no single doubt, a fertile and promising background for music tourism development and the main findings presented in this paper claims for objective reflections and for new

research on this topic in order to unveil the complexity of all the features which frame the building of the music tourism at the national level and at the various national and international contexts.

5. CONCLUSIONS

This paper explored some aspects on the music tourism in Romania through the major musical events of pop music culture organized in this country and, on this bases, discussed several problems on how music tourism could address the local, regional and national development using music as both a cultural and touristic resource which could be further considered in order to develop the niche of music tourism. Music was always a cultural value, resource and norm for all communities and a mean through which people resonate at unison in line with its music preferences and musical common tastes. Music represented for Romania an important cultural value which was used in the Romanian cultural background since the communist stage but with a massive censorship towards international music. The first important festivals as Mamaia Festival and the Golden Stag Festival however unveiled some initial and incipient forms of music tourism because the Romanians travel to the places in which these musical events have been organized in order to live specific personal experiences through music consumption and to see their preferred artists, singers and musicians. Whether Mamaia Festival promoted the national popular music, the Golden Stag festival held in the city of Brasov brought on the Romanian scene important international artists at that times. Small festivals and local song contests completed the picture of the large festivals arguing the need for music consumption by the people. The political censorship led to an end of the Golden Stag Festival in 1971, but the people need for music remained and this demand was solved only through the lens of the national pop music with all international music of legendary artist of 70s and 80s pop music cultures being officially censored. Mamaia festival continued after 1990 the key moment of the communism breakdown and as a positive revenge assumed by the new post-socialist politics the Golden Stag festival have been relaunched alongside with other important festivals, musical events and concerts. An important aspect is represented by the presence of some emblematic and iconic artists in Romanian even from the earlier post-socialist dawn, providing an unexpected opportunity to see and to experience the shows of their proffered artists largely censored until 1989.

Once the international music penetrated Romania's borders, it seemed that domestic and national music encountered a significant decline in the face of the global pop music and in the face of the legendary iconic artists which now could be listened and seen by the Romanian audience, the Romanian public and the Romanian fans. This is why Mamaia Festival come to an end after 1990 and the Golden Stag Festival, after repeatedly ups and downs, also stopped providing perhaps much room for new festivals connected to the musical tastes and preferences of the young people. This is the background for Untold Festival appearance and for other related festivals performing pop music in line with the teenager's preferences. With impressive and thrilling music landscapes, soundscapes and musicscapes these festivals argue that Romania could represent a valuable music-scene and the music tourism development follow a positive path opening new opportunities for music consumption and the progress of music tourism niche. This argument is illustrated by the countless concerts of remarkable legendary artists of the world, of which the most important artists and singers performed in Romania even many times. For organizing such imposing musical events from the basic infrastructure for festivals and concerts Romania developed its music sites in order to successfully sustain large concerts, live-performance and festivals. Cities as Bucharest, Cluj-Napoca, Iasi, Constanta and Brasov have now the possibility to organize such musical events in their public spaces and urban squares as well as in specialized concert halls. Considering the geographical location of music, the most representative music sites as music-scenes for festivals and concerts are besides the capital city of Bucharest, large cities as Cluj-Napoca, Brasov, Constanta etc., they being older cities (antique or medieval) with a significant cultural heritage and historical background, being also developed cities in terms of their economic status. Furthermore, they are important touristic cities annually visited by thousands international and domestic tourists. But this musical atmosphere and the music landscapes in terms of music consumption by the people and tourist could be translated to other local scales with multiple towns being considered as music-scenes and musical venues for festivals and music events which mark local fests and celebrations occasions which people attend them and also visit these towns. Through all contemporary festivals, concerts, live-performance and spectacles organized in Romania and through the tourist's attendance to these events, the national and international background for enhancing the niche of music tourism is certainly argued. The Romanian music industry development connected to the tourism progress and linked to the contemporary policies and visions on social, economic and cultural development which could consider music as cultural universal value argue that Romania represents a fertile and promising country for a stronger development of music tourism. This argument could be grounded in the future through new studies in the field, since in this domain applied to Romania, a gap is still present. Consequently, new studies on Romanian music tourism have to be addressed and developed in order to

provide a critical background for fruitful academic debates. This study was only a starting point which selectively presented and discussed the main trends of music tourism in Romania and future research is needed. In addition specific case-studies on different musical events, the study on the Romanian music tourism in an international context, the music tourism impact on local, regional and national development, the music tourism as an urban regeneration process, the public demands for certain artists, music genres and festivals, the music connection to the local cultures and national identities, the global music flows in specific areas, the music industry involvement in music tourism development, the large festivals and public concerts impact on the local audience and cities are several questions on which the scholars of different backgrounds could be interested in order to provide new insights regarding the place of Romanian music tourism in an international context and how music tourism could be built in the future in order to contribute to the social, cultural and economic development of a place. Last but not least, music as a cultural and touristic resource and the music tourism represent new attributes for rethinking local, regional and national economic development. Therefore they have to be more than ever included in the local, regional and national policies agendas for ensuring a fertile background for considering music and tourism and, particularly, music tourism as a valuable instrument and process for communities' development.

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Notes

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Developing a Perspective towards Increasing the Market Share by Conducting Value Chain Analysis of Erdemli Plateau Tourism

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Abstract

Destinations that want to get one step ahead are trying to make a difference compared to other destinations. Unknown tourism types rather than known tourism types are generally the first method used. Eco-tourism has always been an area where a difference can be made compared to other destinations. Value chain analysis provides important information to the stakeholders of destinations about how best to increase the market share of that destination by examining the sectoral potential, sectoral demand and supply of destinations. The aim of this study is to conduct a value chain analysis of touristic elements in Erdemli in order to develop eco-tourism in general and plateau tourism in particular. For this purpose, Erdemli's touristic supply-demand elements will be determined and analyzes will be made to create a strategic marketing process. On the other hand, our study aims to analyze the value chain in order to identify the main activity areas of the value chain of Erdemli tourism and to determine its advantageous and disadvantageous situations compared to its competitors. The concept of value chain was first introduced to the literature by Michael Porter, one of the important researchers of strategic management. Concept maps of our study were created taking into account the model developed by Michael Porter. It is thought that it will play a very important role in determining the touristic value of Erdemli eco-tourism elements in order to obtain the value chain of Erdemli tourism and to identify service suppliers and sub-operations within the chain, and on the other hand, to determine the advantageous and disadvantageous situations within the value chain through comparative analysis.

Keywords: Value Chain Analysis, Plateau Tourism, Service suppliers, Competition, Market share

1. INTRODUCTION

Sustainable tourism approach, which envisages planning tourism activities according to economic, environmental and socio-cultural criteria; It reveals the basic rules that must be followed in eco-tourism, rural tourism, plateau tourism and many other types of tourism. If sustainable tourism principles are not followed, irreversible damage may occur during and after tourism activities, especially in natural areas. Plateau tourism is an environmentally friendly type of tourism within the scope of eco-tourism and has become the center of attention of local and foreign tourists in Turkey in recent years. Erdemli is a district of Mersin province and has plateaus with high potential for plateau tourism. These plateaus have emerged over the years as a natural result of the local people's desire to protect themselves from the summer heat and graze their animals in cool places. Although the local people have left their

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nomadic life to graze their animals, they continue to go to these plateaus to protect themselves from high humidity and heat in summer. The increase in people's income level has increased the interest in transhumance, and investments in areas where housing and recreational activities can be carried out in the plateaus have increased. It is thought that transhumance does not receive the required share of tourism in Erdemli. It is thought that this study will analyze the value chain of Erdemli plateau tourism from the perspective of plateau tourism and the results will be useful for destination managers to make correct and effective decisions in future tourism planning.

2. GEOGRAPHICAL FEATURES OF ERDEMLİ

It is surrounded by Mersin in the east, Silifke in the west, Karaman province in the north and the Mediterranean Sea in the south. It is on the Mersin - Antalya Highway and 35 km away from Mersin. The fact that the center of the district is located on the Mersin - Antalya road makes transportation and transportation easier.

The distance of the district center to Mersin is 35 km. Its surface area is 2863 km². Erdemli is a charming town on the Mediterranean coast, rich in natural beauties. It is surrounded by Mezitli to the east, Silifke to the west, Karaman and Konya to the north, and the Mediterranean to the south. Its surface area is 2863 km². 62% of this area is forest, 17% is agricultural land, 21% is pasture, stony and rocky [1] - [2].

3. ECONOMY

Erdemli's economy depends mostly on agriculture. There are some medium-sized enterprises as well. Tourism sector is to tend to develop.

Lemon, banana and greenhouse cultivation has developed in the district, and kiwi cultivation has developed in Karahıdırlı and other plateaus. It has a considerable place in early season cultivation. The district is developing rapidly and receiving immigration from outside. All tropical products can be grown in the district [1].

3.1. Agriculture

877,644 decares of our district's surface area is engaged in agriculture (vegetable growing, fruit growing and field crop production). Approximately 25,500 decares of land are left fallow, 48 decares of land are used for ornamental plants, 157,411 decares of land are used as pastures for animal grazing, and the remaining 457,241 decares of land are uncultivated and left vacant because agriculture is not currently economical. These lands; Thanks to the dams and ponds that are being built in our district and will be built in the future, they will be opened to irrigated agriculture, converted into production areas and brought into agriculture.

Citrus cultivation in our district is carried out in 23 neighborhoods on the coastline of the district and on an area of 111,653 decares in the district center. Lemon takes the first place in production with 108,500 da [1].

Lemon, banana and greenhouse cultivation has developed in the district, and kiwi cultivation has developed in Karahıdırlı and other plateaus. It has a considerable place in early season cultivation. The district is developing rapidly and receiving immigration from outside. All tropical products can be grown in the district [1].

3.2. Industry

As of 2022, Erdemli will have 8 olive oil factories, 25 packaging and packaging factories, 2 milk and dairy products factories, 3 sausage factories, 4 plastic case factories, 2 drip irrigation pipe factories, 3 electricity generation facilities and There are 11 bakery products factories [1]

4. TOURISM SUPPLY OF ERDEMLİ

It should be seen as a city with a high potential for virtuous tourism, but one that cannot use this potential well. Historical buildings, natural beauties, handicrafts and folkloric elements are very rich. It is thought that there is excess supply because it can accommodate more visitors than there are in terms of accommodation.

Table 1. Accommodation facilities with Ministry of Tourism Business and Tourism Investment Certificate in Erdemli and their capacity.

Hotel Class	Facility Number	Room Number	Bed Number
3 star	2	311	650
4 star	3	324	748
5 star	3	6	631
Municipality certified facilities	235	5168	13500
Total	243	6058	15529

Source: [1]-[2]

As can be seen from Table 1, there are a total of 8 facilities in Erdemli and its immediate surroundings with Ministry of Tourism Business and Tourism Investment Certificates. These facilities provide services with 2029 beds in a total of 890 rooms. The total number of beds in the rooms is 15520 [2].

Table 2. Accommodation data of visitors in Erdemli

	Locals Visitors	Foreign Visitors	Total
Arrivals	14242	191105	205347
Overnights	37888	433387	471275
Average of Stays	2,66	2,27	2,30
Occupancy Ratio	2,82	32,30	35,13

Source: [2]

There are 153 protected areas in Erdemli and its surroundings, and construction is strictly prohibited in these areas; Only authentic food and beverage facilities and bungalow houses that will meet the needs of visitors are allowed [2].

5. TOURISM IN ERDEMLİ

Erdemli is one of the most popular settlements in the Mediterranean and Turkey with its historical and natural beauties and geopolitical location.

This region, which has many values in the field of tourism, has historical, natural and cultural riches. It has a great tourism potential with its sunny climate 300 days a year and clean coastline. For Erdemli, tourism has a significant economic volume and it is a holiday and tourism paradise that can appeal to all kinds of visitors, whether their socio-economic status is very high or very low[1].

Erdemli, which has many buildings and artifacts from the Greek, Roman, Seljuk and Ottoman periods in its region, attracts great attention from researchers and potential visitors who are planning a holiday.

The region's high sunshine duration, clean sea and air, camping areas, natural beauty of the plateaus and warm people are the developing factors in the field of tourism. Erdemli is one of the rare regions where culture, sea, plateau and nature tourism can be done at the same time[2].

5.1. Beaches

Erdemli is one of the settlements located on the coastal part of Mersin, which hosts many beaches that are very suitable for swimming. Those who want to spend their summer holidays in Erdemli spend most of their time on beaches and bays, as the beaches have fine sand and the sea is calm. Although the coastline does not cover most of Erdemli, it is considered the ideal swimming spot of the district. Its beaches and bays are extremely clean. All the facilities you need to sunbathe and have a great time are available on the beaches with fine sand and deep blue sea. Within the borders of Erdemli district, there are Kızkalesi Public Beach, Korykos Joy Beach, Ayaş Mersin Public Beach, Ayaş Municipality Public Beach, Sultankoy Public Beach, Limonlu Public Beach, Kocahasanlı Public Beach, Erdemli Akdeniz Public Beach, Erdemli Municipality Public Beach, Topraksu Beach and Arpaçbaşış Beach. There are many free beaches. Erdemli is one of the settlements located on the coastal part of Mersin, which

hosts many beaches that are very suitable for swimming [1].

5.2. Camping Sites

There are camping areas in Erdemli, which are generally under the responsibility of the municipality. The common features of these camping sites are generally toilets, electricity, changing cabins, showers, kitchens, dishwashing and laundry facilities. Caravan camping is also possible in most of them. These camping areas are: Limonlu Çadır Camping Area, Talat Göktepe Nature Park Camping Area, Kocahasanlı Public Beach Camping Area, Mavi Kız Camping Area, Yemişkumu Camping Area, Davut Hotel Camping Area (Private), Kız Kalesi Public Beach Camping Area.

6. TRANSPORT

Erdemli has a good web of transportation of highway and quite near to the regional airport.

6.1. Highway

Erdemli is on the D-400 highway on the Adana-Antalya State Highway network, which connects Southeastern Anatolia, Eastern and Western Mediterranean, and Central and Western Anatolia, and is 40 km away from the provincial center, Mersin. Bus companies provide regular bus services from Erdemli to these cities every day. In addition, bus companies operating from the Eastern and Southeastern Anatolia Region to Antalya pass through Erdemli Bus Terminal at certain times of the day[1]. The distances can be seen between Erdemli and some important cities (See Table 2).

Table 2. Distances of Erdemli to Important City Centers

Cities	Silifke-İstanbul	Silifke-İzmir	Silifke-Ankara	Silifke-Adana	Silifke-Antalya
Distance	912 km	832 km	538 km	122 km	487 km

6.2. Airline

Currently, transportation can be done very quickly via the highway extending from Şakirpaşa Airport in Adana province, which is 120 km away from Erdemli, to the town. In addition, Çukurova Regional Airport, whose tender was held in May 2013 and whose foundations were laid, is planned to be put into service at the end of 2023 or early 2024. With this airport coming into service, the new air transportation from Erdemli will be 20 km shorter and air transportation will be even easier and faster[4].

7. HISTORICAL AND TOURISTIC PLACES OF ERDEMLI

7.1. Kızkalesi (Sea Castle)

Kızkalesi, from which the neighborhood takes its name and also known as Deniz Kalesi, was built on a small islet. Although the distance to the coast varies depending on your location, it is approximately 300-600 m on average. We learn from an inscription found here that it was built by Leo I in 1199. It was captured by the Kingdom of Cyprus in 1361. There is also a legend about Kızkalesi, which is told in different places (Istanbul-Maiden's Tower): "Once upon a time, there was a king. He consulted a fortune teller to find out the future of his only daughter, whom he loved very much. When he learned that his daughter would die by being bitten by a snake, he had this castle built for the Princess. Thinking that he had secured her life, one day the king sent his daughter a basket of grapes. However, the snake hiding in the basket bit the girl and killed her [2].

7.2. Korycus

60 km from Mersin. It is located in the southwest, in Kızkalesi District. According to Herodotus, the city was founded by a Cypriot prince named Korykos [2].

7.3. Elaiussa-Sebaste

52 km from Mersin on the Silifke-Mersin highway. It is located in Ayaş (Merdivenlikuyu) away. The city II BC. It was founded at the end of the century. According to Strabon, one part of this city is located on the land and the other part is on the island on the opposite side, and this ancient city was formed by the merger of the cities of Elaiussa and Sebasta. Elaius is older. The city lost its former importance when it became a piece of land that was appointed as the King of Cappadocia by Antious in 41 BC and took the mountainous Cilicia around Elaiussa from Augustus in 20 BC. There are two lions facing each other on the same chain. All of these works belong to the Roman period.

7.4. Pasha Tomb

It is a Seljuk work on the Ayaş-Korykos road. The tomb is only 30 meters away from the sea and was built by Aktaşoğlu Sinan Bey in 1220 [3].

