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The conference is jointly organized by the Prague University of Economics and Business (namely the Department of International Business of the Faculty of International Relations and the Department of Marketing of the Faculty of Business Administration) and the University of Economics in Bratislava, Faculty of Commerce. The conference focuses on the whole region of the Central and Eastern Europe, since this region plays an increasingly important role within the economic development of the whole European continent. The main objectives of the conference are to identify and analyse the ways and strategies whereby globally operating businesses can maintain and foster their competitiveness regarding their foreign competitors. For more than 20 years, the conference has constituted a valuable platform linking together excellent researchers from the CEE region (and other countries) and business representatives.

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Quantitative Analysis of Competencies from Glassdoor Job Descriptions: Digital Marketing Versus Traditional Marketing Positions

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Abstract: The rapid digitalization of industries necessitates a shift in the skills and competencies of marketing professionals. Despite this transformation, there persists a tendency to treat digital marketing as an extension of traditional marketing, lacking recognition of the specific skills required for digital roles. This research aimed to bridge this gap by quantitatively analysing job descriptions from job and recruiting website Glassdoor to identify and compare the distinct skills needed for digital and traditional marketing roles. Principal Component Analysis was employed to derive six factors representing main skill groups. Logistic regression was used to reveal distinct competencies between digital and traditional marketing roles, emphasizing the importance of social media and CRM for digital marketing and Sales and Communication for traditional roles. From company and position aspects only Working with an Agency was found significant for digital marketers. Understanding the competencies will enhance digital marketing theory and can help universities and companies in educating digital marketers and preparing them for the future.

Keywords: competencies, skills, digital marketing, traditional marketing, Glassdoor, quantitative analysis

JEL Classification codes: M31, M12, M51

INTRODUCTION

In the past 15 years, the rapid development of new technologies has initiated a profound digital transformation, disrupting industries, businesses, consumer behavior, and employment landscapes. This shift mirrors the previous revolution in marketing, prompting urgent adaptations in mindset, knowledge, and skillsets across all professional levels (Stone, 2014). Nowadays, the digital transformation of businesses and media has revolutionized the role of digital marketing within the organization and represents a change in history (Kovacs, 2021; Royle & Laing, 2014). However, companies and educational institutions still treat digital marketing as part of traditional marketing, failing to recognize the distinct skills and competencies required. Furthermore, existing literature predominantly focuses on digital tools and strategies rather than on competencies required by digital marketers. Recent systematic reviews on digital marketing (Dwivedi et al., 2021; Kannan & Li, 2017) have highlighted this issue, urging scholars to understand digital marketing competencies. Additionally, there is an overall gap in understanding how firms and universities should educate digital marketers and how the curriculum should be different from traditional marketing courses (Zahay et al., 2019).

Several existing studies have attempted to explore key digital marketing competencies, yielding a wide range of skills applicable to any marketing role (e.g., brand manager, trade

marketing manager, or digital marketing specialist), including business skills, finance skills, presentation skills, teamwork, communication, technical skills, etc. (Kovacs, 2021; Royle & Laing, 2014; Wymbs, 2011). One of the reasons for such results is that these studies treated digital marketing as a universal function without considering different roles and industry-specific aspects. For instance, the skill set required for an in-house search engine specialist differs significantly from a digital marketing coordinator working in a manufacturing company. Moreover, studies on digital marketing competencies typically rely on interviews with digital managers and industry experts, and to the best of the authors' knowledge, none have utilized actual job descriptions and job advertisements. This approach limits the scope of identified skills and complicates capturing the differences between digital marketing and traditional marketing roles. Furthermore, existing research on digital marketing competencies remains predominantly qualitative, lacking quantitative insights. Therefore, this research aims to leverage actual job descriptions from the Glassdoor website to identify the skills required in digital marketing and traditional marketing disciplines and quantitatively investigate key factors influencing the likelihood of a position being classified under traditional or digital marketing.

Understanding the competencies of digital marketing holds both theoretical and practical implications: a) advancing digital marketing theory through a quantitative examination of competency differences; b) providing a comprehensive overview of required skills in digital marketing and traditional marketing; c) assisting universities in educating digital marketers and preparing them for the future, as well as aiding companies in defining appropriate job descriptions and selecting suitable candidates.

This research addresses the gap in understanding digital marketing competencies versus traditional marketing competencies by first, an extensive literature review; second, identifying key gaps and limitations in the previous studies, leading to the development of a conceptual framework and hypotheses; third, proposing an innovative data collection methods and research design to analyze the digital marketing versus marketing competencies and different aspects such as workplace arrangements, working with agencies and company size.

1. LITERATURE REVIEW

Digital marketing is a complex discipline that integrates multiple platforms, channels, instruments, and strategies. To properly understand the potential competencies required for digital marketing, it is important to have a clear definition of the discipline. Kannan & Li (2017), in their extensive systematic review, provide a streamlined definition of digital marketing: "Digital marketing is the adaptive, technology-ended process by which firms collaborate with customers and partners to jointly create, communicate, deliver, and sustain value for all stakeholders" (p. 23). This definition divides the digital marketing role into two wide perspectives: from one side, the implementation of digital technologies, and from the other side, how technology creates value through processes and collaboration with customers and partners. Already from the definition, it is apparent that digital marketing is complex and requires two different approaches: first - technical and second - coordination (managing the "process") (Kannan & Li, 2017). Such a theoretical view brings us to the idea that digital marketing cannot be viewed as a unified function and thus should be divided into two wide categories. One category of digital marketers is masters in specific areas of digital instruments and technologies and have specific expertise to implement those technologies. Another category of digital marketers represents masters of holding digital processes and have specific skills in managing external and internal stakeholders. The competencies of the second group of digital marketers are often considered by scholars as complementary to traditional marketing (Zahay et al., 2019). Nevertheless, the research investigating digital marketing

competencies can be divided into three categories: 1) Digital marketing competencies and education; 2) Digital Marketing competencies in the B2C industry; 3) Digital Marketing competencies in the B2B industry.

The first group of studies focuses on digital marketing education, exploring various methodologies for educating digital marketers and identifying the most critical competencies for student development. A series of studies (Langan et al., 2019; Reavey et al., 2021; Zahay et al., 2019) dedicated to the curricula of digital marketing programs have identified digital marketing as a distinct discipline for several reasons: a) large number of instruments, and different areas; b) strong connection with marketing; c) wide theoretical background about digital strategy; d) amount of training and outside industry support that is required. Depending on which aspects from the list above are fulfilled by an educational institution, it can define the prerequisites for a student to become either a digital marketing specialist or a marketing generalist (Langan et al., 2019). According to Reavey et al. (2021), most of the existing digital courses and programs are preparing students to be digital marketing generalists, as they provide very broad knowledge about digital marketing and focus rather on developing soft skills (coordination, teamwork, presentation skills), than practical knowledge about specific instruments and tools. Consequently, such graduates possess a general understanding of digital marketing but lack technical expertise, as universities often lack the data, content, and time to effectively teach digital instruments (Zahay et al., 2019). Zahay et al. (2019) conclude that such graduates are typically overprepared in theory and under-prepared in technical skills, often ending up in traditional marketing roles. On the other hand, Langan et al. (2019) in his research state that universities that have integrated specific digital marketing specializations, whether as majors or minors, are more likely to prepare students for careers as digital marketing specialists. These advanced programs typically encompass all mentioned before criteria: offering dedicated technology courses (e.g., SEO, social media, inbound marketing), integrating foundational marketing principles with digital marketing strategy, and engaging industry experts to provide real-time training through the utilization of external software programs and applications (Zahay et al., 2019).

The second group of studies focuses on digital marketing competencies within the B2C industry, primarily encompassing brand manufacturers and service providers targeting end consumers. Key et al. (2019) investigated the requisite competencies for graduates and professionals seeking roles in digital marketing within B2C companies. Their findings highlight that digital marketing managers in such enterprises are typically tasked with coordinating multiple external vendors (e.g., social media agencies, digital agencies) and formulating or adhering to the organization's digital marketing strategy. While these professionals are not expected to possess profound expertise in HTML, website design, coding, or other advanced technical aspects, they are nonetheless mandated to possess fundamental marketing knowledge, a comprehensive understanding of digital marketing concepts, and specific soft skills, such as effective communication and presentation abilities (Key et al., 2019). Key et al. (2019) further state that individuals who obtained Google Ads Certification and have experience in designing and executing Google Ads enjoy a significant competitive advantage when applying for digital marketing roles in B2C companies. Similar conclusions were obtained in the research of Veer and Dobele (2019) who conducted a study among digital and marketing managers predominantly working in the B2C sector. Veer and Dobele (2019) in their research identified a set of core competencies essential for digital marketers working in the B2C industry: communication skills, relationship building, presentation skills, understanding digital tools, copywriting, and creativity. Furthermore, most participants self-reported having limited technical knowledge of digital tools but understanding their underlying principles. Another significant finding from the research is that most of the participants indicated that for their

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area of responsibility, they need "broad-based" knowledge about digital marketing over an in-depth one.