7.5. Kanlıdivane

At the 45 km mark of the Mersin-Silifke highway, there is a 3 km turn off to the right. is ahead. The site, which contains temples, churches, cisterns and city ruins from the Hellenistic, Roman and Byzantine ages, is located around a wide and deep depression[4].

7.6. Kayacı Valley

Kayacı Valley has a peaceful atmosphere that relaxes its guests with its unique view. This natural beauty in the Erdemli district of Mersin reveals all the magnificence of the Limonlu Stream and is also a part of the rich geography of the city [1].

7.7. Touristic Activities That Can Be Done in Erdemli

Since it is a virtuous coastal city, there are many activities that can be done. You can shop and wander around the town center, visit historical and cultural buildings, enjoy the sea, sand and sun on the beaches, explore the natural beauties within the district borders, attend Millionfest where rock artists give concerts, Grape Festival and Grape Festival, one of Erdemli's local festivals and feasts. He can go to the Batırık Festival. You can taste local flavors from food and beverage establishments in the town center at reasonable prices. You can walk along the long coastline and watch the sunset [5].

8. PLATEAU AND PLATEAU TOURISM

The term plateau, which has different meanings, should be considered as both a physical and human geography term. The word plateau comes from the name given to the plains on mountain tops. A plateau or plateau is a flat landform above the sea surface, split by deep river valleys in high places. Their heights can range from five hundred meters to several thousand meters [6]-[7].

Erdemli plateaus are one of the rare plateaus with developed roads and no transportation problems. The altitude of 1400m can be reached in 25-30 minutes by private vehicle, thanks to well-maintained, often wide and smooth roads. Guests who sunbathe and swim on the beautiful sandy beaches of the Mediterranean in the daytime heat have the chance to spend cool nights in camping tents, bungalows or rental houses set up in the springs in the evenings [5].

Plateau tourism is an extension of eco-tourism known as "a type of tourism that takes care of the protection of natural resources, includes activities aimed at promoting nature and culture, looks at tourists as guests, pollutes the environment less since it is carried out by small groups, and causes tourists to integrate more with the local people" [20]. Plateau is also an important outdoor recreation activity that is shown among the "types of hobby-based special interest tourism" [8]. Plateau tourism is a recreational activity and brings visitors together with nature. It is a calm way of participating in tourism, without any hustle and bustle [9].

Plateau tourism can be realized through formal planning based on tourism activities and products such as organizing festivals and tours. In terms of demographic and motivational characteristics, most of the participants of plateau tourists are well educated, have sufficient disposable time and income, are older and have high motivation

and commitment to the activity. Plateau tourism is well established in many places with well-planned and well-defined programs [10]. Apart from plateau tourism, many niche tourism types such as winemaking, culinary, bird watching and cultural heritage tourism are increasing in value globally; It is being adopted by the tourism industry because of its increased economic benefits and because it offers a viable option for managing tourism resources [11]-[12]-[13]. Because these niche types of tourism ensure compatibility by combining resources to achieve unified goals and objectives for tourism development. Tourists participating in all other niche tourism types, including plateau tourism, are one of the best sources of eco-tourism income, as they constitute the largest group of educated and high-income eco-tourists [14].

9. PURPOSE OF THE RESEARCH

This study was carried out with the aim of spreading plateau tourism, which has an important place among eco-tourism assets, in Erdemli and creating a value chain to increase its market share. The aim is to examine the functioning of the process until the end consumer reaches the touristic products produced by service providers operating within the scope of eco-tourism, and to examine the deficiencies and required processes. On the other hand, the study aims to reveal the status and current status of transhumance activities in Erdemli by comparing Erdemli plateau tourism with other plateau tourism destinations. It is aimed to compare Erdemli destination with the plateau tourism destinations that attract the most tourists in Turkey.

10. IMPORTANCE OF THE RESEARCH

While the research generally determines the service providers within the tourism value chain, it also aims to reveal the value of these service providers by comparing them with other eco-tourism destinations. The study, which constitutes the basic activities within the tourism value chain together with their sub-operations, is also very important in terms of creating support activities. In this study, it is thought that it will be extremely important to analyze the value chain of Erdemli's plateau tourism, which is carried out within the scope of eco-tourism, to determine its situation compared to rival destinations and to make plans accordingly.

11. METHOD

Competing businesses, destinations and individuals in global sectors prefer to meet consumer demands and desires with goods and services that are based on certain criteria in accordance with world-wide quality standards and even standardization. Today's tourism consumers can include plateau tourism, which has a special place in tourism, in their holiday plans and use their preferences in this direction, with intensive promotional activities to comply with this standard and standardization and to exist in their markets. In this context, product differentiation and the presence of innovatively designed products in the market to satisfy different consumers in each market are of great importance. In this study, Value Chain Analysis was applied to plateau tourism, based on previous studies applied to different types of tourism within the tourism industry. The value creation model of plateau tourism by Dr. The value creation model used by Ferenc Schméi in his 2010 study for the shoe industry was examined and created for plateau tourism.

The concept of 'Value Chain Analysis', which constitutes the method of the study, was first used by Michael Porter and is used to make a systematic analysis of developing competitive advantage. A firm's value chain is embedded in a much larger chain of activities. Porter calls this situation the value system. The way to maintain a competitive advantage is to understand not only the company's value chain, but also how that company fits into the general value system it is in. The production and consumption process includes interrelated activities. The concept of "fig" means that activities are in integrity with each other. The reason for using this term is that competitive advantages and disadvantages resemble strong and weak links in a chain [15].

Value Chain analysis consists of activities and margins. Value activities are the physical and technological activities carried out by the company. Porter divides these activities into two: core activities and supporting activities. The main activities are product creation, sales to customers and after-sales services. Supporting activities are purchased inputs, technology, human resources and the company's infrastructure works [15].

Margin is the difference between the total value and the total cost of value activities. Margin can be measured using different methods. Suppliers and channel value chains are also an important indicator in understanding the source of the company's cost situation and this involves a margin because the supplier and channel margin also results in a total cost created by the customer.

Value is expressed as the price that consumers are ready to pay with their own will and consent in return for the benefits offered to them by the business. (Porter, 1985: 38) From this perspective, value must create customer satisfaction and is possible by supplying a product that will provide competitive advantage through healthy long-term relationships with customers. When value is expressed in the form of total revenue, for a business to be profitable, the value generated by the business must exceed the costs involved in producing the product. (Porter, 1985) In other words, the value created by the business consists of the profit the business makes as a result of strategically important and interconnected activities. In order for the business to achieve competitive advantage, it must either have lower costs than its competitors or make a difference in the value creation process.

The value chain, first proposed by Porter, divides the business into strategically interrelated activities that it carries out, from the provision of raw materials for the products to the presentation of them to the end consumer, in order to understand the behavior of the current and potential sources of differentiation and the sources of costs. [15]. The use of the concept of "chain" in this definition is important in terms of concretizing through analogy that the activities within the business are interconnected. This analogy also serves to identify the "weak" and "strong" links in the chain, that is, to determine the company's advantages or weaknesses in strategic competition. [16].

With increasing competition and globalization and postmodern consumer culture, traditional marketing approaches are forced to change. Today, companies have understood that the way to achieve competitive advantage is to focus more on value in line with this change. In addition, today's marketing approach has been turned towards the basis of value, as a growing and promising approach, in addition to meeting customer demands in the best way in order to dominate the market. As a result, companies are trying to change and develop towards value and value creation according to their own perspective. Of course, the purpose of all this is to achieve the highest profitability [17].

Fig. 1 below shows the basic and supporting elements that make up the value chain for performing the Value Chain Analysis of Erdemli Plateau.

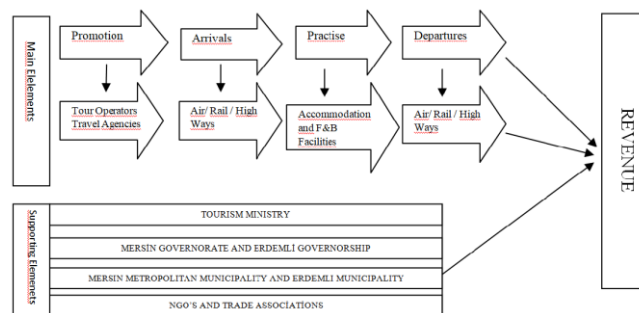


Figure 1. Value chain core and supporting elements

Nowadays, all kinds of tourism service processes (know-how) are no longer unobtainable by tourism sector representatives - that is, they have become obtainable by sector representatives. Successful marketing that ensures the production of plateau tourism services requires producing plateau tourism services more efficiently.

Global movements today offer equal opportunities to those who are economically active in the sector. These opportunities are important such as brand identity, recognition and market share, and accessibility. There are some basic conditions for achieving sustainable competitive advantage in the Plateau Tourism market. These; We can express this as determining affordable price policies, introducing innovative products to the market and determining good service quality.

We see how touristic value is created and presented in the Fig.2 below. After primary traditional plateau service design has completed, it is produced and sold to meet the need of guests. It is supposed that all the shareholders or service providers have already known the need of guest via market surveys.

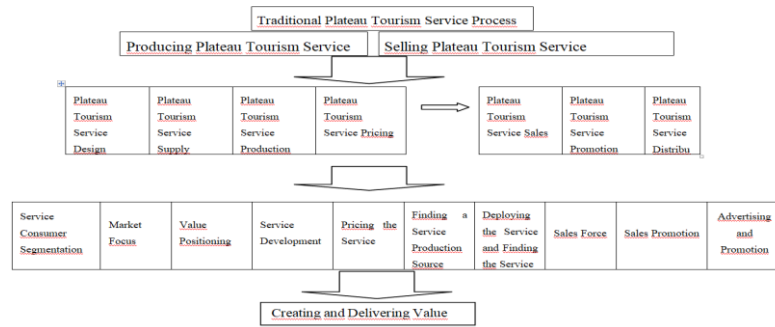


Figure 2. Erdemli Plateau Tourism Value Creation and its Delivery Model

We see the value chain of Erdemli Plateau Tourism sector in Fig. 3 below. As it can be seen, it has differed greatly from the traditional process. It shows which activities will be supported by which enterprises or organizations. Tour operators, travel agencies are responsible for the primary activities. Shareholders of the destination are responsible for supporting activities such as creating brand, environment, innovation, differentiation in tourism supply, tourism service quality, comfort, being a new market, pricing method, plateau tourism supply chain and distribution differentiate the plateau tourism in the region. Thus, instead of the classical tourism service production-selling model, it becomes much more important to provide a tourism business systematic that provides tourism services by selecting and understanding the values of the consumer, which is important today, and then marketing these values.

Tourist	Holiday Plan	Transportation	Accommodation	Food & Beverage	Activities	Shopping	Destination	Transportation
Tour Operators								
Primary Activities	Travel Agencies	Bus	Hotel	Restaurant	Plateau Tourism Activities	Malls	Natural Beauties of Erdemli	Bus
	Tour Guides	Car	Guest House	Buffets	Congress/Symposium	Souvenir	Local Food	Car
	On-line Services	Plane	Hostel	Fast-Food	Fair	Handmade Works	Traditional Handicrafts	Plane
		Taxi	Apart Hotel	Catering	Plateau Festival	Craft Works	Mosques	Taxi
		Public Transportation				Local Market	Museums	Public Transportation
						Roadside Markets	Cultural Assets	
Support Activities	Mersin Provincial Directorate of Culture and Tourism							
	Erdemli District Governorship							
	Erdemli Municipality							
	TÜRSAB							
	Provincial Directorate of Highways							
	Çukurova Development Agency							
	Banks							
	Mersin University							
	Press							
	Tourism Training Centers/Schools							
Political Parties								

Figure 3. Erdemli Plateau Tourism Value Chain[18]

12. RESULTS

According to the Financial Development Index, where Istanbul ranks 1st with a score of 23.13%, Mersin is the 9th developed city out of 81 provinces in Turkey with a score of 0.35%. According to the development level of the provinces, Mersin is the 14th developed city with a score of 1.09% [19].

Mersin province is a city with 3 universities, one of which is a state university. In addition, a High School affiliated with Mersin University and a vocational school continue their education and training activities in Erdemli. As of November 2023, a total of 43,123 students are studying at Mersin University, 2,981 students at Private Çağ University, and 2,922 students at Private Toros University [21]. Mersin University has a Faculty of Tourism to train upper and middle level managers in the tourism sector. There is a college and a high school level educational

institution in Erdemli that provide education in the field of tourism. After graduation, students studying tourism generally have to go to provinces such as Antalya and Muğla, which are more developed in tourism both sectorally and regionally [19].

Within the scope of RIS Mersin, three platforms have been established in order to benefit from regional potential in key sectors. These; It is "Agriculture-Food Platform", "Logistics Platform" and "Tourism Platform" and it is aimed to strengthen cooperation networks in the region by making a development master plan for all three sectors. Within the scope of the Tourism Platform, creating a sustainable and integrated tourism; By utilizing the tourism potential of Mersin, it is aimed to revitalize this area and make Mersin a center of attraction in terms of city tourism. Studies to improve cooperation continue [19].

Turkey seems to be a country that has come to the fore with 3S tourism, but this is not enough for the 2023 Tourism Strategies Action Plan announced by Turkey. According to this action plan, Turkey plans to spread its tourism over 12 months by offering many different tourism experiences. Only sea, sand and sun tourism narrows Turkey's tourism and limits other tourism potentials. Plateau tourism is one of the types of tourism that fits into Turkey's action plan to spread tourism over 12 months.

13. SUGGESTIONS

-State investments and aids must be carried out in a well planned way. All the investments should be carried out considering sustainability and bearing capacity of the region.

-A well planned promotion company should run to well know destination in the global High Plateau tourism market.

-Local people are inevitable elements of a successful action plan. They should be informed about the tourism and how they can contribute on a tourism activity via Public Relations. Their cultural assets and traditions must be taken into consideration at the stage of planning.

-All the Non-governmental Organizations such as associations to keep environment, cultural assets, or tourism associations are also the shareholders of such activities. They should have the right of expressing their ideas about any tourism activities and authorities should take their pro or con ideas into consideration.

-Universities are the kitchen of planning or strategies so the authorities must often consult the academic world. They should benefit from some different perspectives of academicians.

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Walkability of Select Areas in Metro Manila Using Road and Pedestrian Infrastructure

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Abstract

In Metro Manila, there is a car-centric attitude, referring to a preference towards vehicles as the primary mode of transportation. This study aims to develop a method to score the walkability of select areas in Metro Manila to encourage the creation of more cities, which promotes walking as a viable option. The WalkScore algorithm was utilized as the foundation. This method was contextualized to the Philippines by changing the types of amenities being considered, modifying the configuration of the weights and validating this new configuration using silhouette score, average separation score, and separation margin, and incorporating additional penalties. A total of 26 areas were scored — 20 areas in Metro Manila and 6 areas in the United States for comparison. The new walkability scores indicated the need to improve pedestrian crossings and sidewalks. Nevertheless, all areas were correlated to route directness, which encourages walking.

Keywords: walking, scoring, road network, pedestrian infrastructure

1. INTRODUCTION

Traffic is a major problem that the Philippines faces. A 2020 Rappler report covered this issue, attributing the cause to an overabundance of vehicles, a car-centric attitude, and “[l]ack of urban and transport planning” among others [12]. In particular, a citizen can have a car-centric attitude due to the prestige and convenience it brings. Steinbergsdóttir (2015) states that in the 2011 assessment of the Asian Development Bank regarding pedestrian facilities in major cities of the Philippines, 81% of pedestrians would rather travel by vehicle if given the opportunity [18]. This sentiment can also be found in the same Rappler report, where “84% of Filipinos said they were planning to purchase their own car in the next 5 years” [12].

When this car-centric attitude extends to government officials, road policies and laws may only target and prioritize the continued mobility of and through private vehicles in Metro Manila [12][14][15][18]. In addition, according to the Statista Research Department, only 31.1% of Filipino households own vehicles in 2018 — 25.2% of which own motorcycles and tricycles, leaving 5.9% owning cars, jeeps, and vans [17]. Pedestrians, who make up the majority of

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Filipino citizens [17] and who rely on walking and cycling on the same road, are left to adjust in poorly constructed infrastructures and poorly designed systems [18].

1.1. Definition of Walkability

The concept of walkability is explored to identify the relationship of vehicles and pedestrians in Metro Manila. Walkability is defined as how much the environment motivates and supports people to walk, ride a bicycle, or use public transportation [1][18]. Motivating and supporting factors can include “the availability of different destinations and population density to very subjective environmental features, i.e., comfort, safety and picturesqueness” [19]. Hence, aside from amenities (e.g., groceries, malls, parks, schools) [7][20], it is also important to observe and analyze the current road infrastructure (e.g., sidewalks, pedestrian or bicycle lanes, pedestrian bridges), along with any obstructions such as trees or helpful elements such as traffic lights and lampposts [1][13][19]. The current WalkScore methodology, however, focuses mainly on the presence of amenities in an area with only two measures (intersection density and average block length) utilized to account for the road network. This methodology, together with the proposed additions for the Philippine context, will be further discussed in the section on methods and data.

1.2. Research Objective

In developing more walkable cities, building pedestrian-focused infrastructure that is safe and comfortable ensures that pedestrians can utilize their fair share of the road. The necessary change in attitude and perception [3][18] occurs as pedestrians feel and notice that projects were implemented and infrastructure built in consideration of their needs. To identify what and how changes should be implemented as well as assess their effectiveness, a walkability score can provide the necessary insight.

The goal of this study is to promote walking as a viable mode of transport by building more walkable cities. To do so, WalkScore will be modified to better suit the road conditions and pedestrian infrastructure present in Metro Manila [20]. This is done mainly for select areas in the region. The walkability scores of each area will then be verified against street connectivity measures such as, but not limited to, road density, highway density, and pedestrian route directness.

2. LITERATURE REVIEW

Aside from reducing the volume of vehicles on the road, there are social, environmental, economic, and health benefits in walkable areas such as “enhanced social capital..., improved air quality through reduced traffic congestion, increased housing prices, improved overall health, and economic resilience effects” [7]. Numerous metrics have been utilized by studies to measure walkability such as intersection density, average block length, cul-de-sacs count, presence of amenities or destinations, and various types of densities (e.g., population density, street density) [2][4][7][8]. For the purposes of this study, scoring the walkability of select areas in Metro Manila, Philippines is based on the WalkScore, which is a more general system of assessing walkability. This is similar to the study done by Kim, E.J., Won, & Kim, J. for the city of Seoul, South Korea [7]. However, the methodology is modified so that it considers the built pedestrian infrastructure as urged by other walkability studies [1][7][11][13][19] as well as the Philippine context. In addition, this new system is validated by following the recommendations of various WalkScore research which employ some of the aforementioned metrics commonly associated with walkability.

2.1. Infrastructure Considerations

In scoring how walkable a certain city is, the available infrastructure is considered. As mentioned earlier in the section on the definition of walkability, this can include not only the quality and density [13] of streets and presence of pedestrian infrastructure (e.g., pedestrian crossings and bridges, sidewalks) but also nearby amenities. For the latter, distance to groceries, restaurants, shopping malls or districts, coffee shops, banks, parks, schools, libraries, and other entertainment areas [7][20] as well as public transport stops [2][8][19] can be considered.

2.2. WalkScore Validation Studies

Carr, Dunsinger, & Marcus (2010) conducted research, regarding the effectivity of the WalkScore as a global estimate of neighborhood walkability [2]. Strong and significant correlations were found for the street network, but positive correlations were also determined for crime [2]. On the other hand, no correlation was found for access to

amenities while a positive correlation was determined for the presence of street elements such as sidewalks, streetlights, traffic, etc. [2].

Duncan, Aldstadt, Whalen, Melly, & Gortmaker (2011) performed a similar study on four US metropolitan areas [4]. They assessed neighborhood walkability in terms of total retail walking destinations, total service walking destinations, total cultural/educational walking destinations, parks, median pedestrian route directness, intersection density, cul-de-sacs count, average speed limit, highway density, residential density, and population density [4]. For most of the measures, positive correlations were found. However, there is no correlation between the calculated score and median pedestrian route directness while there is a significant correlation for average speed limit [4]. Both illustrate that there may be some level of difficulty when it comes to walking in these areas.

Lastly, Koohsari et. al. (2018) performed a validation of the WalkScore in Japan. “Significant positive correlations were observed between Walk Score and all five environmental attributes [population density, intersection density, access to destinations, sidewalk availability, access to public transportation] assessed.” [8]. This proves that even after some time, the validation technique of correlating walkability scores to street connectivity measures and the built environment is well-founded.

3. METHODS AND DATA

This chapter discusses the methods utilized to collect and gather data for 20 areas in Metro Manila and 6 areas in the United States for comparison, develop and improve the walkability score, and validate the results.

3.1. WalkScore Methodology

The WalkScore methodology measures how walkable a certain area is based on the amenities which can be found within a 1.5-mile (or 2,414 meters) radius [20]. The walking distances from the center of the area to certain amenities namely: groceries, restaurants, shopping, coffee, banks, parks, schools, books, and entertainment come from the Google API. Based on the amenity’s distance from the center, it is scored through a decay function, which is based on the fact that an individual is more likely to walk to a destination of 0.25 miles which is a five-minute walk, compared to one that is 1.5 miles away, being a thirty-minute walk [20]. After the scores of each amenity are calculated, these are multiplied to the amenity category’s weights.

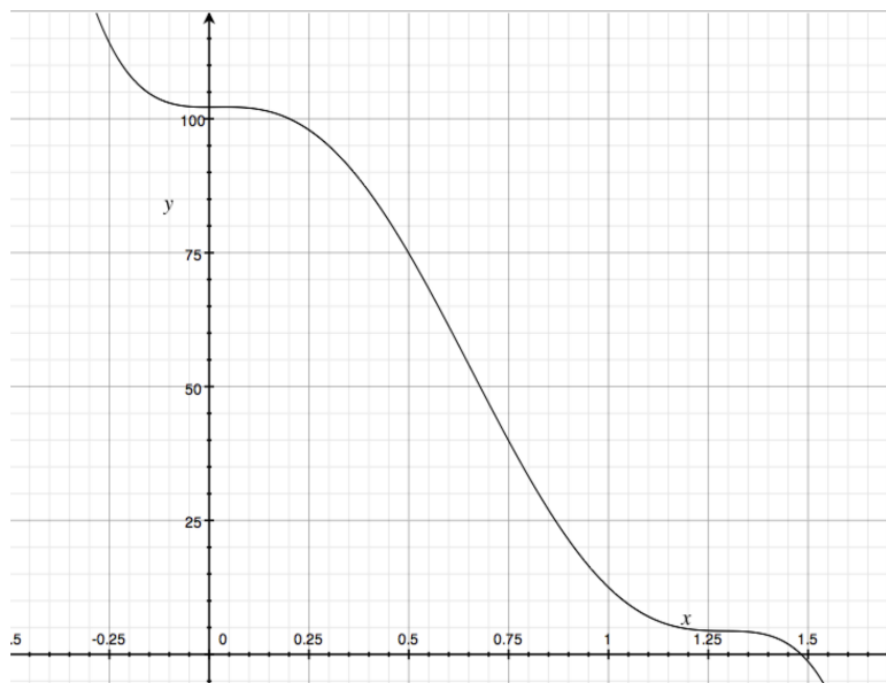


Fig. 1. Distance Decay Function [20]

These weights categorize each amenity by their importance. “Variety and options are important, so 10 counts of restaurants/bars are included, with the first counts receiving greater weight than the later counts to account for diminishing returns.” [20]. Furthermore, the number of weights that a certain amenity has represents how many of that amenity will be counted. For example, if there are more than 10 restaurants, only the nearest 10 instances will be considered in the score. After multiplying the amenity scores by their weights, these are normalized then summed

Table 1. Amenity Categories and Weights

Amenity Category	Count	Weight
Grocery	1	3
Restaurants	10	0.75, 0.45, 0.25, 0.25, 0.225, 0.225, 0.225, 0.225, 0.20, 0.20
Shopping	5	0.5, 0.45, 0.4, 0.35, 0.3
Coffee	2	1.25, 0.75
Banks	1	1
Parks	1	1
Schools	1	1
Libraries	1	1
Entertainment	1	1

into a score, ranging from 0 to 100. Finally, the overall walkability score is subject to penalties from the average block length and intersection density. A maximum penalty of 10%, 5% for each metric, can be given. If the area in question has more intersections per square mile as well as shorter average block lengths, the penalties will be less and vice versa. This methodology can be summarized in the formula below:

$$\frac{\sum_{i=0}^9 \left(\sum_{j=0}^n f(\text{distance}_{a_{ij}c}) (\text{weight}_{a_{ij}}) \right)}{\text{total weight of all amenity categories}} + \text{PM} \tag{1}$$

where:

- $\sum_{i=0}^9$ represents the nine amenity categories
- $f(\text{distance}_{a_{ij}c})$ is the decay function which takes in the distance of the j th amenity of category i from the center c of the area
- $\text{weight}_{a_{ij}}$ refers to the weight of the j th amenity of category i
- PM are pedestrian friendliness metrics (average block length and intersection density) which give penalties to the score
- total weight of all amenity categories = 15

3.2. Study Area

20 areas, 10 walkable and 10 non-walkable, within Metro Manila were selected to be scored. For the former, these were based on the locations being known to be walkable. This fact was counterchecked with their WalkScores; all areas had scores of 93 and above. On the other hand, because Metro Manila is an urban city, it was somewhat difficult to find non-walkable areas. The researcher manually scrolled through Google Maps and looked for places which seemed to have few amenities surrounding it. These assumptions were also counterchecked with their WalkScores; all of which had scores ranging between 41 and 78, inclusive.

In addition, 6 areas, 3 walkable and 3 non-walkable, from the United States were selected as a validation of sorts. The new method will be applied to these areas as well. Doing so determines whether the new method can become general like the current WalkScore or if the modifications are specific to the Philippine context.

3.3. Proposed Methodology

The improved methodology modifies the decay function, method for retrieving nearby amenities, penalties from pedestrian friendliness metrics, and the weight distributions.

3.3.1. Decay Function

For the decay function, the equation was not included in [20]. Because of this, an approximation was made through an online graphing software. This new decay function is illustrated in Figure 2. In the graph, the y-values may go below 0 and above 100, but its outputs are ensured to stay within these boundaries. For scores between 1.35 and 1.5, the computed equation assigns a negative value. To solve this issue, the initial distances are adjusted to ensure that a low, positive score is produced, similar to the original function.

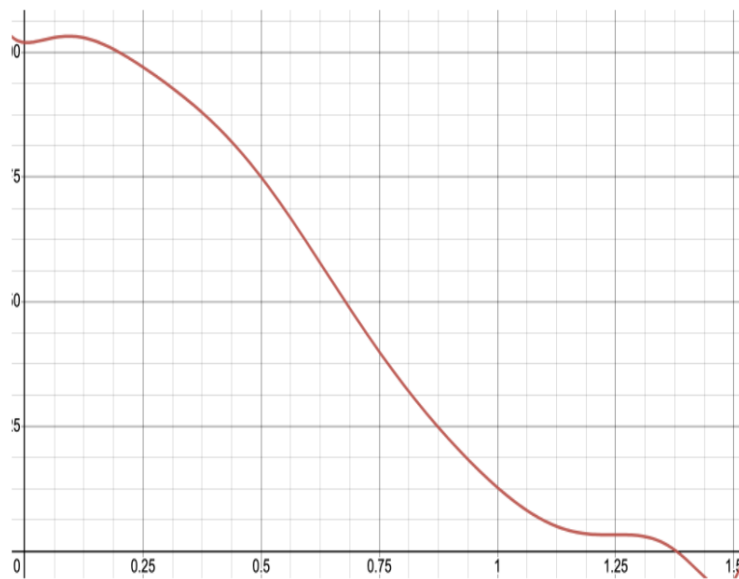


Fig. 2. Approximated Distance Decay Function

3.3.2. Retrieving Amenities

For retrieving nearby amenities, the researcher tried to utilize the OpenStreetMap database. However, the data for the Philippines was lacking and difficult to work with; some amenity categories are not available such as groceries, coffee shops, and parks. In addition, other amenities that do not fall into any of the identified categories are present. Nevertheless, these still provide a good visualization of walkable and non-walkable areas as there is significantly more amenities in the former. This can be seen in Figure 3. Instead of relying on OpenStreetMap, nearby amenities as well as their walking distances were manually retrieved and recorded in a csv file through Google Maps. The researcher exercised utmost care and caution to ensure that the nearest amenities of each category were recorded.

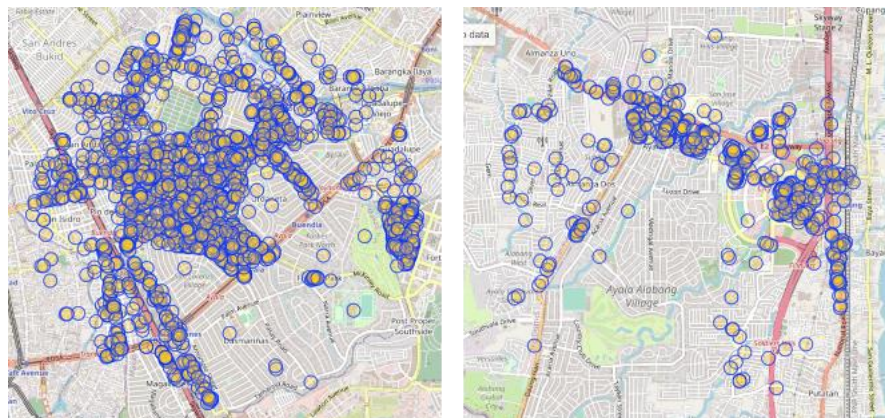


Fig. 3. (a) Bonifacio Global City in Taguig [walkable]; (b) San Enrique Street in Muntinlupa [non-walkable]

3.3.3. Pedestrian Friendliness Metrics

For pedestrian friendliness metrics, service area percentage of pedestrian crossings and sidewalk density were added as penalties similar to how intersection density and average block length works in the WalkScore methodology.

For service area percentage of pedestrian crossings, the following penalties are given:

- over 90: no penalty
- 80 – 89: -1 penalty
- 60 – 79: -2 penalty
- 40 – 60: -3 penalty
- 20 – 40: -4 penalty
- below 20: -5 penalty

Because the measure is a percentage, it was easy to develop a 0 – 5 penalty scale. On the other hand, for sidewalk density, the following penalties are given:

- over 5000: no penalty
- 4000 – 4999: -1 penalty
- 3000 – 3999: -2 penalty
- 2000 – 2999: -3 penalty
- 1000 – 1999: -4 penalty
- below 1000: -5 penalty

This scale was based on the highest sidewalk density value coming from a walkable area in Metro Manila. The necessary road data was retrieved from OpenStreetMap by querying for all the highways given the coordinates of the center of the area and a radius of 2414 meters (approximately 1.5 miles). The metrics were then calculated using the QGIS software. The processes are detailed in the subsequent subsections.

3.3.3.1. Intersection Density

A step-by-step process can be found in [5]. First, load the road map from OpenStreetMap. This road map may have discrepancies in that some lines, which represent roads, may not be one complete straight line; instead, they may be comprised of multiple line segments. This becomes a problem when finding line intersections [5]. Because of this issue, the road layer must first be dissolved then transformed from multipart to singlepart. Now, line intersections can be found. After which, duplicate geometries are deleted as some intersections may have been recorded by QGIS twice. Once the intersections have been retrieved, “[w]e must reproject the data to a projected CRS so we can use linear units of measurements. We can use an appropriate CRS based on the UTM zone where the city is located.” [5]. For the Philippines, this is UTM zone 51N. An $n \times n$ grid is then created as large as the reprojected layer; each grid square measures 1mi by 1mi in accordance with the WalkScore methodology [20]. A spatial index may be created to quickly perform operations on the grid and reprojected layer, but this step is optional. For computing intersection density, this was not necessary. Once the grid has been created, the points (i.e., intersections) within each grid square are counted, and this is outputted as *NUMPOINTS*. Finally, the Extract by Attribute function is called to extract only the *NUMPOINTS* which are greater than 0. The statistics panel of the extracted layer presents the necessary information such as the mean of the *NUMPOINTS*, which serve as the intersection density.

3.3.3.2. Average Block Length

In contrast to intersection density, no step-by-step process was found in the same site as [5]. Hence, the process was based on [11], where it was mentioned that “[t]o measure [average block length], the total length of links should be divided by the number of nodes in an area.” The total length of links would refer to the total length of roads while the number of nodes refer to the number of intersections. Hence, it would be better to calculate intersection density before calculating average block length as doing so provides access to the reprojected layer of intersections.

First, load the road map from OpenStreetMap. In order to include the length of roads, along with other parameters, in the output layer, the Add Geometry Attributes function is called. This layer will then be reprojected for the same reason as intersection density. An $n \times n$ grid is then created as large as the reprojected road lengths layer; each grid square measures 1km by 1km. Using the reprojected layer of intersections created when calculating for intersection density, the points within each grid square are counted, and this is outputted as *NUMPOINTS*. On the other hand, the lengths of roads within each grid square is summed using Sum Line Lengths, and this is outputted as *LENGTHS*. The Extract by Attribute function is called to extract only the *LENGTHS* which are greater than 0; it is called again to extract only *NUMPOINTS* which are greater than 1. Finally, a new column is created, where the quotient of *LENGTHS* by *NUMPOINTS* per row is calculated. The mean of this column serves as the average block length.