The third group of studies focuses on digital marketing competencies in the B2B industry, encompassing digital marketing, creative, advertising, or data agencies that offer services to other businesses (Royle & Laing, 2014). According to Kolding et al. (2018), research, companies in the B2B industry have often high expectations about technical knowledge for digital marketing candidates. In some cases digital agencies or companies can hire a generalist who fits the organization without deep technical knowledge, however, this person will be subjected to intensive training and upskilling within their area of responsibility, aiming to transition from generalists to specialists (Kolding et al., 2018). This transition is only feasible within organizations that have strong in-house digital teams. Nevertheless, most of the companies in the B2B sector require strong technical skills and a person being a specialist from the very beginning "otherwise, the cost of the new skills will be too high" for the organization (Kolding et al., 2018). Kovacs (2021) and Royle & Laing (2014) in their research tried to explore the fundamental competencies of digital marketing managers in the B2B sector through qualitative research. These scholars conclude that digital marketers must possess a broad spectrum of skills. The identified skill sets include soft skills (flexibility, teamwork, interpersonal skills, motivation, oral communication, presentation skills, stress resilience), digital and technical proficiency (comprehensive knowledge of specific tools and software), core marketing abilities (planning, organization, time management, content creation, creative thinking, attention to detail, sales knowledge, management skills, ability to manage multiple projects, marketing tasks), analytical skills (statistical knowledge, problem-solving, critical thinking, ability to synthesize information, data orientation), and customer insights skills (CRM, research methods, understanding of company, touchpoints, and customers). Nevertheless, these studies fail to address the rationale behind the importance of the above-listed skills for all digital marketing professionals in comparison to traditional marketing roles, as well as why the skill set is so wide. The skills presented in the research can be easily applicable to any other marketing or business functions.

The primary limitations of all the above-mentioned studies are that they relied solely on interview outcomes to identify competencies, without incorporating actual job descriptions for digital marketing roles. Additionally, they treated digital marketing as a universal function, overlooking the diverse industry and company-specific aspects that can influence the required skills. Consequently, these studies identified extensive lists of skills that could apply to various marketing or digital marketing roles. Furthermore, all the described studies employed qualitative research methods, lacking subsequent statistical testing of the proposed models. Hence, the authors have identified the most significant research gap as the absence of a quantitative study that confirms the distinctions between digital marketing and traditional marketing competencies, considering industry, company, and position-specific aspects.

2. METHODOLOGY

2.1 Objectives and conceptual model

To address the research gap defined by authors, two primary research goals have been established: 1) to find out whether there exists a difference between digital marketing and traditional marketing competencies; 2) to investigate the relationships among competencies, company/position aspects, and the likelihood of a position being classified under traditional or digital marketing. To accomplish these research goals, a conceptual framework has been

developed to illustrate the relationships among various competencies, company/position aspects, and position type (see Fig. 1). The left side of the conceptual framework illustrates the key competencies and company/position aspects such as company size, workplace environment, and agency involvement that might influence the type of position. The derivation of these competencies is explained in the data description section (See pages 6-9). On the right side of the conceptual framework, there is a dependent binary variable Position Type where digital marketing is 1 and traditional marketing is 0.

Fig. 1. Conceptual framework
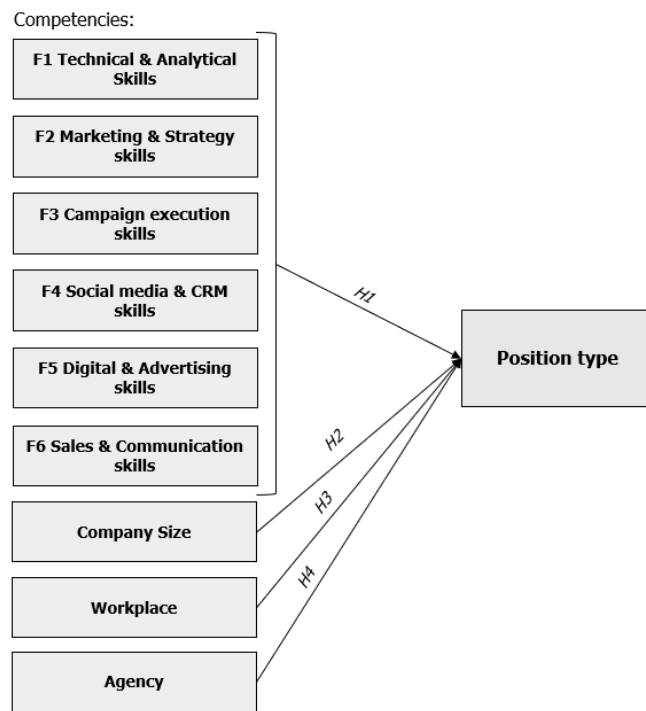
Source: Authors

Digital marketing vs traditional marketing competencies: as previously mentioned, scholarly research often fails to distinguish between digital marketing competencies and traditional marketing competencies, often treating them as identical or complementary (Zahay & Roberts, 2017; Kovacs, 2021; Royle & Laing, 2014). However, another body of research (Langan et al., 2019; Reavey et al., 2021; Key et al., 2019) suggests that digital marketing demands unique competencies compared to traditional marketing due to the reach set of online instruments and platforms, the broad theoretical background necessary for digital strategy, and the substantial amount of training and practice required.

By analyzing job descriptions from Glassdoor, as outlined in the data description section, the authors identified competencies that could potentially predict whether a position being classified under digital or traditional marketing. Based on this analysis, the following hypothesis was formulated:

H1: *There is a relationship between specific competencies (Technical & Analytical Skills, Marketing & Strategy Skills, Campaign Execution Skills, Social Media & CRM Skills, Digital & Advertising Skills, Sales & Communication Skills) and the likelihood of a position being assigned to either a digital or traditional marketing.*

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Company and Position Aspects: several studies suggest that the difference between digital marketing roles and traditional marketing roles can be influenced by company and position aspects. For example, Key et al. (2019) found that digital marketing managers in B2C companies often need to coordinate multiple external vendors, such as social media agencies or digital agencies. However, these aspects may also vary based on company size and available resources. Additionally, digital marketing roles are more favorable to remote work compared to traditional marketing roles (Stahl, 2022). Building upon these observations, the following hypotheses were stated:

H2: *There is a relationship between company size and the likelihood of a position being assigned to either digital or traditional marketing.*
H3: *There is a relationship between the type of workplace (on-site, remote, hybrid) and the likelihood of a position being assigned to either digital or traditional marketing.*
H4: *There is a relationship between working with an agency and the likelihood of a position being assigned to either digital or traditional marketing.*

2.2 Data Description

To test the developed framework and hypotheses, data were collected from the Glassdoor website, which publishes job advertisements from various companies. Glassdoor provides a wide range of information about companies and job descriptions compared to other job search websites. This includes details such as company size, workplace type etc. Data collection was conducted randomly by utilizing a Google Sheets script. The collected job descriptions were for both digital marketing and traditional marketing roles (such as brand managers, trade marketing managers, etc.). The search process involved inputting the keyword "Digital Marketing Manager" into the Glassdoor search tab, getting results, and subsequently employing the script to gather data from the pages. The same process was replicated for the keyword "Marketing Manager". The total sample obtained from the data collection comprised 110 observations (job advertisements): 58 job descriptions for digital marketing positions and 52 for traditional marketing roles. All job advertisements included in the dataset were for positions located in the Czech Republic and were available at the time of collection.

The data collection process proceeded as follows. Firstly, the authors employed a script to collect essential information, including job position title, company name, company size, work arrangement, and a list of required skills for each position. Subsequently, a list of all mentioned skills in the job descriptions was compiled, including duplicates. This resulted in the identification of 126 skills. To ensure accuracy and clarity, duplicate entries were removed, and similar or related skills were merged. For instance, skills like "SEO" and "SEO campaign set-up" were combined. Following these adjustments, a final list of 45 unique skills was generated. Next, the final list of skills was transformed into binary variables. Each job description was reviewed, and a value of 1 was assigned to a skill if it was explicitly mentioned as a requirement for a given position; otherwise, a value of 0 was assigned. The resulting dataset comprised a total of 49 variables, including 47 binary variables representing different skills, an agency variable indicating whether the position requires collaboration with agencies, a position type variable (digital marketing vs traditional marketing position); one ordinal variable representing company size; one nominal variable representing workplace type.

Due to the substantial number of variables, Principal Component Analysis (PCA) was employed to reduce dimensionality and extract essential information while minimizing the loss of valuable insights. Before conducting PCA, an assumptions check was performed, Bartlett's Test of Sphericity yielded a p-value of <0.001, indicating that the correlation matrix is suitable for

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conducting PCA. The KMO Measure of Sampling Adequacy for all variables was 0.5, which is below the desired threshold of 0.6. However, this is expected when dealing with binary variables. Thus, based on the assumptions check, the dataset was deemed appropriate for PCA analysis, although the binary nature of the variables poses a limitation on interpretation due to restricted intercorrelation among the variables. PCA analysis was conducted next, with the results provided in Tab. 1.