3.3.3.3. Service Area Percentage of Pedestrian Crossings

According to [6], it is recommended to have level pedestrian crossings every 80m – 100m. If pedestrian crossings cannot be implemented within this range, a maximum limit of 200m is suggested [6]. This is to ensure the safety and facilitate the compliance of pedestrians; “[i]f it takes a person more than three minutes to walk to a pedestrian crossing, he or she may decide to cross along a more direct, but unsafe route.” [6]. Likewise, this statement can also be applied to pedestrian bridges, which can be inconvenient and sometimes, impossible (i.e., for people with disabilities) to climb the steep stairs [9][16].

Similar to the calculations for intersection density and average block length, the road map from OpenStreetMap is loaded and then reprojected. The same process is also done for the map layer, which contains the pedestrian crossings – also taken from OpenStreetMap. After both layers have been prepared, the Service area (from layer) function is utilized with the “path type to calculate” parameter being shortest and the “travel cost” parameter set to 200m (following [6]). The calculation may take some time depending on the size of the road network as well as the number of pedestrian crossing nodes. After which, the layer is dissolved, and the Add Geometry Attributes function is called so that the combined lengths of the service area can be obtained. The length of the dissolved road segments is divided by the total length of all roads, which was calculated previously for the average block length. This result is multiplied by 100 to get the percentage.

3.3.3.4. Sidewalk Density

Previous studies have considered sidewalks in calculating for walkability [2][8][13]. Instead of the availability of sidewalks, the density will be computed. To do so, the road map is loaded and reprojected once more. If the reprojected version has been saved, this can be loaded instead of having to reproject the network again. After which, only roads with sidewalks are selected, through the use of the matching regular expression *regexp_match(desc, 'sidewalk')*. All further calculations are made while these roads are selected. The process simply follows that of intersection density. An $n \times n$ grid is created, with each grid square measuring 1km x 1km instead of 1mi x 1mi; this means that the results are in terms of square kilometers as opposed to square miles. The Sum Line Lengths function is called for the selected roads, and the resulting layer has the roads, whose lengths are greater than zero, extracted. The mean of the lengths in this layer represents the sidewalk density.

3.3.4. Weight Configurations

For changing the weight distributions, this limitation was mentioned in [4] as the WalkScore has set weights and amenities, which may not be applicable to other places. For this study, five configurations, including the original WalkScore weights, were devised and tested by scoring all 20 areas in Metro Manila accordingly.

A brief description of each weight configuration is given instead of illustrating all of it in five tables. Each weight configuration builds off the previous ones. The first weight configuration is simply the original weights of the WalkScore algorithm (Table 1). The second one adds a public transportation amenity category, which takes into account two nearest modes of public transportation with weights 1.25 and 0.75 as recommended by previous studies [2][8][19]. In addition, the bank amenity category now takes into consideration four instances, each with a weight of 0.5 due to their significance not only in the Philippine economy but also for encouraging walking [10]. The third weight configuration removes parks and library amenities as these two categories are limited in that they are usually far from the center of the area being measured. This could entail that parks and libraries are not as important a factor when it comes to walking compared to the other amenity types. For the fourth weight configuration, amenity categories, which have multiple instances, have their weights balanced. For example, the recently introduced public transportation category previously had 1.25 and 0.75 as its weights. Here, the weights are simply 1 and 1. Citizens or pedestrians may consider amenities which provide the same type of service but offer variety in choice (e.g., restaurants all serving food but vary in terms of cuisine and price) equally important despite the differences in distance. Finally, for the fifth weight configuration, the question was raised regarding the reason why restaurants had the most number of instances. Thus, building off the third configuration, the number of restaurant amenities is reduced to 7 while still retaining a total weight (for the restaurant category) of 3.

In addition, if an area has any missing amenity categories, this affects the walkability score negatively. It may be beneficial to remove amenity categories that are not present in an area similar to what was done to parks and libraries. This method was only done for the chosen weight configuration.

3.3.5. Silhouette Score, Separation Score, Separation Margin

To determine which among the five weight configurations would be the best, the silhouette scores (including the average separation scores) and the separation margins were calculated. The silhouette score checks if the separation of clusters is optimal; the closer the score is to 1, the better the clustering. Given that the 20 areas in Metro Manila were already classified as walkable and non-walkable, this was the clustering that was followed. To further this method, the separation scores were extracted, which in the formula for silhouette score would be represented by b . This refers to the distance of a point in one cluster to all points in another cluster. The average of these separation scores were calculated, and by focusing on this aspect of the silhouette score, it is possible to more clearly identify how far apart the two clusters are. This is not to be confused with the separation margin, which also inspects if the clusters are well-formed. However, it refers to the lowest score from the 10 walkable areas subtracted by the highest score from the 10 non-walkable areas. Ideally, this margin should be a high, positive number.

3.3.6. Correlation Metrics

Finally, the walkability scores of the 20 areas were correlated, using Spearman's Correlation Technique, to the following metrics: road density, highway density, median pedestrian route directness, cul-de-sacs count, and average speed limit. Aside from determining the best weight configuration, the results of the correlation also serve to validate

the new scores (inclusive of the 6 areas in America). The QGIS software, along with the previous database (OpenStreetMap), was used to calculate these metrics.

4. RESULTS AND DISCUSSION

This section starts by exploring the results of replicating the WalkScore algorithm using new data and an approximated decay function, followed by determining the most appropriate weight configuration for the Philippine context. The new walkability scores of the 26 areas are then presented and discussed, along with an analysis of the results of the Spearman correlation.

4.1. WalkScore Replication and Re-implementation

Despite challenges in re-implementing the WalkScore algorithm (i.e., data gathering and approximating the decay function), most of the scores for the walkable areas are similar to the actual WalkScores. However, the non-walkable areas have more variation. These changes are most likely due to the difference in amenities used in the scoring. Some amenities that were closer in proximity were not considered in the WalkScore, possibly because the Philippines is an unsupported country. Furthermore, in comparison to the United States, where there is a clear delineation between residential areas and commercial areas, the lines are somewhat blurred in Metro Manila. Family-run restaurants, carinderias, and sari-sari stores are common in neighbourhoods.

4.2. Results of Silhouette Scores, Average Separation Scores, and Separation Margins

The silhouette scores, average separation scores, and separation margins of the five configurations are laid out in Table 2. The fourth set of weights had the highest silhouette score (0.56818), average separation score (40.27281), and separation margin (6.98014). The method of ignoring missing amenities was applied to this configuration, and it is also included in table 10 (Weight Configuration 4b). Meanwhile, the full weight configuration is illustrated in Table 3. The fourth configuration also correlated the best with the metrics previously mentioned. This will be further discussed in the correlation analysis subsection.

Table 2. Silhouette Scores and Separation Margins

Weight Configuration	Silhouette Score	Average Separation Score	Separation Margin
1	0.43992	28.67879	-9.76080
2	0.54683	39.14865	1.21750
3	0.56257	39.35711	6.84104
4	0.56818	40.27281	6.98014
4b	0.54771	36.02674	6.98014
5	0.56305	38.92886	6.84104

Looking at the silhouette scores and average separation scores, all weight configurations aside from the first, have similar results. It seems that the original WalkScore weights are not as applicable in the Philippines as in other countries. This is also reflected in the separation margin.

Table 3. Amenity Categories and Weights

Amenity Category	Count	Weight
Grocery	1	3
Restaurants	10	0.30, 0.30, 0.30, 0.30, 0.30, 0.30, 0.30, 0.30, 0.30, 0.30
Shopping	5	0.40, 0.40, 0.40, 0.40, 0.40
Coffee	2	1.25, 0.75
Banks	4	0.50, 0.50, 0.50, 0.50
Schools	1	1
Entertainment	1	1
Public Transportation	2	1, 1

As mentioned before in the previous section, the fourth weight configuration balanced the weights of each instance per amenity category as citizens or pedestrians can still consider amenities of the same type equally important in their decision to walk due to the variety of options these would provide.

4.3. New Walkability Scores

The new walkability scores for the 26 areas are presented in Tables 4 (walkable areas in Metro Manila), 5 (non-walkable areas in Metro Manila), 6 (walkable areas in the US), and 7 (non-walkable areas in the US). Only the incurred penalties for intersection density (ID), block length (BL), service area percentage of pedestrian crossing (PC), and sidewalk density (SD) are displayed.

For the walkable areas in Metro Manila (Table 4), the final scores of all areas decreased when compared to the scores from the WalkScore website. These slightly lower final scores were not due to the change in weight configuration but rather due to the extra penalties of service area percentage of pedestrian crossings and sidewalk density. This entails that there is room for improvement when it comes to pedestrian infrastructure even for areas which are known to be walkable.

Table 4. Walkability Scores of Walkable Areas in Metro Manila

Location	Initial Score	ID Penalty	BL Penalty	PC Penalty	SD Penalty	Walk Score	Final Score
Bonifacio High Street	100	0	-1	-2	0	100	97
Makati CBD	100	0	-1	-3	-3	100	93
Eastwood	100	0	-3	-4	-3	97	90
Kapitolyo	94.74	0	0	-2	0	93	92.74
Filinvest	100	0	-3	-4	-4	97	89
Intramuros	95.91	0	0	-4	-2	98	89.91
Greenfield	100	0	0	-3	-2	100	95
Marikina Sports Center	99.56	0	-1	-4	-3	98	91.56
Roxas Boulevard	98.17	0	-1	-3	-1	95	93.17
Monumento	100	0	-5	-5	-3	98	87

For the non-walkable areas in Metro Manila (Table 5), half of the final scores decreased while the other half increased when compared to their WalkScores. It should be noted that these final scores are already due to the changes in weight configuration and the extra penalties. Although it is not presented in this paper, the final scores using the original WalkScore weights would suggest that most of these areas are actually walkable. These fluctuations in the scores can mean that the WalkScore is better suited for more walkable areas. On a separate note, there is also a need for more pedestrian infrastructures, given the high additional penalties.

Table 5. Walkability Scores of Non-Walkable Areas in Metro Manila

Location	Initial Score	ID Penalty	BL Penalty	PC Penalty	SD Penalty	Walk Score	Final Score
PH Navy Golf Club	53.23	0	-3	-5	-4	59	41.23
Food Development Center	87.11	0	-1	-5	-3	72	78.11
North Cruz Street	87.02	0	-1	-4	-2	73	80.02
Ugong	76.59	0	-1	-5	-3	72	67.59
Greenfield Street	80.59	0	-4	-5	-3	64	68.59
Sierra Madre Drive	64.72	0	-1	-5	-5	41	53.72
Namayan Park	82.07	0	0	-3	-1	62	78.06
San Enrique Street	45.70	0	-3	-4	-4	47	34.70
Bagong Kalsada Street	83.48	-2	-3	-5	-4	78	69.48
Opal Street	74.11	0	-2	-5	-5	67	62.11

Despite the change in weight configurations as well as the additional penalties, the final scores of the walkable areas in America (Table 6) are very close to their original WalkScores. However, this can further the insight that the WalkScore may generally work better, the more walkable an area is. When looking at the results of the non-walkable areas in America (Table 7), the results are more varied, which suggests that this new weight configuration and additional penalties can only be applied to Metro Manila.

Table 6. Walkability Scores of Walkable Areas in America

Location	Initial Score	ID Penalty	BL Penalty	PC Penalty	SD Penalty	Walk Score	Final Score
Brooklyn Heights, NY	100	0	-2	0	0	98	98
Beverly Hills, CA	96.88	0	-1	-2	0	93	93.88
Downtown San Francisco, CA	97.31	0	-1	0	0	98	96.31

Table 7. Walkability Scores of Non-Walkable Areas in America

Location	Initial Score	ID Penalty	BL Penalty	PC Penalty	SD Penalty	Walk Score	Final Score
Fayetteville, NY	94.63	0	-5	-3	-3	75	83.63
Chesapeake, VA	27.82	-3	-5	-5	-5	8	9.82
Montgomery, AL	53.87	0	-5	-5	-5	55	38.87

4.4. Spearman Correlation of New Walkability Scores

The process utilized Spearman's correlation against road density, highway density, median pedestrian route directness, cul-de-sacs count, and average speed limit with a 10% level of significance.

For both the walkable and non-walkable areas, the scores were not correlated with highway density, cul-de-sacs count, and average speed limit. However, these are all favorable outcomes [4]. Because there is no correlation, the areas can be suitable for walking.

For the walkable areas (Table 8), these have a moderate, positive correlation to road density. This indicates that there are enough roads for people to walk on. However, these roads are shared with vehicles, and from the results of the walkability scoring, the number of pedestrian crossings and sidewalks are still lacking. On the other hand, having a strong, positive correlation to route directness means that there is an efficient and direct manner of getting from one place to another. This convenience “is an important aspect of walkability” [4].

Table 8. Spearman Correlation of Walkable Areas in Metro Manila

Correlation Metric	p-value	coefficient
Road Density	0.098	0.55
Highway Density	0.37	-0.32
Route Directness	0.03	0.70
Cul-de-sacs Count	0.24	0.41
Average Speed Limit	0.58	0.20

For the non-walkable areas (Table 9), these only have a moderate, negative correlation to route directness. This is still a good outcome because the correlation coefficient is only negative due to the low scores of the areas. It appears that the roads are direct and can be efficiently used by pedestrians.

Table 9. Spearman Correlation of Non-Walkable Areas in Metro Manila

Correlation Metric	p-value	coefficient
Road Density	0.83	-0.08
Highway Density	0.96	-0.02
Route Directness	0.08155	-0.57576

Cul-de-sacs Count	0.24	0.41
Average Speed Limit	0.68	-0.15

Because only three areas each were utilized in the correlation for the areas in America, the outcomes are not that conclusive. For a cursory analysis, the walkable areas in America are perfectly correlated to road and highway density. It seems that there are enough roads, along with pedestrian crossings and sidewalks, that people are encouraged to walk. However, highways are detrimental to walking. No correlation for route directness was observed, which can discourage walking as well. On the other hand, for the non-walkable areas, the perfect negative correlation to highway density merits the same interpretation. Nevertheless, the perfect negative correlation with route directness signifies that the areas can still encourage walking.

Table 10. Spearman Correlation of Walkable Areas in America

Correlation Metric	p-value	coefficient
Road Density	0.0	1.0
Highway Density	0.0	1.0
Route Directness	0.67	-0.50
Cul-de-sacs Count	0.67	0.50
Average Speed Limit	0.67	-0.50

Table 11. Spearman Correlation of Non-Walkable Areas in America

Correlation Metric	p-value	coefficient
Road Density	0.67	0.50
Highway Density	0.0	-1.0
Route Directness	0.0	-1.0
Cul-de-sacs Count	0.67	0.50
Average Speed Limit	0.67	-0.50

5. CONCLUSIONS

The objective of the study was to promote walking as a viable mode of transport in the Philippines. To effectively determine pain points for pedestrians, a walkability index based on the WalkScore was created and implemented on select areas in Metro Manila. The results revealed that it is imperative to focus more on the development of pedestrian crossings and sidewalks despite the areas scoring well with regard to the correlation metrics (i.e., no correlation was observed for highway density, number of cul-de-sacs, and average speed limit and a positive, moderate correlation for route directness, albeit a negative one for the non-walkable areas).

Furthermore, key insights regarding the WalkScore as well as the layout of Metro Manila were discovered. Regarding the WalkScore algorithm itself, it seems to be more accurate when it comes to walkable areas similar to a previous insight by [4]. Meanwhile, for Metro Manila, amenities were found in residential areas such as restaurants in the form of family-run businesses and carinderias as well as groceries through sari-sari stores. This is in contrast with the clear definitions of blocks and districts in America (e.g., residential districts are separated from business districts). In addition, the parks and library amenities were removed, which can mean that at least for Metro Manila, the existence of these two amenities are not motivating factors for people to walk.

5.1. Recommendations

It is recommended that future studies try this method in other areas in the Philippines. There will most likely be changes since Metro Manila is a highly urbanized area. On that note, the amenity categories and weight configurations can be revised, and other penalties may be introduced. This recommendation can also be extended to other countries; the WalkScore only provides a general walkability score [2][4], and it does not capture differences in context [4]. Another recommendation is to develop better methods to analyze the effect of pedestrian crossings and sidewalks. A more thorough and in-depth data gathering process can be performed since OpenStreetMap may have missing or

erroneous data. Also, a better penalty system for pedestrian infrastructure can be devised similar to how the WalkScore has a 0 – 5 penalty system for block length and intersection density. Finally, if data is available for comfort and safety, it is highly recommended to include them in the scoring method or in the correlation analysis [1][13][19].