Tab. 1 PCA Component Loading

	Component						Uniqueness
	1	**2**	**3**	**4**	**5**	**6**	
Google_Analytics	0.848						0.269
Web_Analytics	0.829						0.295
Google_Tag_Manager	0.737					0.305	0.310
Programming	0.625						0.508
A_B_Testing	0.567					-0.368	0.472
Google_Ads	0.428						0.715
Inbound_marketing	0.364	0.342					0.568
Affinity		0.842					0.282
Business_Writing	0.562	0.629					0.196
Time_Management		0.590					0.624
Critical_Thinking		0.505	0.415				0.534
Budget_Management		0.488					0.719
Brand_Strategy		0.466				0.317	0.527
Project_Management		0.359					0.764
Salesforce			0.717				0.445
Campaign_Management			0.601			0.418	0.403
Cloud_Marketing			0.584				0.655
Multi_Channel_Marketing	0.470		0.539			0.524	0.160
Influencers		0.397	0.468				0.492
Trade_Marketing			-0.442	0.330		0.305	0.555
Social_Media			-0.403	0.354			0.604
Digital_Online_Marketing			0.372		0.364		0.701
Adobe_Skills			-0.360				0.793
Automation			0.355				0.822
Business_Negotiation				0.733			0.419
SQL	0.313			0.714			0.217
SEM				0.640	0.559		0.223
CRM				0.617			0.542
Content_Marketing		0.350		0.550	0.408		0.385
Marketing_Strategy				-0.328			0.747
Website_development							0.969
SEO					0.623	-0.344	0.393
eCommerce					0.620		0.499

	Component						Uniqueness
	1	**2**	**3**	**4**	**5**	**6**	
International_Marketing					0.551		0.662
Analytical_Skills					-0.489		0.635
Teamwork					-0.481		0.526
benchmarking					-0.375		0.744
Google_Search					-0.315		0.666
PPC							0.880
Communication						0.602	0.528
Planning				-0.354		0.485	0.557
Landing_Pages						-0.412	0.648
Sales						0.375	0.851
Presentations						0.351	0.786
QlikView						-0.344	0.835

Source: Authors. Note. 'varimax' rotation was used.

Based on the Scree Plot, six factors were retained for further interpretation. The component statistics table reveals that these factors explain 44.17% of the total variance in the dataset. Considering that all variables used in the PCA are binary, the cumulative percentage of 44.17% indicates that the selected components successfully capture a significant amount of variability within the dataset. Finally, factor loadings were reviewed and interpreted for their significance. The following factors were identified:

- **Factor 1**. Data Analytics and Technical Skills. High loadings: Google Analytics, Web Analytics, Google Tag Manager, Programming, A/B Testing, Google Ads. This factor represents competencies related to data analytics and technical skills in digital marketing.

- **Factor 2.** Marketing Strategy and Management. High loadings: Inbound Marketing, Affinity, Business Writing, Time Management, Critical Thinking, Budget Management, Brand Strategy, Project Management. This factor represents competencies related to marketing strategy development, management, and planning.

- **Factor 3.** Campaign Execution and Automation. High loadings: Salesforce, Campaign Management, Cloud Marketing, Multi-Channel Marketing, Influencers campaigns, Automation This factor represents competencies related to executing marketing campaigns, utilizing cloud-based marketing platforms, and leveraging influencers.

- **Factor 4.** Social Media and Customer Relationship Management. High loadings: Trade Marketing, social media, Business Negotiation, SQL, SEM, CRM, Content Marketing. This factor represents competencies related to social media marketing and customer relationship management, and utilizing tools like SQL, SEM, and CRM.

- **Factor 5.** Digital Advertising and Online Marketing. High loadings: Digital Online Marketing, SEM, SEO, E-commerce, International Marketing. This factor represents competencies related to digital advertising and e-commerce-related activities.

- **Factor 6.** Sales and Communication. High loadings: Communication, Planning, Sales, Presentations. This factor represents competencies related to sales, effective communication, and delivering presentations.

As a result, the initial dataset consisting of 45 binary variables was transformed into 6-factor variables representing different groups of competencies. The final list of variables and their descriptions can be found in Tab. 2. Additionally, Tab. 3 presents descriptive statistics of the dataset, offering key insights into the distribution and summary measures of the variables.

2.3. Data Analysis

To test the developed conceptual framework and hypotheses, the authors defined the following dependent and predictor variables. The dependent variable, **Position type**, is a binary variable representing the advertised job role. A value of 1 indicates a Digital Marketing position (e.g., Digital Marketing Managers, Digital Specialists, SEO Specialists, Social Media Specialists), while a value of 0 indicates a Traditional Marketing role (e.g., Brand Manager, Trade Marketing, Marketing Specialists).

Tab. 2 Description of Variables

Variable	Description
Company size	Ordinal variable indicating company size: 1: 11-50 employees, 2: 51-200 employees, 3: 501-1,000 employees, 4: 1,001-5,000 employees, 5: 5,001-10,000 employees, 6: 10,001 or more employees.
Agency	Binary variable indicating whether the position requires working with agencies: 1: Yes, 0: No.
Position type	Binary variable indicating whether the position is digital marketing or traditional marketing: 1: Digital Marketing, 0: Traditional Marketing.
Workplace	Nominal variable indicating the work arrangement: 0: Remote, 1: On-site, 2: Hybrid.
Technical & Analytical skills	Continuous factor variable representing a combination of digital technical skills and analytical skills.
Marketing & strategy skills	Continuous factor variable representing a combination of traditional marketing and strategy skills.
Campaign execution skills	Continuous factor variable representing skills needed for marketing campaign execution.
Social media & CRM skills	Continuous factor variable representing social media and customer relationship management (CRM) skills.
Digital & advertising skills	Continuous factor variable representing digital marketing and advertising skills.
Sales & Communication skills	Continuous factor variable representing soft skills such as communication, presentation, and sales skills.

Source: Authors

Tab. 3 Descriptive statistics

	Position	N	Missing	Mean	Median	SD	Minimum	Maximum
Company_size_num	Digital Marketing	58	0	4.7586	5.0000	1.467	1	6
	Marketing	52	0	4.3846	5.0000	1.795	1	6
Agency	Digital Marketing	58	0	0.1379	0.0000	0.348	0	1
	Marketing	52	0	0.0385	0.0000	0.194	0	1
position_type	Digital Marketing	58	0	1.0000	1.0000	0.000	1	1
	Marketing	52	0	0.0000	0.0000	0.000	0	0
workplace_num	Digital Marketing	58	0	0.7414	1.0000	0.637	0	2
	Marketing	52	0	0.7692	1.0000	0.425	0	1
Technical_skills_analytics	Digital Marketing	58	0	1.0559	−0.8494	5.340	−2.25	22.80
	Marketing	52	0	−1.1777	−1.5307	1.031	−2.28	2.37
Marketing_strategy	Digital Marketing	58	0	0.7172	−0.5274	4.219	−2.86	20.58
	Marketing	52	0	−0.7999	−1.0090	1.850	−4.14	3.56
Campaign_Execution_and_Automation	Digital Marketing	58	0	1.0259	−0.2279	3.818	−2.43	15.31
	Marketing	52	0	−1.1443	−1.1110	2.362	−6.81	5.87
Social_media_CRM	Digital Marketing	58	0	0.2745	−0.0645	2.363	−3.49	7.43
	Marketing	52	0	−0.3062	−1.4827	3.897	−4.21	12.78
Digital_Advertising	Digital Marketing	58	0	−0.9047	−1.0392	2.906	−6.84	8.73
	Marketing	52	0	1.0091	0.7581	3.118	−3.56	11.01
Sales_Communciation	Digital Marketing	58	0	−0.7254	−1.1713	3.103	−7.90	7.95
	Marketing	52	0	0.8090	0.9400	2.663	−5.14	8.38

Source: Authors

Predictor variables were selected as follows:

- **Agency**: binary variable representing whether the position requires working and coordinating with external agencies and vendors (1 - yes, 0 - no). This variable aims to identify if working with agencies is more relevant for digital marketing or traditional marketing roles.

- **Company Size**: an ordinal variable representing the size of the company posting the job advertisement, categorized as follows: 1: 11-50 employees, 2: 51-200 employees, 3: 501-1,000 employees, 4: 1,001-5,000 employees, 5: 5,001-10,000 employees, 6: 10,001 or more employees. This variable is included as a predictor to understand if company size affects the likelihood of a position being assigned to either digital or traditional marketing.

- **Workplace**: a nominal variable indicating the work arrangement for the advertised position: 0 - Remote, 1 - On-site, 2 - Hybrid.

- **Competency Continuous Factor Variables**: these variables represent different skills and competencies of digital and traditional marketing functions derived from PCA.

To test the developed framework and hypothesis, the authors employed binomial logistic regression. This statistical method is specifically designed to analyze the relationship between a binary dependent variable (the likelihood of a position being assigned to either a digital or traditional marketing) and multiple predictor variables. The binomial logistic regression equation used for predicting the log odds of position being assigned to digital marketing is:

$$Log\ Odds\ (Position\ type) = \beta_0 + \beta_1 * Technical\_skills\_analytics + \beta_2 * Marketing\_strategy + \beta_3 * Campaign\_Execution\_and\_Automation + \beta_4 * Social\_media\_CRM + \beta_5 * Digital\_Advertising + \beta_6 * Sales\_Communication + \beta_7 * Agency\ + \ \beta_8 * workplace\_num + \beta_9 * Company\_size\_num + \varepsilon \quad (1)$$

Where: β_0 represents the intercept, indicating the log odds of position being assigned to digital marketing compared to a traditional marketing when all predictor variables are zero.

β_1 to β_9 are the coefficients associated with each predictor variable, indicating the effect size and direction of the variable on the log odds.

ε represents the error term, accounting for unexplained variability or random error in the relationship between the predictor variables and the log odds.

Additionally, the authors used the following equation to convert the log odds obtained from the logistic regression model into a more interpretable probability of position being assigned to a digital marketing compared to a traditional marketing:

$$\text{Probability (Position type)} = \exp(\text{Log Odds}) / (1 + \exp(\text{Log Odds})) \qquad (2)$$

3 RESULTS AND DISCUSSION

3.1 Assumptions Check and Model Fit

As a first step, the authors checked whether the assumptions for binomial logistic regression were met, specifically the results of collinearity statistics. The variance inflation factor (VIF) values range from 1.30 to 2.03, while tolerance values range between 49% and 77%, indicating no evidence of severe multicollinearity among the variables.

The proposed binomial logistic regression model demonstrated a good fit to the data. The overall model test yielded a highly significant result with a p-value of < .001 (see Tab. 4), indicating a significant relationship between the predictor variables and the dependent variable. The R^2 McF value for the model is 0.442, suggesting that the predictor variables explain approximately 44.2% of the variance in the likelihood of position being assigned to digital marketing versus a traditional marketing. Additionally, McFadden's R^2 was 0.672, indicating a moderate strength of association.

Tab. 4 Model Fit Measures

Model	Deviance	AIC	BIC	R^2_{McF}	Overall Model Test		
					χ^2	df	p
1	85.0	105	132	0.442	67.2	9	< .001

Source: Authors

In terms of predictability, the model correctly predicted 82.8% of the cases for the "Digital Marketing" position and 82.7% for the "Marketing" (see Tab. 5). The cut-off value for classification was set at 0.56. The predictive measures showed an accuracy of 0.827, specificity of 0.828, sensitivity of 0.827, and an area under the curve (AUC) of 0.908. These results suggest that the model has a good overall predictive performance in distinguishing between the "Digital Marketing" and "Traditional Marketing" roles. The sensitivity and specificity values indicate the model's ability to correctly classify instances of each position type.

Tab. 5. Classification Table

Observed	Predicted		% Correct
	Digital Marketing	Marketing	
Digital Marketing	48	10	82.8
Marketing	9	43	82.7

Source: Authors

Finally, the omnibus likelihood ratio test was performed to evaluate the significance of each predictor variable in the model. The results revealed that almost all variables were significantly related to the likelihood of a position being assigned to either digital or traditional marketing. Specifically, the following predictors demonstrated significant relationships with the outcome variable at 5% significance level: Technical & analytical skills ($\chi^2 = 6.18$, $p = 0.013$), Marketing strategy ($\chi^2 = 5.83$, $p = 0.016$), Campaign execution skills ($\chi^2 = 4.42$, $p = 0.036$), Social Media & CRM skills ($\chi^2 = 8.26$, $p = 0.004$), Digital & advertising skills ($\chi^2 = 6.84$, $p = 0.009$), Sales & Communication skills ($\chi^2 = 19.56$, $p < 0.001$), Agency ($\chi^2 = 5.49$, $p = 0.019$). However, Workplace and Company Size variables were found not significant as their p-values are higher than the 5% significance level (0.17 and 0.132 respectively). In conclusion, the binomial logistic regression model exhibited a significant relationship between the predictor variables and the likelihood of a position being assigned to either a digital or traditional marketing. The model demonstrated a good fit to the data, explaining 44.2% of the variance in position type. The classification table and predictive measures indicated strong predictability, with an overall accuracy of 82%.

3.2 Model-Specific Results

The model coefficients in Tab. 6 provide estimates of the log odds of being in the "Digital Marketing" position versus the "Marketing" role. Upon examining the model coefficients, the intercept represents the log odds of position type being digital marketing compared to traditional marketing when all predictors are zero. The odds ratio for the intercept is 0.749, suggesting that the odds of being in the "Digital Marketing" position are 0.749 times higher than being in the "Traditional Marketing" position when all predictors are zero. However, it is not statistically significant ($p = 0.714$), indicating that it does not significantly contribute to the prediction.

Among the specific skills, the predictor variables "Social Media & CRM Skills" ($p = 0.006$) and "Sales & Communication Skills" ($p < 0.001$) show a statistically significant relationship with the position type (Digital Marketing vs Traditional Marketing role), while the "Marketing Strategy Skills" variable is on the edge ($p < 0.056$).

The negative coefficient for "Sales & Communication Skills" suggests that an increase in this skill is associated with a decrease in the log odds of being in a digital marketing position compared to a traditional marketing position. On the other hand, the positive coefficient for "Social Media & CRM Skills" indicates that an increase in these skills is associated with an increase in the log odds of being in a digital marketing position compared to a traditional position. The positive coefficient for "Marketing Strategy Skills" suggests that an increase in this skill is associated with an increase in the log odds of being in a digital marketing position. The other skills, such as "Technical & Analytical Skills," "Campaign Execution Skills," and

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"Digital & Advertising Skills," also show some associations with the position type, but they were not found statistically significant (p > 0.05).

Tab. 6 Model Coefficients – log odds of "Position type = Digital Marketing"

Predictor	Estimate	SE	Z	p	Odds ratio	95% Confidence Interval	
						Lower	Upper
Intercept	−0.289	0.790	−0.366	0.714	0.749	0.159	3.523
Technical_skills_analytics	0.518	0.283	1.833	0.067	1.679	0.965	2.921
Marketing_strategy	0.410	0.215	1.912	0.056	1.508	0.990	2.296
Campaign_Execution_and_Automation	0.288	0.164	1.758	0.079	1.333	0.967	1.837
Social_media_CRM	0.279	0.101	2.757	0.006	1.322	1.084	1.612
Digital_Advertising	−0.258	0.105	−2.447	0.014	0.773	0.629	0.950
Sales_Communciation	−0.511	0.154	−3.319	< .001	0.600	0.444	0.811
Agency	2.166	1.004	2.157	0.031	8.726	1.219	62.474
workplace_num	−0.858	0.632	−1.358	0.174	0.424	0.123	1.463
Company_size_num	0.295	0.201	1.470	0.142	1.343	0.906	1.991

Note. Estimates represent the log odds of "Position = Digital Marketing" vs. "Position = Marketing"
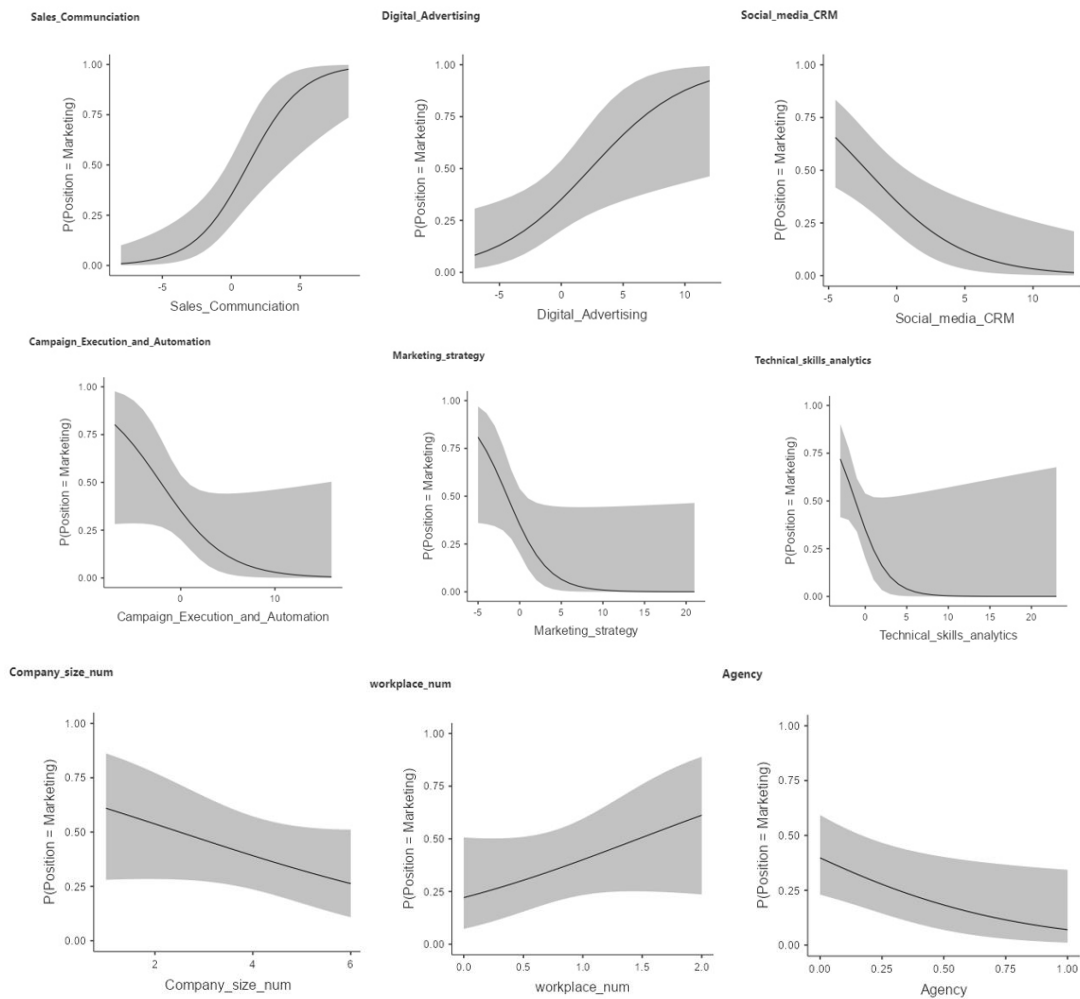
Source: Authors