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Postal Operators in the Digital Environment

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Abstract

The expansion of the Internet, along with digital media, has changed the philosophy of communication. Postal systems around the world have well-developed infrastructure and traditional connections to local communities. However, the institution of the post office is much more than a traditional business – complex logistics operations and management of complex infrastructure play an important role in community development and contribute to wider societal significance. Post as an essential instrument of communication, trade, social and territorial cohesion, with its historical and nostalgic social role changes over time. The process of transformation is caused by the ongoing processes of globalization, liberalization, and corporatization that encourage competition, as well as the rapid development of new technologies such as artificial intelligence, the Internet of Things, social media... New business models in the postal sector appear as a response to the effect of changed external factors and new user needs. Information technologies are not only drivers of the business processes of postal operators - they become the core of the development of the postal sector, which synergizes the virtual and physical worlds in creating a business model that is adaptable, sustainable, innovative, and profitable.

Keywords: postal operators, digitization, social media, brand, new technologies

1. INTRODUCTION

Postal traffic, once the only form of communication and the first social network, precedes telephone traffic and the Internet. The expansion of the Internet and digital media has changed the philosophy of communication. Postal systems worldwide have well-developed infrastructure and traditional ties to local communities. However, the institution of the post office is much more than a traditional business – complex logistics operations and management of complex infrastructure play an important role in community development and contribute to wider societal significance. In the future, the postal sector should follow the development of new information and communication technologies and the widespread use of big data and analytics to optimize operations and implement innovations.

The work is divided into several units, which consider the place and role of the post office in the digital environment, new positioning in the market, presence in social media, and the development of postal brands in the new environment.

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2. DIGITALIZATION AND POSTAL SERVICES

The postal sector under the influence of digital transformation is going through a process of adaptation, change, innovation, implementation of new technologies, and diversification of services in order to adapt its offer and manage to survive, grow, and develop in the changed market. Postal traffic, once the only form of communication and the first social network, precedes telephone traffic and the Internet. The expansion of the Internet and digital media has changed the philosophy of communication. Changes in the communication market under the influence of means of communication that offer greater reliability, efficiency, and comfort require new solutions. Postal operators transform the existing service offer and respond to the changed needs of all more demanding users.

According to [1], the development of new technologies requires the search and finding of new tools, models, concepts, and methodologies, which should be the basis of restructuring the operations of organizations from the service sector. The postal sector is in the middle of a transformation caused on the one hand by ongoing processes of globalization, liberalization, and corporatization that increase indirect and direct external competition, and on the other by the rapid development of new technologies. Information technologies are not only drivers of the business processes of postal operators - they become the core of the development of the postal sector, which synergizes the virtual and physical world. One of the most important conclusions [2] is that the majority of respondents - postal operators (89%) believe that their governments see the universal postal service and/or the postal network and postal services as a tool for development, with 89% chose social inclusion as a key driver, 84% economic development, and 77% local development, especially for small and medium-sized enterprises.

In the process of adapting to new market conditions, the postal sector can use some of its specific features:

- traditional relationship of trust with clients based on long-term service provision,
- a dense distribution network especially in developing communities is complicated to establish - postal organizations already have these networks and
- physical presence based on the concept of providing universal postal service, and territorial and personal availability strengthens social cohesion.

3. RESPONSE OF THE POSTAL SECTOR TO CHANGES IN THE ENVIRONMENT

Postal operators adapted, updated their offers and began to diversify their business towards neighboring markets along with changes in the environment. When these factors began to affect consumer habits, the postal sector proved able to respond through surprising resilience and adaptability. The postal sector's response has been to use different, but not necessarily conflicting, strategies: improving existing products, introducing new postal services, acquiring strategic businesses and assets, and diversifying operations.

Within the new business phase, the specific characteristic of widespread physical presence and trust of consumers can lead to a new strategy that fully integrates them into the digital world. The postal sector has the opportunity to redefine itself as a new kind of online-offline platform that can keep up with changes and facilitate the digital transition for consumers and citizens [3].

In the digital environment, companies communicate with users through online platforms. This concept does not seem foreign or contrary to the characteristics of postal organizations. Where the physical element plays a role, postal operators have an advantage because of their strong reputation built on direct personal contact with users, with a particularly important social role within communities. Physical presence and consumer trust can be key added values for many online activities. Postal operators could become the base platforms for a range of activities on online platforms: government services, digital identities, insurance and financial operations, telecommunications products and trade mediation. There are also social and socially responsible programs such as measuring environmental pollution and helping the elderly. Postal platforms could become a kind of "personal assistants in life" for citizens affected by the problem of digital transformation, given their local presence.

The five major European postal operators have taken steps to direct their operations in light of the changes in the environment (Table 1).

Table 1. Changes in the operations of five large European postal operators

Royal Mail	Deutsche Post DHL	Le Groupe La Poste	Poste Italiane	Correos Group
Focused on traditional delivery services	Focused on mail and logistics	Focused on traditional delivery services	Reduced focus on traditional delivery services	Still focused on traditional delivery services
Improving the quality of service	Improving the quality of service	Diversification: banking, insurance, asset management	Diversification of services	Building partnerships with online platforms (e-commerce)
Territorial availability	Territorial availability	telecommunications	MVNO (Mobile virtual network operator)	An enabler for e-commerce companies
	New areas - food logistics and healthcare	Sharing economy/smart cities - shared mobility, recycling, delivery of health products		

According to Robert Atkinson, president of the Information Technology and Innovation Foundation, a Washington-based public policy think tank, the United States Postal Service (USPS) has made great strides in sorting automation, and the next step is to implement robotics [4]. The USPS invests relatively little in research and development - in 2019, it invested \$1.7 billion, or 2.3% of revenue, in capital equipment and only \$26.7 million, or 0.04% of revenue, in research and development. In contrast, the private courier and express industry contributed \$10.3 billion, or 11.8% of sales.

Robotics will be the most important technology in the next 40 years in terms of its impact on productivity growth. In the postal sector, robotics is focused on the development of systems that could economically and reliably sort, move, and deliver parcels, which would minimize labor costs with a significant human aspect. Other technologies that the postal sector could experiment with and implement are autonomous trucks for long-distance mail movement and drone delivery, which could play a key role in remote rural areas. Thus, the focus is on "process" innovations to increase postal productivity, including stronger partnerships with the private sector in certain segments of the postal service, while there are also areas where the state should play a key role. Embracing radical technological innovation is the best insurance for the future.

Innovative changes implemented by the postal sector are often out of sight of consumers. Optical character recognition technology equipment, which is well known and used in the mail processing support industry and little known outside the industry, works with machines that read almost 98% of hand-addressed mail and 99.5% of machine-printed mail.

In the public sector, the development of information technologies and information systems, and the development of big data and analytics requires that the management of information systems be entrusted to the highest strategic level. Information technologies are not only drivers of the business processes of postal operators - they become the core of the development of the postal sector, which synergizes the virtual and physical world.

The falling cost of collecting, processing and storing data, combined with the rapid accumulation of new data sources and analytical tools, enables postal operators to extract value from very large amounts of internal and external data to support improved operational, business and strategic decisions. The term Big data itself contains three criteria: a large volume that makes storage and processing difficult, the speed with which they are generated and the variety of data sources (structured and unstructured). In addition to these, two other characteristics are significant: the value related to the usability and applicability of these data sets and the quality, i.e. reliability and accuracy. Big data is generally "previously ignored" data, meaning it was either collected but not analyzed or not collected at all until organizations recognized its value.

The possibility of equipping the postal infrastructure and network (vehicles, boxes, shipments and packages, sorting centers, etc.) with cheap sensors will exponentially expand the ability of postal operators to collect valuable data in the future. Post offices could use their universal reputation as a trusted "steward of information" through the role of a trusted third party and participate in the "open data" revolution by making postal data publicly available to innovators to develop new services and applications. However, to succeed, they will need to design transparent data

policies, establish tools and strategies for effective data analysis, and combine a new digital data-oriented culture with their traditional business approach.

Big data analytics can support any postal activity — letters, parcels, logistics, retail or financial services. The most significant areas of future application are considered to be: optimizing business processes, enriching product offerings, supporting economic growth and supporting government services and policies. It can also support a variety of business goals - from process optimization and cost reduction to customer interaction or revenue generation. Open data strategies can also help postal operators rethink and innovate their "public service" mission to support government services and economic growth [5].

Effective management of this data is a big challenge that requires a new way of thinking. Employees in the postal system, in order to be able to successfully introduce new services, need to master special knowledge in the following areas: data mining; knowledge management; optimization of traditional postal services; modeling and simulation; e-mail business innovations; innovations in e-finance; innovations in e-government and the use of ICT for employee involvement and community engagement [6].

4. SOCIAL MEDIA AND THE POSTAL SECTOR

Social media has revolutionized the world of communication and commerce by radically changing the user experience and the way people shop. Most organizations now have an almost unimaginable opportunity - to reach millions of people who communicate with each other, access information, and recommend products and services directly, in real-time, and at lower costs. The concept of sales changed - from a single sales channel, through multichannel, sales through cross channels, to evolving through omnichannel into a comprehensive concept focused on the needs of customers. At a time when the traditional role of the post office is changing due to the development of digital alternatives, social media offer a new way of connecting with customers, the development of new products that unite the physical and digital worlds and reveal new opportunities for positioning postal services - they are not only present, but relevant and vital in the new communication environment.

A USPS report [7] outlines 4 steps in a social media development strategy:

- Commitment to social media applies to all levels of business through defining clear goals, developing a strategy for their achievement, dividing tasks and providing resources,
- Building a network of followers - motivating users to become part of the network by posting interesting content, encouraging and maintaining communication in an honest, transparent and informal way,
- Using the network (brand promotion, market analysis, direct sales, recruiting new employees) and
- Measuring online success (collecting, analyzing and using information about user preferences and reactions and measuring the parameters defined through the performance strategy on social networks).

In addition to the most represented networks - Facebook, Twitter and YouTube, the USPS postal service also uses Pinterest, defined as a "catalog of ideas" due to the simple possibility of placing visual content and creating a direct connection with the website (presenting new postage stamps, selling Click-N-Ship products, scheduling pickups shipments), while UPS uses Pinterest as a virtual store offering, among other things, creative ways to wrap gifts or useful tips for small business operations. Analyzing the data, it is difficult to determine what percentage of the sales of postal products and services are due to social media, but it has been unequivocally established that if an announcement related to a specific product or service is posted, sales have increased. A successful social media strategy requires cross-functional management, so that every department (marketing, communications, human resources, sales, customer service...) can take advantage of the opportunities presented.

The problem of online visibility can be solved by cross-linking different social networks, highlighting the logos of different social networks on the operator's official website and in advertisements. Postal operators are daily present and visible throughout the national territory (packaging, mailboxes, own vehicles...), so they represent a subtle reminder to users who, depending on their own preferences, can access the appropriate company profile. Establishing a social media presence provides the ability to reach customers on their preferred channel, but beyond presence, building relationships requires creating content relevant to their interests in an informal tone that represents the younger generation's communication style. Users follow a certain page in order to be informed promptly about important information, new products, and services. In addition, users enjoy seeing useful, interesting and entertaining content. The direct contact achieved in this way accelerates communication in solving problems and complaints and reduces costs in relation to the organization of a call center and telephone support, so that the postal sector is motivated to explore the possibilities of social networks.

The postal service has many different interest groups (users, suppliers, consolidators, direct mailers, small businesses, stamp collectors, employees, future employees...), so through social networks it can adapt its content in

order to build a tighter community with specific interests or interests. A wide network across the entire national territory provides the possibility of global action, but very often the needs, i.e. the demand for postal services, are linked to the local post office, so users from a certain area may find it important to have a profile on social networks that is not linked to a global brand, but for the local branch. It is possible to create positive messages that reflect the good characteristics of the postal brand by relying on the common behavior of users on social networks who share useful or funny posts and thus promote the postal organization. The power of digital media can be used to promote and share positive things from the daily practice of employees, a special moment of user experience, as well as to demystify misconceptions. The interactivity achieved through social media enables the collection of new ideas on improving products and services through contests or voting. Users are satisfied with the new position of participation and decision-making, and service providers receive useful information first-hand.

The practice of sharing photos, messages, invitations, and sending birthday cards is a common use of social networks. These services were previously traditionally linked to the postal sector, so that through the partnership of digital and physical services, it would be easier for users to use hybrid products and enable the achievement of the best combination of the immediacy of electronic communications with the effectiveness of traditional mail.

The development of the concept of social e-commerce allows postal operators that are present on social networks and that function as storefronts to sell their products, but a new business opportunity also arises - the creation of partnerships with e-retailers through the simplification of the filling procedure and the delivery process where the interface would be defined by the e-merchant, while all postal and logistics services would be performed by the postal operator.

Some innovative addressing concepts that are known from before, through the integration of a physical address and a Facebook profile, would enable communicating and sending messages and gifts online without revealing redundant data, while all data would be stored with a trusted third party, i.e. of the postal operator - the seller is paid, the buyer receives the product, and the data is safe without the risk of compromise. Expressions of great sadness and great joy as a result of sharing information on networks could materialize on this one act through sending telegrams, greeting cards or invitations as appropriate in relation to commenting or liking posts.

Social media analytics is the backbone of developing a social media presence strategy. On the Facebook platform, Like, Share, Comment for each post speak about the scope of the network and the interest of users in the topics that have been selected. Also, the number of clicks and how many of them were converted into sales can be determined, which is usually used as an argument for the justification of investing in advertising in this way. It is of particular importance to establish contact with influencers who generate new users with their influence. Building such relationships enables not only the creation of new connections, but also a wider influence on public opinion and the creation of conditions for wider interest in postal products and services. Also, on social networks, a hypothetical question about a change or introduction of a new service can be asked, and the extent to which positive, negative or neutral comments appear.

In implementing a social media strategy, it is crucial that staff throughout the Postal Service, including those at senior levels, are committed to the goals achieved in this way. If the post office keeps an open mind and is thoughtful and dedicated in the implementation process, the possibilities offered by social media are almost limitless.

Security threat actors can exploit the online presence of the operator and its followers to discredit the brand, increase business risk or compromise integrity. Although such attacks may be considered isolated incidents, the rapid exchange of digital information can cause a certain news or video to go viral on social media and result in the erosion of brand equity. Without effective monitoring capabilities, unauthorized use of organizational information could go undetected resulting in misinformed users/customers, damage to business reputation, loss of consumer confidence or potential fraud. An organization's security posture refers to its overall cybersecurity strength and how well it can anticipate, prevent, and respond to the ever-changing cyber threats that threaten its digital presence [8].

Important attributes of a corporate postal brand are:

- trust (security, privacy, security of personal data, inviolability of shipments),
- reliability and ubiquity (safe delivery of parcels throughout the national territory with a predetermined frequency resulting from the obligation to provide a universal postal service, daily contact with post office employees, the post office as a social hub),
- convenience (availability and ease of use),
- tradition, value, personality (accessibility, long history of successful business, workforce - public face of the brand) and
- innovativeness (awareness of the importance of adopting new technologies in the business environment) [8].

A strong corporate identity attracts and retains customers, and positive brand perception translates into big money. Customer loyalty to a brand can lead to repeat purchases, inspire word-of-mouth advertising, and foster resilience in an era where social media allows news, especially bad news, to travel fast [9].

5. POSTAL USERS IN THE NEW ENVIRONMENT

Users of postal services are becoming more environmentally conscious and expect more flexible and customized services from postal operators. They will be creative consumers who want the power to tailor products and services to their personalities and lifestyles. Users will want a greater sense of control. Certain categories of the population (lower level of education, the elderly, people with disabilities) will need a communication channel such as mail, but certain companies will choose physical mail because it is harder to ignore than electronic communication formats, and there will also be certain groups of users who will, according to personal preference, choose the physical format. Of course, certain postal items cannot be digitized due to legal, cultural, or other requirements.

A special consumer group, the so-called Millennials - digital natives, see virtual interaction as a tool to simplify everyday life. They willingly provide their data expecting companies to learn from it and improve their consumer experience. Naturally social and connected, they share every important decision and are directly influenced by communities. Consequently, the need for accessibility (everything in one place) and digital urgency ("I want it now") increases their level of expectation. In this sense, the postal sector can improve the user experience of this group of users by digitizing some aspects of its services in combination with its competitive advantage - human interaction. Using the "phygital" concept - a synergy of physical and digital that connects online and offline environments will enable post offices to create a closer, more efficient and more humane user experience.

In contrast to the one-to-one communication concept achieved by postal mail, millennials are used to the one-to-many or many-to-many concept. In this context, it is important for postal organizations to provide these users with a constant positive feeling that will encourage them to repeat their experience and influence their communities. In this regard, the postal sector can increase customer orientation by digitizing some aspects of its services, combining them with its significant competitive advantage that still exists - human interaction. Stepping into the digital sphere does not necessarily mean that everything should be digitized. It is about creating new opportunities and diversification through digital transformation.

A large network of access points that enable the establishment of contact between users and operators, and a large number of postmen in the field distinguish the postal sector from most other companies. By combining physical and digital channels, the postal sector can truly differentiate itself and create a great opportunity to attract new customers. Connecting with online customers can be accomplished through mobile technologies, offering customers a personalized continuous customer experience in an omni-channel ecosystem.