Based on these results we can partially support H1 "*There is a relationship between specific competencies (Technical & Analytical Skills, Marketing & Strategy Skills, Campaign Execution Skills, Social Media & CRM Skills, Digital & Advertising Skills, Sales & Communication Skills) and the likelihood of a position being assigned to either a digital or traditional marketing*" as the results indicate significant relationship between Social Media & CRM, Sales & Communication and Marketing & Strategy skills and the position type. Specifically, an increase in Marketing & Strategy skills, Social Media & CRM skills was associated with higher odds of position being assigned to digital marketing compared to the traditional marketing. On the other hand, an increase in Sales & Communication skills was associated with lower odds of being assigned to digital marketing position.

The variable "Agency" has a statistically significant relationship with the position type (p = 0.031). The positive coefficient (2.166) suggests that the presence of cooperation with an agency in the job description is associated with an increase in the log odds of position being assigned to digital marketing compared to traditional marketing. The results support the H4 "*There is a relationship between working with an agency and the likelihood of a position being assigned to either a digital or traditional marketing*" as the predictor variable "Agency" showed a statistically significant relationship with the outcome variable.

The remaining variables "Workplace" and "Company Size" were found not statistically significant (p-values 0.174 and 0.142 respectively) These results did not provide significant evidence to support hypotheses H2 "*There is a relationship between company size and the likelihood of a position being assigned to either a digital or traditional marketing*" and H3 "*There is a relationship between the type of workplace (on-site, remote, hybrid) and the likelihood of a position being assigned to either a digital or traditional marketing*"

In Fig. 2 the authors present estimated marginal means charts illustrating the average predicted probabilities (odds) of the likelihood of a position being assigned to either a digital or traditional marketing for each variable in the logistic regression model.

Fig. 2. Estimated Marginal Means – Competencies

Source: Authors

3.3 Discussion

The findings of the binominal regression model partially supported **H1**, indicating that specific competencies are associated with the likelihood of a position being assigned to either a digital or traditional marketing. Such an outcomes demonstrated that digital marketing and traditional marketing require different competencies. Notably, **Social Media & CRM skills** were found to be associated with digital marketing roles, aligning with previous research highlighting the importance of expertise in digital marketing tools. On the other hand, **Sales & Communication skills** were associated with traditional marketing roles, which represent that some traditional marketing functions as trade marketing are considered as half sales and half marketing role – and often require negotiation and sales skills in discussions with customers about in-store executions. Communication is considered as a core competency for Brand managers to coordinate the brand activities within and outside the organization. Additionally, although **Marketing & Strategy skills** showed a marginal level of significance, they were more strongly associated with digital marketing roles, potentially due to job descriptions commonly requiring digital marketing managers to possess at least basic marketing and strategy knowledge. This result supports previous research (Langan et al., 2019; Reavey et al., 2021; Key et al., 2019) that suggests digital marketing requires unique competencies

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compared to traditional marketing, while potentially rejecting the idea of Zahay & Roberts (2017) that digital marketing is complementary to marketing discipline.

Regarding the hypotheses related to company/position aspects, only **H4** received support, indicating that working with an agency significantly distinguishes between digital marketing and traditional marketing roles. This finding is consistent with the previous study by Key et al. (2019), which highlighted the frequent requirement for digital marketers to work with and coordinate external agencies. However, **H2** and **H3** did not receive support, suggesting that company size and workplace type do not significantly influence the likelihood of a position being assigned to either digital or traditional marketing.

This research addresses several limitations present in previous studies by incorporating a wide range of data from various job descriptions, considering industry aspects specific to different digital and traditional marketing roles, and exploring company and position aspects. Additionally, it provides a comprehensive list of unique skills identified through job description analysis. Moreover, this research is the first to quantitatively demonstrate significant differences between the competencies required for digital marketing and traditional marketing roles. However, several limitations should be acknowledged. Firstly, limited sample size – 109 observations from the Czech Republic. Second, there is a possibility of missed skills - with more observations, more unique skills could be identified. Third, the inclusion of additional predictor variables could enhance the exploration of differences between digital marketing and traditional marketing roles. Fourth, limitation of applying standard PCA to binary variables, primarily tailored for continuous data, prompts the authors to pursue further research utilizing polychoric PCA to achieve more precise results in their investigation (Aletras et al., 2010; Holgado–Tello et al., 2010). Lastly, it is important to consider the seniority factor of different positions, as the skills required may vary depending on the seniority level. The results obtained from the research can be generalizable only for the Czech Republic, however, it will still need more observations to match the targeted population. In forthcoming research, the authors intend to gather a larger number of job descriptions from various countries to enhance the generalizability of the results.

CONCLUSION

In conclusion, this paper investigated the competencies required for digital marketing and traditional marketing positions using a binomial logistic regression model. The findings have both practical and theoretical implications. The study highlights the distinct competencies needed for digital marketing and traditional marketing roles, emphasizing the importance of specialized skills in the digital landscape. This has implications for organizations in terms of recruitment, training, and talent development. Understanding the specific competencies associated with each role can inform hiring strategies, competency frameworks, and career development paths. It provides valuable insights into the skills that digital marketers should possess and enables companies to align their talent management practices accordingly.

Furthermore, the findings contribute to the existing body of knowledge in digital marketing research. They support previous studies that suggest digital marketing requires unique competencies compared to traditional marketing, challenging the notion of digital marketing being merely complementary to the broader marketing discipline. This highlights the need for specialized skills in digital marketing and provides a foundation for future research.

REFERENCES

Aletras, V. H., Kostarelis, A., Tsitouridou, M., Niakas, D., & Nicolaou, A. (2010). Development and preliminary validation of a questionnaire to measure satisfaction with home care in Greece: An exploratory factor analysis of polychoric correlations. *BMC Health Services Research, 10*, 1–14.

Dwivedi, Y. K., Ismagilova, E., Hughes, D. L., Carlson, J., Filieri, R., Jacobson, J., Jain, V., Karjaluoto, H., Kefi, H., Krishen, A. S., Kumar, V., Rahman, M. M., Raman, R., Rauschnabel, P. A., Rowley, J., Salo, J., Tran, G. A., & Wang, Y. (2021). Setting the future of digital and social media marketing research: Perspectives and research propositions. *International Journal of Information Management*, 59, 102168. https://doi.org/10.1016/j.ijinfomgt.2020.102168

Holgado–Tello, F. P., Chacón–Moscoso, S., Barbero–García, I., & Vila–Abad, E. (2010). Polychoric versus Pearson correlations in exploratory and confirmatory factor analysis of ordinal variables. *Quality & Quantity*, *44*(1), 153–166. https://doi.org/10.1007/s11135-008-9190-y

Kannan P.K., Hongshuang "Alice" Li, (2017). Digital marketing: A framework, review, and research agenda. *International Journal of Research in Marketing, 34*(1), 22–45. https://doi.org/10.1016/j.ijresmar.2016.11.006

Key, T. M., Czaplewski, A. J., & Ferguson, J. M. (2019). Preparing Workplace-Ready Students with Digital Marketing Skills. *Marketing Education Review, 29*(2), 131–135. https://doi.org/10.1080/10528008.2019.1610331

Kolding, M., Sundblad, M., Alexa, J., Stone, M., Aravopoulou, E., & Evans, G. (2018). Information management – a skills gap? *The Bottom Line, 31*(3/4), 170–190. https://doi.org/10.1108/BL-09-2018-0037

Kovacs, I. (2021). Digital Marketing Soft Skills and University Students' Perceptions of Employability. *GiLE Journal of Skills Development, 1*(1), 25–36. https://doi.org/10.52398/gjsd.2021.v1.i1.pp25-36

Langan, R., Cowley, S., & Nguyen, C. (2019). The State of Digital Marketing in Academia: An Examination of Marketing Curriculum's Response to Digital Disruption. *Journal of Marketing Education, 41*(1), 32–46. https://doi.org/10.1177/0273475318823849

Royle, J., & Laing, A. (2014). The digital marketing skills gap: Developing a Digital Marketer Model for the communication industries. *International Journal of Information Management, 34*(2), 65–73. https://doi.org/10.1016/j.ijinfomgt.2013.11.008

Stahl, A. (2022) 7 fully remote career paths that are hiring like crazy, *Forbes.* Available at: https://www.forbes.com/sites/ashleystahl/2021/07/02/7-fully-remote-career-paths-that-are-hiring-like-crazy/?sh=2bbe33782457 (Accessed: 18 June 2023).