Also, postal services can be classified as a resource that is multifaceted for the community because, by providing these services, users' demands are realized, which are essential for everyday life [10]. The Universal Postal Union defines postal social services [11] as services that are explicitly designed to provide a direct benefit to society, are provided regularly, reliably, and are widely accessible. Social services are primarily personal, usually involve face-to-face interaction with the public/users, and are closely related to the trust, motivation, training, and goodwill of postal workers, primarily postmen and counter workers. Proposals for new social services should be created and developed in consultation with postal workers and their representatives to ensure participation and commitment in service delivery. A user-centered approach is essential to the success of the social service concept. The basis for the development of these services must be an understanding of the needs of local communities and key user groups. SPS has defined six important areas within which there are around 40 services that different postal administrations already offer: health and well-being, education, social cohesion, participation and inclusion, access to government services, waste, recycling, energy and utilities, and data and technology. Some social services generate direct income for the post office, while others represent an opportunity to achieve goals defined through a socially responsible business strategy or to improve visibility and brand recognition.

6. CONCLUSION

Post as an essential instrument of communication, trade, social and territorial cohesion, with its historical and nostalgic social role changes over time. The transformation process is caused by the ongoing processes of globalization, liberalization and corporatization that encourage competition, as well as the rapid development of new technologies such as artificial intelligence, the Internet of Things, social media... The postal sector responds to changes by building strategic public-private partnerships, sharing resources and infrastructure, developing social

postal services, diversifying existing services using digital technologies, further strengthening reputation and brand, increased participation of all employees in the creation of innovative services, strengthening customer-oriented approaches with a, full understanding of the needs and demands of the local community creating a business model that is adaptable, sustainable, innovative and profitable.

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The Applicability of the Consolidation Center in the Postal Sector

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Abstract

The sudden increase of low-quantity deliveries that must be realized in urban environments requires that measures be found and taken to alleviate inevitable undesirable effects. As a result, the superiority within the sector that the postal/logistic operators have strived for is turning into a need to cooperate with the goal of increasing efficiency and bettering the image of the socially-conscious sector. The concept of consolidation centers as a specific form of the sharing economy that has the goal of achieving sustainable business operations and wider contributions to the community enables better organization of delivery; that is, it enables a certain level of adaptability in the last-mile section. The purpose of this paper is to show how consolidation centers can help us leave behind the concept of a high number of regions defined in different ways with a high and unproductive mileage covered by different operators and shift to the concept of minimizing total mileage of routes covered by a courier/vehicle and maximizing productivity.

Keywords: Consolidation center, postal operators, optimization, delivery, last mile

1. INTRODUCTION

The product cycle in postal services contains four mutually dependent technological phases comprising specific activities, and those are reception, processing, transportation, and delivery. Each phase includes appropriate actions of manipulation and control. The implementation of new technologies, mechanization, and automatization of processes reduce the number of errors and facilitate mail tracking in all phases, both for the consumer as well as the provider.

According to [1], the expenses of different technological phases when handling letters and packages are different. The most considerable share in both cases includes delivery expenses, which make up 50% in the case of letter delivery. On the other hand, transportation costs are much higher in the case of packages (Table 1).

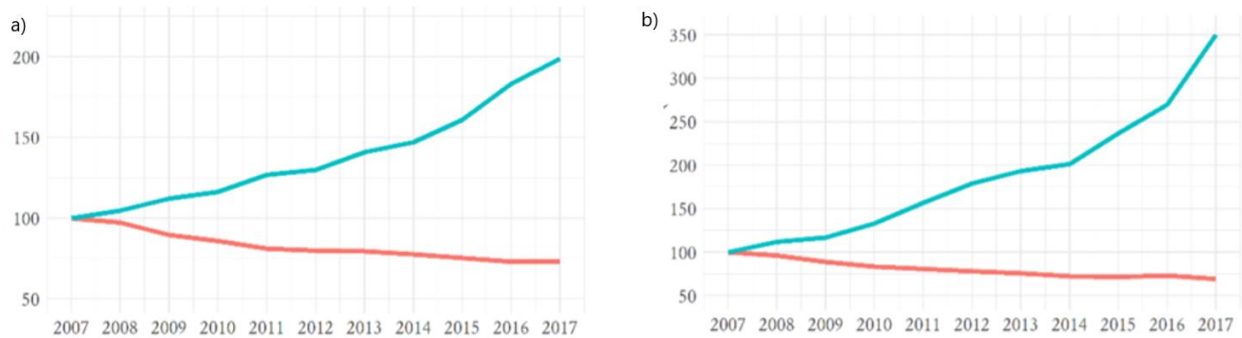
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Table 1. The expenses of handling letters and packages

Technological Phase	Letters	Packages
Delivery	50%	39%
Sorting	15%	17%
Collection	12%	10%
Transportation	7%	21%
Other expenses	16%	13%

Report [2] points out that postal services are still a necessity for consumers in the digital environment, at a time when the number of letters is continuously dropping, while the number of packages is on the rise (Figure 1).

Therefore, every operator in the postal market is facing high expenses in the transportation process, regardless of structural changes or scope of deliveries. One of the solutions that could eliminate or drastically alleviate this collective problem is the formation of one or more consolidation centers (CCs). This term, in the context of postal services, refers to a postal-logistic facility located in the relative vicinity of the area where consumers are located, whose role



is to connect several operators in order to reduce individual loads, especially in central urban zones. Unified delivery, as a consequence of the implementation of CCs, also leads to better usage of working hours and storage facilities, and by extension, shorter mileage for couriers on foot and delivery vehicles, easier access to a larger number of individual consumers, and simpler access to business districts in city zones where that is usually impossible or very expensive.

Fig. 1. The global market for letters (—) and packages (—) (a) national postal services; (b) international postal services

In the second part of this paper, the authors introduce the concept of CCs; in the third part, they analyze the problem of locating CCs, advantages, and limitations; in the fourth part, the authors analyze the circumstances of the possible implementation of CCs in Belgrade, Serbia; and in the last part, they present their conclusions.

2. THE CONCEPT OF CONSOLIDATION CENTER OPERATIONS

If consolidation is the process of grouping mail together with the goal of more efficient transportation, and a consolidator is a person that, based on a contract, groups the mail with the goal of more efficient transportation [3], then the definition of a consolidation center (a logistic facility that serves the entire city or a part of the city [4]) can easily be adjusted to the problems facing the postal sector. The idea for the development of the CC concept, whose services shall be used by multiple postal operators with a license from the appropriate regulatory body, is based on the readiness to accept the sharing economy principle, where postal operators make their own resources available for others, and in return, gain access to others' resources, thus changing the business philosophy from “having” to “sharing”.

Thus, instead of a large number of processing centers from different operators, now there are one or several CCs covering specific service zones defined based on statistical data regarding the number of parcels and locations of requests. The regulation that covers this area calls for a clearly defined relationship between urban logistics and the postal sector, so CCs can either work on a voluntary basis or through mandatory participation in the consolidation. In both cases, the basic idea is for these centers to be located as close to the service demand zone as possible, to enable maximal operational flexibility, and to lead to lower transportation costs, better usage of flexible transportation capacities, staff, and a smaller fleet, the option to procure and use eco-vehicles and auxiliary delivery means, and the minimization of the many ecological side effects.

In accordance with this, every CC faces at least three unavoidable conditions for successful operation: to be in accordance with consumer demands, local and national legal limitations, and the limitations and conditions in the

field. Aside from these three conditions, there are three important factors, which may be categorized as social, economic-technological, and ecological, and which have or may have in the near future an unavoidable effect on the need for CCs:

- Lack of workforce
- Further development of e-commerce
- Environmental protection [5].

According to the 2022 data provided by the national regulatory body, there are 45 postal operators in the Republic of Serbia. Given that this area is characterized by a significant degree of cadre fluctuations, as well as a high level of migration abroad, and traditionally low incomes, the optimization of staff in this segment could lead to better working conditions and an increase in employee satisfaction.

The importance of this market is especially evident from the 2021 data on a total of 47,245,711 express parcels in UPS, out of which as many as 85% were merchandise parcels [6]. The share of merchandise parcels is closely tied to the rising trend of e-commerce, which experienced a significant jump during the pandemic (online card payments in RSD saw an increase of over 100% in 2020 compared to 2019). With the rise of the urban population, the development of e-commerce, and the increase in the number and availability of e-commerce platforms, the expectations and demands from consumers are changing, too.

The constant rise of urban population, high population density, and industrial activity lead to a high level of air pollution, so there is an increased need to reexamine and redefine transportation logistics. The CC concept would base its operations on the practice of sharing data on the scope of demand, with the goal of lowering the total mileage and the number of vehicles in use by defining key routes and their optimization, directly improving traffic safety, lowering carbon dioxide emissions, enabling storage and loading optimization.

This concept demands new expertise and different relationships on the market between all concerned parties (regulators, service providers, and consumers), and it presents a good basis for a new form of cooperation between competing organizations that promotes inclusivity, transparency, and sustainable business models.

3. THE LOCATION OF THE CONSOLIDATION CENTER

The location of a CC is a facility where a CC is to be built or already exists. This place has to enable the provision of logistic services in an optimal way for the defined area where demand is generated. The problem of the location, in this case, includes the definition of the number of CCs, finding the optimal out of all the possible solutions for the location of future CCs, as well as the distribution of consumers. The decision on the location and number of CCs for each urban area is a strategic one, and it requires political will and significant financial support. The optimal model does not exist, but there are different options that can be combined.

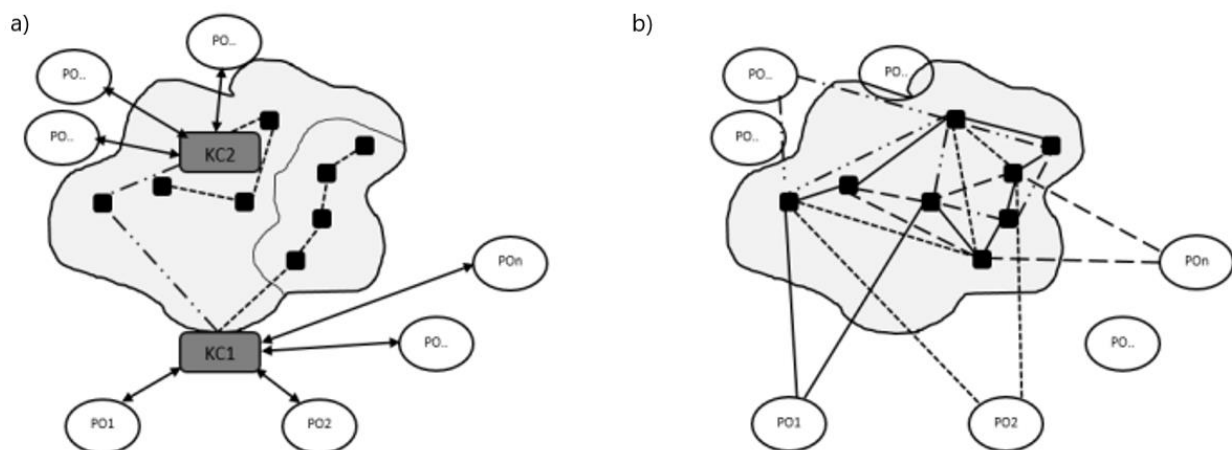


Fig. 2. Delivery routes with CCs (a) and without CCs (b)

The authors' basic idea includes a division of the city into delivery zones, where each one is defined by population density, number and size of commercial subjects, and the estimated demand for delivery services. Aside from GIS technology, which is designed for the management of spatially oriented data, certain geographical data can be efficiently processed and tied to the data and consumer attributes discussed in this research. The results of the application of the technology are zones that enable efficient analyses of consumers, the market, and sales, and that allow for the answers to many organizational questions [7].

After the zoning of the delivery area of a specific CC comes the definition of the regional itinerary that shall be used when delivering mail. Depending on the scope of mail and the characteristics of the recipient, there are two possible options:

- Delivery of larger loads using one of the transportation vehicles with a defined capacity;
- Delivery of smaller loads carried out by a courier on foot/bicycle/motorcycle equipped with auxiliary delivery tools that allow for concurrent delivery of a smaller amount of mail throughout the entire day.

The first option means that there is a certain number of points in the delivery region where a larger amount of mail is delivered daily or regularly (shopping malls, office buildings...), which calls for a transportation vehicle of a certain capacity.

Information required:

- A delivery matrix where the CC is the base (starting point, $i=1$), and the delivery addresses are nodes in the network ($i, j=2, 3, 4...$). Since time is an important factor and affects the quality of the service in the postal sector, the length in the matrix is best converted to the time necessary to move from one node to another. In the case of nodes where it is unclear whether they will be connected due to a large distance or unsuitable demands in terms of delivery times, they should be marked for ∞ distance. Thus, $d_{ij}=t_{ij}$, with the transportation time including the time to service node i ;
- Transportation vehicle capacity – an important limiting factor, especially in the case of dynamic itinerary definition;
- Demand in nodes (average or daily demand may be used);
- The earliest moment in time when the delivery vehicle can reach node i , as well as the last moment when service provision must be finalized – this condition is especially important for the consumers who have special requests in terms of delivery time and can be defined as a time interval;
- Savings matrix due to the addition of new nodes in the network until the capacity of the transportation vehicle is full $S = d_{1i} + d_{1j} - d_{ij}$, $i, j = (2, 3...n)$;
- When adding each new node, i.e., defining a new branch, it is important to note whether it fits the defined time interval (when and if it has been defined);
- If the vehicle must wait to begin the provision of services, then the time interval defined for the provision should be extended by waiting time.

The number of nodes may be increased as long as the demand of the nodes included in the partially defined route is lower than the capacity of the vehicle. In theory, this means that all nodes may be included in a single route ($i=2, 3...n$) if $v_2 + v_3 + \dots + v_n \leq V$. In addition, it is possible for only one node to be included in the accepted route (e.g. k), in which case the route of the vehicle would be $1 \rightarrow k \rightarrow 1$ (base, node, base).

In the second option, there is a high number of nodes in the delivery region where a smaller amount of mail is delivered occasionally (rarely daily) (usually residential areas). The delivery is realized by a courier on foot/bicycle/motorcycle equipped with auxiliary tools (usually a cart or a mini-trailer for bicycles/motorcycles). The most significant advantage of this approach is the positive ecological effect on the environment.

Alleviating circumstances compared to the first option:

- Consumers, in this case, usually do not have strict demands in terms of quick delivery;

- There are no limitations in terms of delivery times (delivery may take place throughout the entire day, and consumers can stay informed on expected delivery times using new technologies, or they may not even have to be home (in-home delivery, in-car delivery, in-garage delivery, in-fridge delivery));
- Local deliveries can, in the case of a larger amount of mail, be entrusted to independent drivers, which must be clearly defined through appropriate regulation.

Limiting factors:

- The capacity of the auxiliary transportation means may be defined based on the average demand in a certain area – the maximum capacity may affect the itinerary, i.e., it may require a division of the region into two or more couriers or an additional trip to the CC and back to the delivery region;
- The time necessary to provide the service – the provision of each service is designed so that the total time required for it may not exceed the courier’s working hours. Otherwise, the region must be distributed to two or more couriers.

4. CASE STUDY ANALYSIS – THE CITY OF BELGRADE

The problems that occur in this segment of operations were analyzed in Belgrade, the place with the highest amount of main Serbia, both in the reception and delivery phases. It is natural, then, that the most complex courier commuting system must be solved here. The goal is to minimize the total courier mileage while satisfying the projected quality standard, minimizing the number of staff, and maximizing courier productivity.

According to the current operational processes, delivery has been decentralized by the designated postal operator (DPO) – it falls under the jurisdiction of 11 delivery post offices. Aside from the DPO, central warehouses of four more operators have been considered, one of which has 3 central warehouses, while the rest have only one central warehouse in Belgrade, making the total number of delivery units 17 (Figure 3).

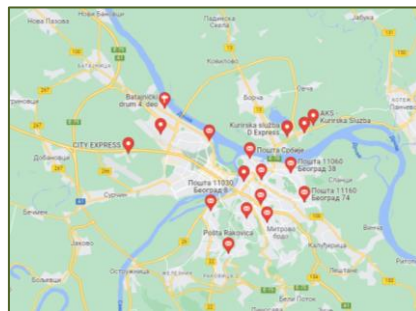


Fig. 3: Geographical distribution of central warehouses/post offices in the territory of Belgrade

In the case of a single base – CC, two very commonly used approaches are routing-zoning and zoning-routing, as well as the Clarke and Wright Savings Algorithm, and, considering the indeterminacy of travel times, distance, and transportation expenses between certain pairs of nodes, a very appropriate model, in this case, can also be the Modified Clarke and Wright Savings Algorithm based on the rules of fuzzy arithmetic operations. In the case of multiple bases, the problem may be solved in two steps – certain bases join certain nodes they service, and then vehicle routing is defined for certain bases as in the case of a single base. If the solution also includes time limitations characteristic of this problem, it gets increasingly complex, as time points and intervals for the beginning of delivery activities must be met.

In accordance with the existence of significant competition, ideas of strategic alliances have sprung up through the unification of service centers, closing, opening, and sharing of terminals, as well as the allocation of service centers to terminals. By applying the genetic algorithm, an optimal work plan within the alliance to maximize profits and meet the rising consumer demands has been created and applied to the alliance of four companies (Figure 4) [8].

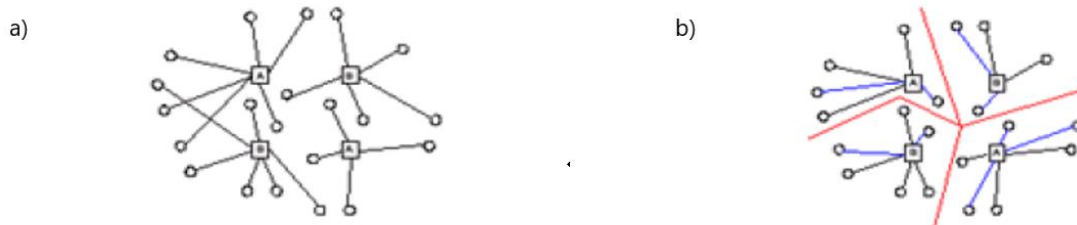


Fig. 4. Solving the case of four companies through an alliance (a) before applying the model, (b) after applying the model.

In addition, the problem may be solved by defining a CC’s operations through two approximate reasoning algorithms – the first one makes the decision on which vehicle will take over the request, and the second one designs the new route by adding the new request to the route for the chosen vehicle using fuzzy logic [9]. Flexible delivery to areas that are adjustable to the current demand, rather than a predefined fixed area based on the idea of auctions among service providers within the “last mile”, realizes a mutually beneficial cooperation, rather than a competition with the goal of increasing efficiency. Depending on the size of the corridor, the number of critical points in the auction changes, too (Figure 5) [10].

The work of express services for large urban areas can be solved using SRP (Street Routing Problem) through the mixed service model – vehicle transportation to the first area, servicing the entire area on foot, and returning the vehicle to the depot, all with multiple couriers. The problem is solved in two phases – first, the clusters are defined in a natural/intuitive way and the approximate length of the route is calculated, and then the special VRP (Vehicle Routing Problem) is solved using a network of roads [11].

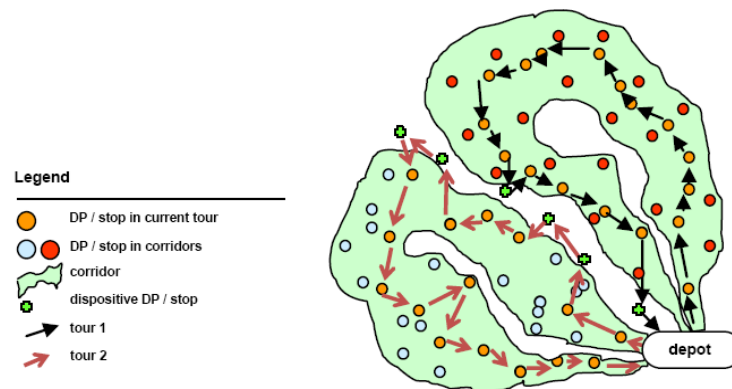


Fig. 5. The formation of master routes and solution of conflicting requests

The basic idea in defining the regions is that they can be changeable – once defined, the regions, i.e., their borders, depending on the demand for certain services and the parameters calculated using GIS, may be changed.

The important factors to consider when determining the CC location include:

- Population density
- Number of legal entities, and
- Average net income.

Table 2. An example of a table

Belgrade Municipalities	No. of Centers	Population Density by km2	No. of Legal Entities	Income
Cukarica	1	1,080.2	13,674	85,631
Novi Beograd	0	5,316.72	20,306	115,099
Palilula	4	348.8	13,404	80,157
Rakovica	1	3,300	6,247	80,131
Savski venac	2	3,036.1	7,244	107,820
Stari grad	1	7,934.7	10,804	116,071
Voždovac	1	1,018.6	13,067	93,581
Vračar	0	19,462	8,361	117,871
Zemun	4	1,275.4	13,380	82,423
Zvezdara	3	4,144.4	13,571	91,726
Barajevo	0	115.7	1,459	61,323
Grocka	0	261.1	5,010	62,016
Lazarevac	0	152.4	2,164	80,860
Mladenovac	0	154.8	2,495	60,346
Obrenovac	0	173.1	2,998	67,979
Sopot	0	75.2	1,144	58,888
Surčin	0	250	2,564	61,874

Population density is considered an important decision-making factor as it is directly tied to service demand, and it is expressed as the number of inhabitants per square kilometer. According to the 2022 data from the Statistical Office of the Republic of Serbia, the city of Belgrade has a population of 1,681,405, residing in 17 municipalities, while the average population density is 521.7 inhabitants/km2. [12]

The number of legal entities is an important variable because it is the focus of express and courier services that operate in this category. In a questionnaire distributed by the national regulatory body, the percentage of legal entities that use the express mail service is over 80%. In the future, certain segments may be improved (staff cordiality, speed of delivery, providing relevant information, mail safety, building long-term relationships with consumers, and partnerships for integration into the production process). Data collection on all relevant parameters for a specific area such as population, number of households, number of legal entities with names and activities, amount of mail by type, frequency of requests (every day, occasionally, rarely, only in emergencies), data about individual and group requests, methods of payment, time of request, and number and location of service units is a basis for continuous and more efficient market segmentation and betterment of service quality.

Information on the average monthly net income is important, as there is a relationship between the “better-off” population that utilizes modern communication tools more, including e-commerce, so the regions that have higher average incomes also have a higher number of e-commerce consumers, and by extension, more service requests for express mail (out of 81.5% of the population of Serbia that uses the internet, 72.4% of them order goods through e-commerce). According to the data from the Statistical Office of the Republic of Serbia, there are significant differences in e-commerce purchase habits in terms of age, sex, education, and employment status. According to the official data on service quality, the most important parameters for consumer dissatisfaction have to do with mail safety, unmet deadlines, and courier arrival speed.

5. CONCLUSION

Incentivizing the development of CCs is one way to increase the availability and efficiency of postal operators and realize inclusive and sustainable solutions for the community through redefining postal services and introducing relevant regulations. All data and operations, from all involved operators, in the case of CCs, must make up a unified system – centralization of all information simplifies the process of the realization of the last phase – delivery to a large extent. The decision to change the business model of postal operators should come as a result of long-standing cooperation between the postal sector and local communities, along with strong support from the national and local

governments through appropriate regulation. All interested parties should have appropriate benefits – service providers should see a decrease in expenses, consumers better quality service, and the local community – a healthier and safer environment for everyone.

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Micro Depots and Micro Mobility in the Function of Sustainable Development

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Abstract

Micro mobile vehicles represent an evolution in traffic created as a response to the excessive number of vehicles in cities, large traffic jams, air pollution, the need for greater mobility, etc. Micro mobility is a concept that combines a greater degree of mobility with environmental protection and sustainable development. Many countries and city administrations are turning to the strategy of sustainable development, which they achieve by using new technological and transport solutions, with the advantages of information technologies. The aim of the paper is to point out the impact that cooperation between micro mobile vehicles and micro depots has on the sustainability of city logistics. The results were obtained based on the analysis of domestic and foreign literature in the field of city logistics. The paper shows the efficiency in the field of sustainability and quality of life, which is achieved by the correct selection of the micro-depot location and the use of green and micro-mobile delivery vehicles.

Keywords: sustainability, city logistics, micro mobility, micro depots

1. INTRODUCTION

The demographic map of the world has changed significantly in the past few decades. The industrial revolution led to large population migrations from rural to urban areas. On the other hand, the progress of human knowledge through the development of medicine and technology led to a better quality of life for people and influenced their lifespan. Over the years, cities have grown both in size and in number.

In the middle of the last century, 30% of the world's population lived in urban areas, and already in 2007., the number of people living in rural and urban areas equalized. This trend will inevitably continue. The United Nations estimates that by 2050, two-thirds of the world's population will live in cities, or approximately 6.5 billion people. [1]

The high concentration of population in urban areas puts the need for mobility in focus. The daily commute of residents and movement due to various reasons leads to more vehicles on city streets. As a result of the increased demand for mobility, there is an increase in traffic jams, an increase in CO₂ emissions, an increase in noise levels, a longer time spent in traffic every day, which results in a decrease in the quality of life in urban areas.

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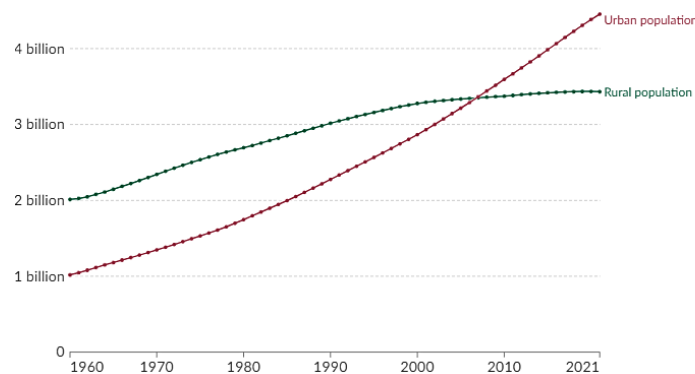


Fig. 1. Number of people living in urban and rural areas in the world
 (source: <https://ourworldindata.org/urbanization#number-of-people-living-in-urban-areas>, 15/09/2023))

The development of technology that have contributed to the development of human society at one point led to a decline in the quality of life. In order to stop negative effects created by the increase in urban population, society sees the solution in sustainable development strategy.

2. SUSTAINABLE DEVELOPMENT

Sustainable development is the development of society that satisfies human needs with available resources, while at the same time not endangering the natural environment. It can be said that sustainable development is one of the most important social strategies of modern society, if not the most important one. It represents the key philosophy of further development and preservation of society. The development of society should be directed towards socio-economic sustainability and the sustainability of the natural environment.

In response to overexploitation of natural resources, population growth, increased pollution, etc., the United Nations adopted a special program in 2015. with the goal of ending poverty, protecting and preserving the planet, and ensuring peace and prosperity for all people in the world by 2030. The program itself has seventeen goals aimed at sustainable development (Sustainable Development Goals -SDG). [2]



Fig. 2. Sustainable Development Goals defined by the UN [2]

Sustainable Development Goal number 11 is important from the aspect of urban logistics and it reads: "Make cities and human settlements inclusive, safe, resilient and sustainable". Making cities sustainable means creating career and business opportunities, safe and affordable housing, and building resilient societies and economies. It involves investment in public transport, creating green public spaces, and improving urban planning and management in participatory and inclusive ways.[2]

As an example of good practice aimed at sustainable development, we can look at Paris, which accepted the so-called "15-minute city" plan. According to this plan, the number of diesel vehicles will be zero by 2024 and the number of fossil fuel cars will be zero by 2030. In the following years, the focus is set on green mobility, and one of the goals is development of 1000 km of cycling lanes across the city.[3]

3. URBAN LOGISTICS

Every company and every resident in the city represent a potential traffic and transport generator. Numerous traffic, economic, social and ecological criteria imposed by users (both company and resident) directly affect the efficiency and effectiveness of transport and logistics activities in cities. [4]

As it was already said at the beginning, the increased traffic and transportation requirements of the urban population contributed to the emergence of numerous urban problems that adversely affect the quality of life in cities. The need for mobility within urban areas has led to an increase in the number of vehicles for all purposes (private vehicles, vehicles for mass transport and vehicles for transportation of goods). Some of the problems caused by the increase in demand for traffic and transport are:

- Low air quality,
- Climate changes,
- Increasing the noise level,
- Traffic congestion,
- Lack of space [4].

We define city/urban logistics as the part of supply chain management that plans, implements and controls the efficient and effective forward and reverse flow and storage of goods, services and related information between the point of origin and the point of consumption in order to meet customer requirements. [5]

64% of all kilometers traveled in the world today are done in urban areas, while the prediction that the number of kilometers traveled in urban areas will triple in the next 30 years. [6]

The development of the Internet, electronic and mobile banking, e-commerce, puts the simplicity of use and availability of services in the foreground.

The number of e-commerce transactions worldwide is on the rise. As a direct consequence, there is an increase in the volume of shipments. Logistics companies are facing great challenges because of the numerous goals listed above. In order to be economically competitive, socially responsible and meet the user demands, transport and logistics companies must implement new technologies, in order to achieve efficient process in all stages of the technological processing. Considering that the greatest impact on the environment is through the transport phase, it is logical that special attention should be focused on the last mile delivery.

Logistics companies must adapt their operations to numerous infrastructural challenges. In addition to being necessary for efficient business, the expansion of logistics infrastructure and its activities is also the biggest obstacle for logistics companies.

Last mile delivery represents the transport of goods or shipments from the distribution center (warehouse) to the end user. The actual process of delivery in the last mile is affected by numerous restrictions. The location of the user in relation to the distribution center directly affects the costs and time of transport and delivery, determining the route and the number of stops on the delivery route, the choice of means of transport, traffic conditions, requirements imposed by users, etc. [7]

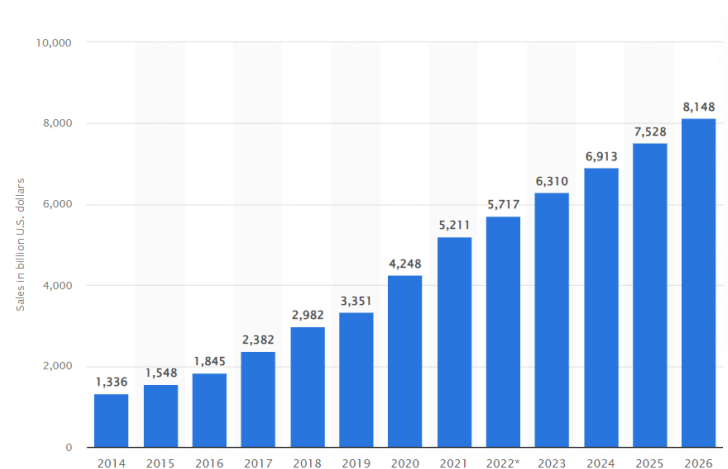


Fig. 3. Statistics of the number of e-commerce transactions in the world. source (<https://www.statista.com/statistics/379046/worldwide-retail-e-commerce-sales/>)

Taking into account the growth of e commerce, the number of urban populations, as well as urban infrastructure, the problem of distribution of goods in urban areas is put into focus. City logistics is not only aimed at the end user. It must be socially responsible and therefore has multiple goals depending on the social subject being observed:

- City authorities, regulatory bodies, direct their attention to the quality of life and their focus is on the social responsibility of logistics companies, which is reflected in noise reduction, pollution reduction, the use of green vehicles and the impact on deliveries outside of peak hours, which would affect traffic jams.
- End users, legal entities, expect from city logistics above all an accessible and reliable service, where the price is not of crucial importance.
- The transport and logistics companies themselves strive to reduce operating costs, taking care to maintain the level of quality of services they offer to users.
- End users, natural persons, expect reliable and fast delivery from city logistics. A service that must be available at any time and in any place and at an affordable price.

One of the biggest problems in urban areas is the lack of space, that is, the price of urban land that arises from it. Numerous cities around the world are faced with infrastructural problems that are reflected in reduced traffic flow in central city areas as well as a lack of parking spaces.

As a result of the aforementioned restrictions, logistics facilities are being moved to the outskirts of cities. Greater spatial distance between the service provider (the place of concentration of goods) and the user (the place of delivery) means a longer delivery time and higher transport costs. In order to increase the efficiency of operations, transport and logistics companies are implementing network transformation.

To that end, it is proposed to form a micro depot in synergy with micro mobile vehicles.

The problem faced by transport logistics companies in cities today is how to reduce the costs of urban delivery, taking into account reliability, delivery speed and price, while fulfilling the requirements of a socially responsible company.

4. MICRO MOBILITY

Micro mobility represents a new traffic solution that appeared as response to greater mobility requests in urban areas. The development of micro mobile vehicles is the result of the need to develop vehicles that are resistant to traffic jams and at the same time are environmentally friendly.