Stone, M. (2014). Building digital skills through training. *Journal of Direct, Data and Digital Marketing Practice, 16*(1), 3–14. https://doi.org/10.1057/dddmp.2014.44

Veer, E., & Dobele, A. (2019). Relevance of Digital Marketing Skills for Marketers: An Abstract. In P. Rossi & N. Krey (Eds.), *Finding New Ways to Engage and Satisfy Global Customers* (pp. 637–637). Springer International Publishing. https://doi.org/10.1007/978-3-030-02568-7_168

Wymbs, C. (2011). Digital Marketing: The Time for a New "Academic Major" Has Arrived. *Journal of Marketing Education, 33*(1), 93–106. https://doi.org/10.1177/0273475310392544

Zahay, D., & Roberts, N. (2017). *Internet Marketing: Integrating Online and Offline Strategies.* Cengage Learning.

Zahay, D., Altounian, D., Pollitte, W., & James, J. (2019). Effective resource deployment in digital marketing education. *Marketing Education Review, 29*(3), 182–192. https://doi.org/10.1080/10528008.2018.155500

Applicability of the Net Promoter Score in the Energy Sector

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Abstract: In recognizing the frequent use of NPS, this work provides empirical evidence of the NPS's applicability within the energy sector. The study relies on a confidential sample of 1,250 customers of a Czech subsidary of a European electric energy and gas provider. We found that the promoters stayed with the company for a longer time than the detractors. They were also more likely to renew their contract than did the detractors, even after a price increase. However, the study confirmed only a relatively shallow relationship between the customers' promoter scores and the time customers spent with the company. Furthermore, the customers' promoter scores differed concerning their gender and education, whereas there were no significant differences among the NPS categories in terms of age.

Keywords: net promoter score, promoters, passives, detractors, energy sector

JEL Classification codes: M31

INTRODUCTION

The Net Promoter Score (NPS) has become one of the most important measures of customer loyalty in the world of practice (Bennett and Molisani, 2020). As a management tool, NPS aims to estimate the ratio of promoters to a firm's detractors (Reichheld, 2003). NPS asks customers, "How likely is it that you would recommend our company to a friend or colleague?" Customers answer on a 0-to-10 scale, and depending on their specific rating, they are classified as "promoters" (9-10 rating), "passively satisfied" (7-8 rating), or "detractors" (0-6 rating). While promoters are expected to act as brand ambassadors for the company, passively satisfied will be neutral, and detractors will reflect on their negative experiences. The calculation of NPS requires subtracting the percentage of detractors from the percentage of promoters.

In recognizing the frequent use of NPS, this work provides empirical evidence of NPS's applicability in the energy sector, which has not been studied in the literature so far.

With the liberalization of the European energy market, customers' possibility to switch energy providers increased significantly (Capece et al., 2013). Thus, customer satisfaction and loyalty have become critical topics within the industry, previously operating in monopolistic environments (Hartmann and Ibáñez, 2007).

Further on, the socio-economic impacts of the COVID-19 pandemic, as well as the current energy crisis in Europe, may further reinforce the competitiveness in the energy markets due to the predictable tendencies of households to look for savings (e.g., Baker et al., 2020 or Ari et al., 2022). For example, it is estimated that the recent increase in fuel prices will raise the European households' cost of living by approximately 7 percent of consumption on average (Ari et al., 2022).

The organization for the rest of this paper is as follows: First, the authors summarize the most important studies concerning the NPS concept. Then, the authors describe the research methods and develop a series of hypotheses that posit the relationship between customers' promoter scores and the time they spent with the company, their willingness to renew the contract, the number of consumption points, and their willingness to renew the contract after a price increase. Furthermore, the authors extend the analysis to test other hypotheses on the relationship between customers' promoter scores and their characteristics, specifically their gender, education level, and age. Finally, the authors summarize and discuss their findings.

1 LITERATURE REVIEW

The NPS concept, which is based on customers' declared intention to recommend a brand, has become a popular and widely used method for measuring and predicting customer loyalty (Raassens and Haans, 2017). Specifically, the likelihood of recommendation seems to be one of the two most tracked measures of customer loyalty in practice (together with customer satisfaction) (Aksoy, 2013).

Because of its simplicity, low related costs, and presumed relation to an organization's future performance, worldwide enterprises like Microsoft, General Electric, or American Express use the NPS concept (Floh et al., 2013).

Using NPS has become standard practice in a variety of productive sectors, including the brewery industry (Faltejskova et al., 2016), construction management services (Jeong and Lee, 2015), E-commerce (Jang et al., 2013; Liuqu et al., 2015; Pollak and Dorcak, 2015), tourism and hospitality services (Lathiras et al., 2011), institutions of higher education (Dvorakova and Faltejskova, 2014), social media (Xie, Putrevu and Linder, 2017), medical services (Hamilton et al., 2014; Rolbina et al., 2017; Stirling, Jenkins, Clement, Duckworth and McEachan, 2019), or even wedding services (Takami, Kitada and Ota, 2016).

Despite the popularized use of NPS, mainly based on its positive association with customers' positive word-of-mouth (Eger and Micik, 2017; Raassens and Haans, 2017), its employment has received a large number of criticisms (Artz, 2017; Bendle, Bagga, and Nastasoiu, 2019; East et al., 2011; Fisher and Kordupleski, 2019; Keiningham et al., 2008; Klaus and Maklan, 2013; Klimin et al., 2017; Korneta, 2018; Kristensen and Eskildsen, 2011; Rocks, 2016). Arguably, one of the main criticisms is the false relationship between growth and customers' loyalty (East et al., 2011) or the lack of its statistical properties (Rocks, 2016). Above and beyond these considerations, there exist other concerns about the use of NPS. For example, Kristensen and Eskildsen (2014) showed the dangers of employing NPS as input to managerial decision-making and claimed that organizations are far better off using other metrics. De Haan et al. (2015) claimed that NPS was not a good predictor of customer retention. As per van Doorn, Leeflang, and Tijs (2013), NPS was not a better alternative than other similar indices. Krol et al. (2015) questioned the validity of NPS to reflect patients' experiences with health service providers genuinely. More recently, Lewis and Mehmet (2020) observed that NPS captures the sentiment customers feel toward a brand. Still, caution should be used to classify clients into detractors, passives, and promoters. Besides, Temple, Burkhart, and Tassone

(2020) showed that NPS collected via email campaigns consistently produces lower scores than the in-app intercept method.

An excellent summary of the criticisms about the use of NPS is the one by Fisher and Kordupleski (2019), who highlighted the following five problems: 1) NPS does not provide data on what to do to improve, 2) it focuses only on keeping customers, ignoring how to win new clients, 3) The idea of "passive" customers is misleading, 4) NPS provides no competitive data, and 5) NPS is internally focused, ignoring the role of external forces that affect the performance of a firm. These criticisms, however, seem to be ignored in recent empirical works that promote the use of NPS as a practical criterion for validating the results of sophisticated machine learning techniques (Chant and Potter, 2019; Vélez, Ayuso, Perales-González and Tinguaro Rodríguez, 2020).

2 METHODOLOGY

This study relies on a confidential sample of 1,250 customers of a Czech subsidiary of a significant European electric energy and gas provider. All customers resided in the Czech Republic when the data was collected and provided their informed consent to participate in the study. Customers were asked to fill out a survey and provide information on their age, sex, educational level, the decision to extend the contract with the company or not, and their household energy consumption points. An empirical classification of customers was done in terms of one of the following two mutually exclusive groups: those who received a price increase since they signed their last contract and those who did not.

Based on the fact that the empirical distribution of NPS scores proved to have significantly deviated from a Gaussian-like distribution, the authors conducted a series of non-parametric bivariate statistical tests to identify significant relationships among the explored variables, as suggested by previous works (Korneta, 2018). The following set of hypotheses guides the empirical analysis. As promoters are expected to act as brand ambassadors of a firm, the first hypothesis is the following:

Hypothesis 1a: There is a positive relationship between customers' promoter scores

and time spent with the company.

At the same time, promoters should be, on average, with the company for a longer

time than detractors should. Therefore:

Hypothesis 1b: Promoters stay with the company for a longer time than detractors do.

According to Reichheld and Markey (2011), promoters should be more willing to buy products of the company than are detractors and passives. The authors will, therefore, test whether the promoters within the sample are more willing to renew their contract and continue consuming the company's products than detractors are. Therefore, the second hypothesis is the following:

Hypothesis 2: Promoters are more willing to renew their contract than detractors are.

Given the fact that some Czech Energy's clients have more than one consumption point, as the result of choosing a different provider to supply different households, it is reasonable to

assume that they would try to have a preferred energy provider. Therefore, there should be a non-null relationship between NPS and the number of consumption points. Hypothesis number three is, thus following:

> Hypothesis 3: There is a positive relationship between customers' promoter categories and the number of customers' consumption points.

Reichheld and Markey (2011) claimed the existence of a relationship between NPS and price sensitivity. Promoters should be less price-sensitive than detractors. Thus, hypothesis four is the following:

> Hypothesis 4: Promoters are more willing to renew their contract after a price increase than detractors are.

Some studies focused on variations in response to the NPS concerning the demographic characteristics of the respondents. For instance, according to Situmorang (2016), NPS may vary depending on the age of the respondent. The authors posit the following hypothesis:

> Hypothesis 5: The NPS categories differ concerning age.

In a similar vein, given that Eskildsen and Kristensen (2011) found gender differences within the promoter scoring, with females more likely to be firm promoters, the authors posit the following hypotheses:

> Hypothesis 6: Promoter scores' differences between men and women are statistically significant,

> Hypothesis 7: Promoter scores' and customers' educational levels are significantly related.

Customer loyalty has often been defined from a strictly behavioral perspective. Under these conditions, loyalty is equalized with observed purchase behavior (Storbacka et al., 1994). Another approach is combining both attitudinal and behavioral perspectives. Contrary to focusing only on actual (repeat) purchasing behavior, both repeat purchases and favorable attitudes are required to define loyalty in this case (Bandyopadhyay and Martell, 2007).

In this study, the authors assume the NPS concept as a measure of the attitudinal dimension of loyalty, whereas for measuring behavioral loyalty they apply several components of actual purchase behavior, i.e. action measures such as time spent with the company, willingness to renew the contract, or willingness to renew the contract after a price increase.

Several studies indicate that perceived switching costs may cause unsatisfied customers to continue with the same provider only because these customers believe that switching would be difficult or expensive (Cheng, 2011). The perceived switching cost is thus an important factor concerning customer loyalty (Storbacka et al., 1994), which may lead to "false loyalty" (Jones and Sasser, 1995) and to substantial differences between the attitudinal dimension of loyalty and actual behavior.

Perceived switching costs for energy providers tend to be relatively high (Pomp and Shestalova, 2007). Thus, the relationship between the NPS concept and actual behavioral outcomes, i.e. applicability of NPS within the energy sector, may theoretically be lower than in the case of other sectors.

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All these reasons make the energy sector an interesting context for studying customer loyalty and the possible use of the NPS concept.

3 RESULTS AND DISCUSSION

The main results of this study are summarized in Figure 1. The correlation between customers' promoter scores and the time customers spent with the company proved to be relatively shallow but still statistically significant ($r_{xy} = 0.085$, $p < 0.05$).

Other insights stem from the box plot depicting time spent with the company within the three NPS categories (panel A of Figure 1). The first and the third quantiles among passives and promoters seem to be similar, ranging between four and seven years. However, when the median within the categories is considered (displayed by the thicker black bar in the box), it is evident that the median of the promoter category is significantly higher. The detractor category ranks in last place. Results of the Kruskal-Walli's rank-sum test revealed significant differences concerning the time spent with the company. Furthermore, the Wilcoxon test verified differences between NPS categories (e.g., promoter x detractor), confirming that there are significant differences between all categories in terms of time spent with the company ($p < 0.05$).

With these results, Hypothesis 1a cannot be adequately supported. However, it can be concluded that promoters stay with the company longer than passives and detractors, and passives remain with the company longer than detractors do. Hypothesis 1b, in this sense, proved to be supported by the data.

Further on, the Wilcoxon test results confirmed statistically significant differences between the group of customers who decided to renew the contract with the company and those who chose not to ($p < 0.05$); this difference is illustrated in panel B of Figure 1.

The detractors' category is strongly associated with the "non-renewing" group, whereas the promoters' category is strongly associated with the "renewing" group and vice versa (panel C of Figure 1). Henceforth, Hypothesis 2 is supported: Promoters are more willing to renew their contract than detractors are.

As for the relationship between customers' promoter scores and the number of consumption points, the authors found no significant relationships, neither for electricity ($r_{xy} = 0.016$; $p > 0.05$) nor for gas ($r_{xy} = 0.057$ $p > 0.05$). The results of the Kruskal-Wallis rank-sum test revealed that differences between consumption points of promoters, passives, and detractors were not statistically significant, which leads us to reject Hypothesis 3.

The authors filtered the sample of customers who have been addressed with a company's price increase since they signed their last contract. Then they analyzed the differences between the "renewing" and "non-renewing" groups and the NPS categories. The mosaic plot in panel D of Figure 1 depicts the differences between renewing and non-renewing customers after a price increase. This difference proved to be statistically significant ($p = 0.009$) and lead to supporting hypothesis 4, according to which promoters were more willing to renew their contract after a price increase than were detractors.

Fig. 1 (A) Customers' time spent with the company as a function of NPS categories (B) Customers' promoter scores as a function of their willingness to renew the contract.

(C) Mosaic plot on the relationship between NPS categories and contract renewal, (D) Mosaic plot on the differences between renewing and non-renewing customers, (E) Customers' age differences as a function of NPS categories, (F) NPS score differences between men and women, and (G) NPS score differences for customers with and without a university education
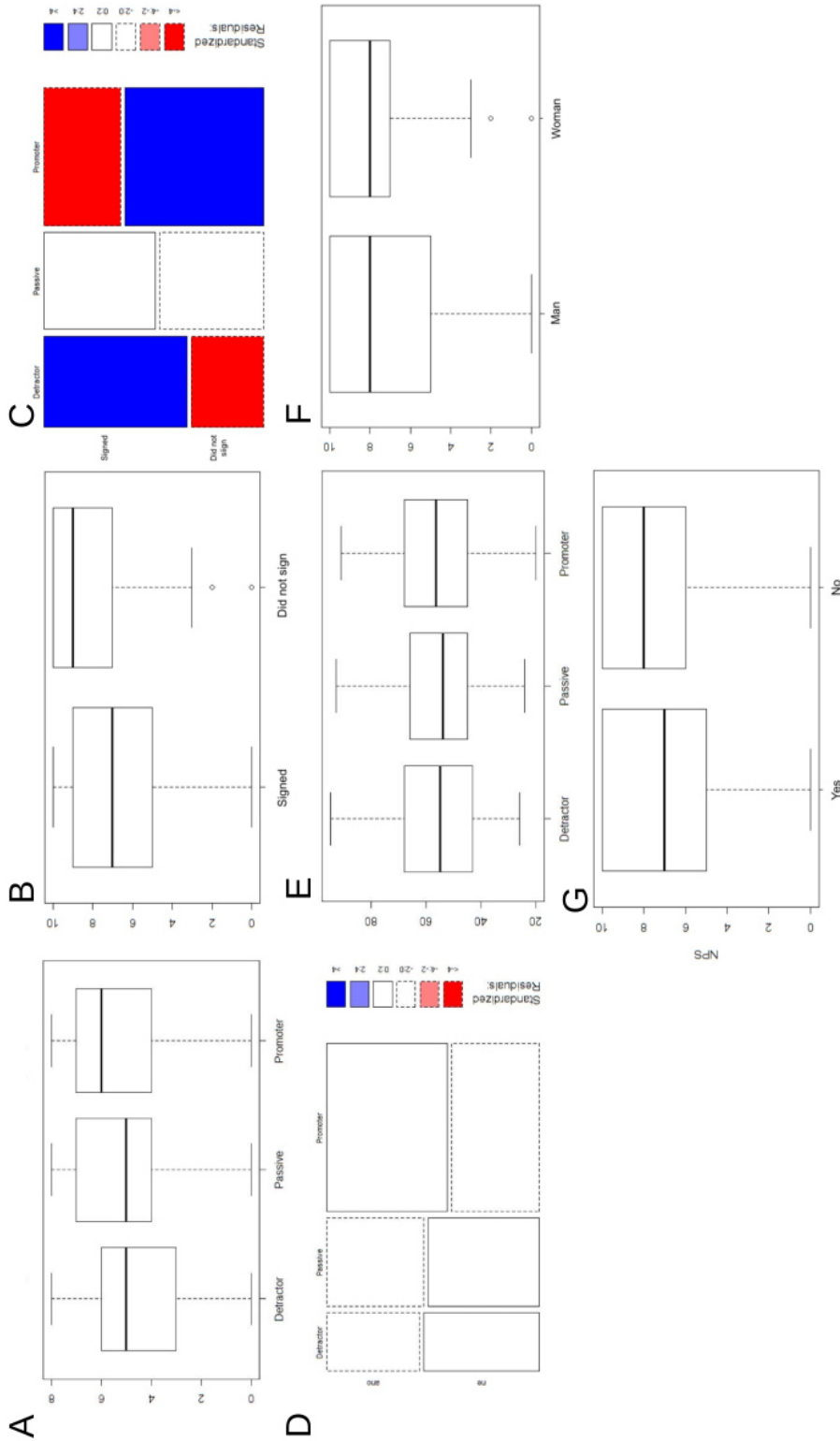
Source: Authors

Panel E of Figure 1 shows the statistical distribution of age for promoters, passives, and detractors. The results of the Kruskal-Wallis test leads to rejecting Hypothesis 5, according to which NPS categories would differ concerning customers' age.