Micro mobility refers to a group of small, light vehicles whose operating speed is below 25 km/h and which are driven by the users themselves. This group of vehicles includes bicycles, e-bikes, electric scooters, electric skateboards, fleet of shared bikes as well as bikes with auxiliary electric drive. [8]

Micro mobility vehicles can be powered by human power as well as by an electric motor. For electric vehicles to be classified as micro mobility vehicles, they must not have an internal combustion engine or have a speed greater than 45 km/h. [9]

Type A	Type B	Type C	Type D
unpowered or powered up to 25 km/h (16 mph)		powered with top speed between 25-45 km/h (16-28 mph)	
<35 kg (77 lb)	35 – 350 kg (77 – 770 lb)	<35 kg (77 lb)	35 – 350 kg (77 – 770 lb)

Source: OECD/ITF 2020, *Safe Micromobility*, <https://www.itf-oecd.org/safe-micromobility>.

Fig. 4. Categories of micro mobility vehicles proposed by International Transport Forum

Due to their design, micro mobile vehicles contribute to sustainable development in numerous aspects:

- The vehicles themselves provide users with a great degree of mobility and flexibility.
- The vehicles are cost-effective considering that the vast majority of these vehicles are powered by electric motors or are combination of electric and manual drive.
- Due to their small dimensions as well as the fact that they can use different roads, the great advantage of these vehicles is that they do not affect traffic in a way that conventional vehicles do.
- Since they are mostly electric powered vehicles, they do not pollute the air with exhaust gases and also do not make noise when moving through city zones.
- The vehicles are intended for low speeds, which allows them to move in zones that are not intended for motor vehicles.
- They take up much less parking space than standard motor vehicles. This means less time that other potential drivers spend searching for available parking spaces.

Micro mobile vehicles can be intended for:

- Personal use - micro mobile vehicles are a substitute for the conventional vehicles. Micro mobility vehicles are suitable for short distances and represent an ideal solution if offered as a complement to the mass transport system in the form of shared micro mobility. They are the bond between the first and last mile gap of public transit.
- Business use - micro mobile vehicles make the greatest contribution to sustainable development strategy when they are used for the last mile delivery. The best utilization of these vehicles is achieved in combination with micro depots.

A particularly convenient form of using micro mobile vehicles is the shared mobility system. This system is based on the sharing economy where the emphasis is on access rather than ownership. The system allows renting micro mobile vehicles and using them for personal needs on short routes within city zones. The degree of utilization is much higher than in the case of personal ownership, which raises awareness towards sustainable development.

The sharing economy represents a new paradigm that changes the existing consumer society into a more transparent, inclusive and responsible system. The concept of the sharing economy based on access to goods/services versus ownership can be applied as a new business model of both logistic operators through various forms of infrastructure sharing, but also by organizing partnerships in the area of shared delivery – crowd shipping delivery. [10].

There are numerous reasons for the great popularity of micro mobility vehicles in the world, especially mobile scooters. IT solutions have contributed to the success of a micro mobility. Using a smartphone one can locate, unlock and pay for the e-scooter directly within the app. Parallel to this, battery prices dropped by 86 percent between 2010 and 2016, making electric mobility solutions more affordable. Moreover, significant improvements to range mean that e-scooters can cover 30 to 50 kilometers and can often be used for an entire day before needing to be recharged.[11]

When used for personal needs, micro mobile vehicles have the biggest application on the first and last mile of the commute. If we look at the average employed person traveling to or from work or a teenager traveling to or from school, micro mobile vehicles are mostly used for short distances towards a public transport station or between public transport stations (if they are too far to walk).

Micro-mobility is a solution to the first and last-mile problem. This means all passenger trips of less than 8 kilometers, which accounts for up to 50 to 60 percent of passenger trips in urban spaces. These car trips, short public transport stretches and first and last-mile gaps can be replaced with bikes, electric scooters, mopeds and other micro-mobility solutions. [11]

5. MICRO-DEPOTS

In order to bring the location of the logistic facility closer to the users and thereby lower the transportation and delivery costs, many logistics companies are introducing micro depots into their transportation networks.

Observing the position of the facility in relation to the end user as well as in relation to the size of the facility, urban logistics facilities can be classified into logistics centers/warehouses (usually located in suburban areas), consolidation centers, micro depots and pick up points/parcel lockers. [12]

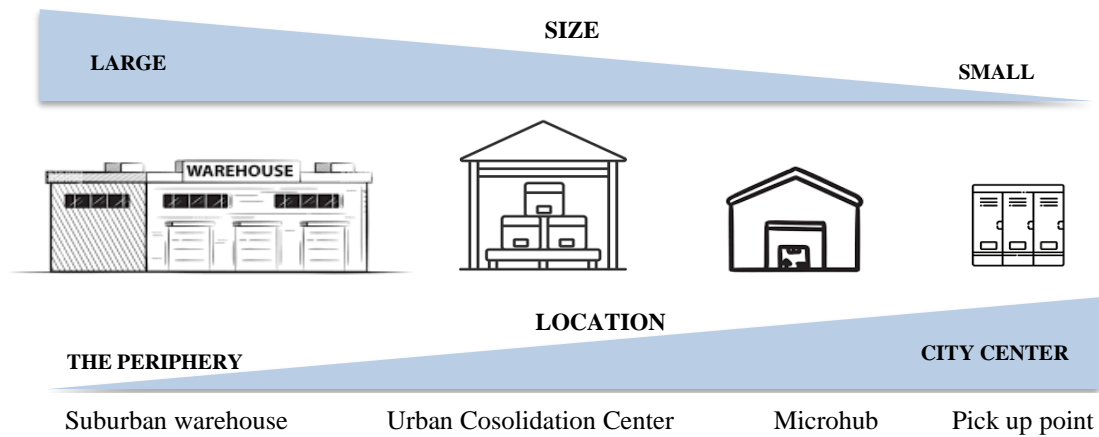


Fig. 5. Classification of logistic facilities (source <https://www.mdpi.com/2071-1050/14/1/532>)

Micro depot is a logistics facility whose basic function is to store goods just before delivery. Due to efficiency, delivery is most often conducted using electric delivery vehicles, cargo bikes, other micro mobile vehicles and, if necessary, on foot. Micro depots can be organized in several forms. They can be stationary objects of smaller dimensions; they can exist in the form of transport containers or stationary transport vehicles. They represent the last point of concentration of goods before the stage of final delivery. [13]

Regardless of their size, micro depots represent a consolidation facility that is physically located near end users and is intended for a small delivery area.

Micro depots support the sustainable development strategy in several ways.

- The use of vehicles with internal combustion is minimized since they are only used to deliver goods from logistics centers to micro depots, and lately that role has also been entrusted to electric cargo vehicles.
- Due to the proximity of the end users, delivery is carried out using micro mobile vehicles, which does not pollute the environment, does not create noise and does not disturb the peace of residential areas.

The existence of micro depots is justified in those zones where delivery activity is difficult primarily due to limited traffic and infrastructure conditions, as well as in areas of high population density where there is a potential for accumulating a large number of shipments for delivery. [4]

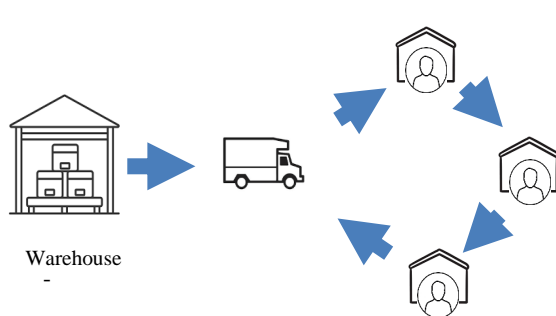


Fig. 6. Organization of delivery without micro depot

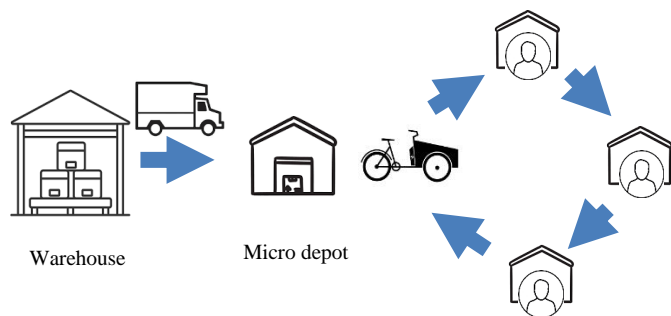


Fig. 7. Organization of delivery with micro depot

In the classic logistics chain, goods are transported by conventional delivery vehicles from the logistics center/warehouse to the delivery point. At the same time, this way of functioning is not socially and environmentally friendly (Fig. 6.).

In the model that uses micro depots, the goods are delivered to the micro depot, where they are sorted and prepared for delivery. The delivery itself is carried out by electric vans, cargo bikes, other micro mobile vehicles and if necessary, on foot. Since electric

vehicles are used for the last mile delivery, carbon dioxide emissions and noise levels are drastically reduced. By using small-sized vehicles, the problem of parking is eliminated, and vehicles are enabled to use pedestrian and bicycle paths, which significantly increases the mobility of the delivery vehicle, the delivery time is reduced, and the user's satisfaction is higher (Fig. 7.).

Micro depots focus their activity on the delivery of small-volume and smaller-sized shipments.

Micro depots support sustainable development and can achieve the fully planned effect if in cooperation with micro mobile and environmentally friendly vehicles. Another important feature of micro depots is that they are intended for use in specific urban areas, such as dense residential areas, dense business zones, urban areas with insufficient parking space that meet the demand for dedicated delivery etc.

Micro depots can be located in buildings that are abandoned or underutilized. By revitalizing abandoned buildings or repurposing underutilized spaces, newly formed distribution centers are brought closer to end users and thereby reduce operating and transportation costs.

Looking at the business model, micro depots can be independent, shared or consolidated.

In order to be more efficient, micro depots tend to perform technological operations independent from peak traffic hours. That is why the operations are divided into two phases. The first is carried out in the early morning hours when goods are delivered to micro depots from consolidation or logistics centers located on the outskirts of the city. After sorting, the goods are sent for delivery, which is mostly carried out on low-level roads, i.e., bicycle and pedestrian paths. Delivery is made within a small urban area by environmentally friendly vehicles or on foot. Considering that light delivery, micro mobile vehicles are used, it tends to focus on more frequent deliveries of small sized shipments.

Micro depots reduce the distance traveled in the last stage of delivery, which results in a shorter delivery time. In this way, last mile logistics is cost effective, socially responsible and directed towards sustainable development.

The cooperation between micro mobile vehicles and micro depots can be achieved through several models:

- A fixed micro depot facility positioned at strategic locations in urban areas (permanent or temporary objects such as containers (Fig. 8. and Fig.9.).

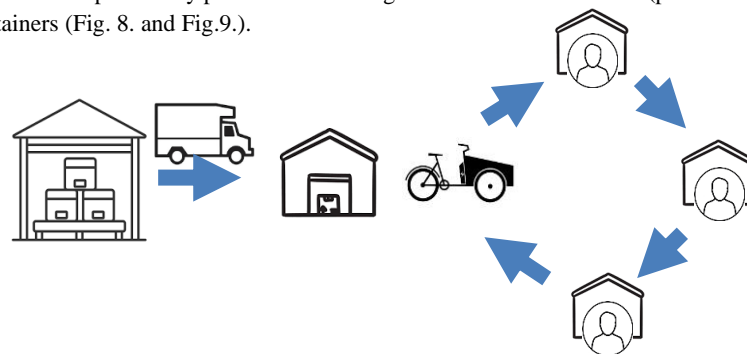


Fig. 8. Organization of delivery with fixed micro depot facility (permanent building)

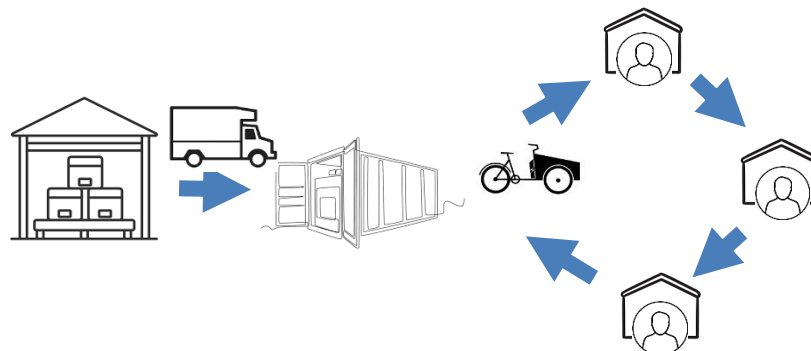


Fig- 9. Organization of delivery with fixed micro depot facility (temporary-container)

- Mobile micro depots that can change locations and thus contribute to greater ground coverage using ecofriendly delivery vehicles (Fig. 10.).

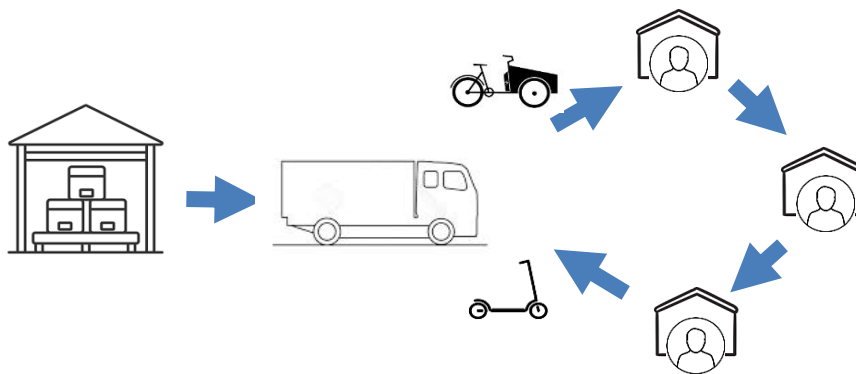


Fig.10. Organization of delivery with mobile micro depots

- Cooperation between pick up points and fixed facilities outside the logistic system that act as partners in the delivery process (various forms of retail stores) (Fig. 11.).

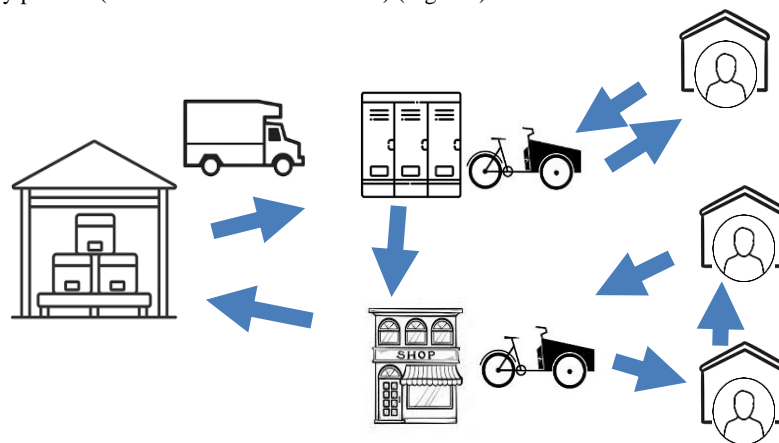


Fig. 11. Organization of delivery based on cooperation between pick up points and fixed facilities outside the logistic system

A key decision when planning the logistic operation using micro depot is determining its location. The facility location can be more or less influenced by numerous factors that can be classified into logistic, socio-economic and urban-traffic factors. Also, when choosing the location of the micro depot, the aesthetics of the living space, its functionality, should be preserved. The noise level should be acceptable for the residential area where the micro depot is located.

Areas that micro depots cover must meet certain conditions in order for their application to have maximum effects in terms of cost and time efficiency. It is necessary to justify the use of micro depots, considering that they lead to change in the organization of urban distribution and also in order to enable the efficiency of work and the sustainability of the system itself.

There are numerous models and the authors recommend a multi-stage model for determining the location of micro depots.

In the first step, for the observed city area, it is necessary to determine zones of high demand (dense residential areas, areas with a large number of business entities, etc.). Depending on the number of potential users, their demands and micro depot capacity, the required number of micro depots for the observed area is determined.

In the second stage, one of the traditional facility location models is used, whose goal can be to minimize average distance covered (minsum model), to minimize maximum distance covered (minimax model) or in case of continuous location models to minimize the sum between the facility (micro depot) and demand points.

In the last stage, in the case of continuous model, it is necessary to consider available potential locations closest to the calculated one, taking into account available traffic infrastructure, urbanistic acceptable solutions and other mentioned limiting factors. The chosen location must meet the condition of access for transport vehicles as well as the criteria for preserving urban peace.

6. CONCLUSION

The growth of urban population negatively affects the quality of life in cities. A large number of vehicles is a direct source of noise, air pollution and traffic jams.

In order to face the mentioned problems, many cities are turning to the strategy of sustainable development.

Light electric vehicles represent a new solution in the field of transport, offering greater mobility and flexibility and are also eco-friendly. The use of micro mobile vehicles in cooperation with small logistics facilities near end users, represents an effective way in the fight for a better quality of life in cities.

Considering the increased number of packages that are delivered daily in cities, new technological and organizational solutions in the field of transport and logistics represent an efficient way to ensure timely delivery, without disrupting life in an urban environment.

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