Panel F of Figure 1 illustrates the promoter score differences between men and women. Even though the promoter score median for both genders looks similar, the values of the first and the third quartiles differ significantly, as revealed by the results of the non-parametric Wilcoxon rank-sum test ($p < 0.05$) and the Welch Two Sample t-test ($p < 0.05$). These results allow us to support Hypothesis 6 on the existence of significant differences between genders' promoter scores.

Finally, panel G of Figure 1 shows the statistical distribution of promoter scores for customers with and without a university education. The results of the unpaired two-sample Wilcoxon test revealed that customers with university education scored significantly lower than customers with lower education levels. Thus, Hypothesis 7 on the relationship between promoter scores and customers' education level is supported. Table 1 summarizes the empirical status of all hypotheses tested.

Tab. 1 The empirical status of tested hypotheses

Hypothesis: Assumed relationship	Empirical status
1A. There is a positive relationship between customers' promoter scores and time spent with the company	Inconclusive
1B. Promoters stay with the company for a longer time than detractors	Supported
2. Promoters are more willing to renew their contract than detractors	Supported
3. There is a positive relationship between customers' promoter categories and customer's consumption points	Rejected
4. Promoters are more willing than detractors to renew their contract after a price increase	Supported
5. NPS categories differ significantly as a function of customers' age	Rejected
6. Promoter scores' differences between men and women are statistically significant	Supported
7. Promoter scores and customers' educational levels are significantly related	Supported

Source: Authors

3.1. Discussion

Among all hypotheses tested, the authors found relatively weak evidence on the relationship between customers' promoter scores and their time spent as customers of the energy supplier. Contrary to expectations, this relationship's magnitude, albeit statistically significant, proved to be relatively shallow.

Besides, the authors rejected the hypothesis of the positive relationship between customers' promoter scores and consumption points and possible statistically significant differences in customers' age as a function of NPS categories. Altogether, these results suggest that it is not necessarily correct all that has been claimed around the NPS, at least in the energy sector.

However, most hypotheses proved to be true for the sample of Czech customers of the energy supplier. The confirmation of the rest of the hypotheses suggests that promoters' ratio to detractors is a sensitive metric to discriminate customers who are willing to renew their contract with the company from those who do not. This fact is useful for practitioners and those in charge of leading customer relationship management departments (Bendle et al., 2019).

As some of the hypotheses were not confirmed, it might be possible that practitioners feel the need to complement the results that provide the application of NPS with other customer-oriented data collection techniques. The authors argue that this need opens the doors for different approaches that do not rely on scales and instead analyze customers' comments spontaneously expressed on social media or customer-providers commercial platforms. Practices inspired by this orientation are already available, for example, in the food industry (Teichert et al., 2020). The authors think that they could be used for the energy sector as well.

CONCLUSION

Two dominant positions characterize the literature on NPS; namely, those who accept and use NPS highlighting its applicability for practical purposes, and those who criticize its use by recalling its problems. The use of NPS in the energy sector remained unexplored. This study was the first one to show the empirical results of NPS in the energy sector.

The authors concur with the idea proposed by Grisaffe (2007), since NPS may be a valuable, applied diagnostic metric. Still, it is not the only thing a company needs to manage for success. Thus, NPS is far from being an ideal operationalization of accepted theoretical formulations of customers' loyalty or customer satisfaction concepts.

The findings also support the idea that companies should not focus primarily on the overall NPS of their customer base. Instead, they should focus on the size of the three NPS segments (promoters, passives, and detractors) and their development over time. The authors proved that promoters have a higher potential for the company than passives and detractors. They display the most desired behavior, as they are more loyal and willing to renew their contracts. They also show a lower price sensitivity. Contrary, detractors are less loyal and less willing to renew the contracts. Therefore, focusing on increasing the number of promoters and at the same time decreasing the number of detractors within the customer base seems to be a highly reasonable goal.

As mentioned before, the analysis of customers' spontaneous word-of-mouth data might also be a promising complement to NPS. The available literature on the connection between NPS and word-of-mouth data lacks exciting opportunities recently proposed by the framework of applied complexity (Correa, 2020). The unstructured word-of-mouth data is subject to analysis

from natural language processing techniques. Applications of this sort in the food industry (Teichert et al., 2020) might be easily generalizable and used in the energy sector. However, this use might require the participation of a data science team in charge of producing executive reports for managers to make decisions on customer relationships.

The present study is not free of limitations. As this study focused on the energy sector and one company, in particular, any pretension of generalizing to other companies or sectors may fail.

Above and beyond this limitation, it is worth mentioning the opportunities for further empirical studies tackling the relationship between NPS and word-of-mouth data within the energy sector as well as other sectors.

REFERENCES

Aksoy, L. (2013). How do you measure what you can't define? The current state of loyalty measurement and management. *Journal of Service Management*.

Ari, A., Arregui, N., Black, S., Celasun, O., Iakova, D., Mineshima, A., ... & Zhunussova, K. (2022). Surging energy prices in Europe in the aftermath of the war: How to support the vulnerable and speed up the transition away from fossil fuels.

Artz, M. (2017). NPS—The One Measure You Really Need to Grow? *Controlling & Management Review* 61(1): 32–38.

Baker, S. R., Farrokhnia, R. A., Meyer, S., Pagel, M., & Yannelis, C. (2020). How does household spending respond to an epidemic? Consumption during the 2020 covid-19 pandemic (No. w26949). *National Bureau of Economic Research*.

Bandyopadhyay, S., & Martell, M. (2007). Does attitudinal loyalty influence behavioral loyalty? A theoretical and empirical study. *Journal of retailing and consumer services*, 14(1), 35-44.

Bendle, N.T., Bagga, C.K. and Nastasoiu, A. (2019). Forging a Stronger Academic-Practitioner Partnership-The Case of Net Promoter Score (NPS). *Journal of Marketing Theory and Practice* 27(2): 210–226.

Bennett, M., & Molisani, A. (2020). Customer experience quality surpasses NPS in correlation to financial performance, customer loyalty and customer satisfaction.

Capece, G., Di Pillo, F. and Levialdi, N. (2013). Measuring and comparing the performances of energy retail companies. *International Journal of Energy Sector Management* 7(4): 491-515.

Chant, D. and Potter, M. (2019). Validating Black Box Neural Networks. *International Journal of Market Research* 61(3): 338–344.

Cheng, S. I. (2011). Comparisons of competing models between attitudinal loyalty and behavioral loyalty. *International Journal of Business and Social Science*, 2(10), 149-166.

Correa, J.C. (2020). Metrics of emergence, self-organization, and complexity for eWOM research. Frontiers in Physics 8(35).

de Haan, E., Verhoef, P.C. and Wiesel, T. (2015). The predictive ability of different customer feedback metrics for retention. *International Journal of Research in Marketing* 32(2): 195–206.

Dvorakova, L. and Faltejskova, O. (2014). Net Promoter Score use at University Education Sector. In: Psychology and Psychiatry, Sociology and Healthcare, Education, VOL III, *International Multidisciplinary Scientific Conferences on Social Sciences and Arts*. pp. 567–577.

East, R., Romaniuk, J. and Lomax, W. (2011). The NPS and the ACSI A critique and an alternative metric. *International Journal of Market Research* 53(3): 327–346.

Eger, L. and Micik, M. (2017). Customer-oriented communication in retail and net promoter score. *Journal of Retailing and Consumer Services* 35: 142–149.

Eskildsen, J.K. and Kristensen, K. (2011). The gender bias of the net promoter score. In: *2011 IEEE International Conference on Quality and Reliability*. IEEE, pp. 254–258.

Faltejskova, O., Dvorakova, L. and Hotovcova, B. (2016). Net Promoter Score integration into the enterprise performance measurement and management system - A way to performance methods development. *E & M Ekonomie a Management* 19(1): 93–107.

Fisher, N.I., and Kordupleski, R.E. (2019). Good and bad market research: A critical review of Net Promoter Score. *Applied Stochastic Models in Business and Industry* 35(1): 138–151.

Floh, A., Koller, M., and Zauner, A. (2013). Taking a deeper look at online reviews: The asymmetric effect of valence intensity on shopping behaviour. *Journal of Marketing Management* 29(5-6): 646–670.

Grisaffe, D.B. (2007). Questions about the ultimate question: conceptual considerations in evaluating Reichheld's net promoter score (NPS). *Journal of Consumer Satisfaction, Dissatisfaction, and Complaining Behavior* 20: 36–53.

Hamilton, D.F., Lane, J.V., Gaston, P., Patton, J.T., MacDonald, D.J., Simpson, A.H.R.W. and Howie, C.R. (2014). Assessing treatment outcomes using a single question the Net Promoter Score. *Bone & Joint Journal* 96B(5): 622–628.

Hartmann, P. and Ibáñez, V. A. (2007). Managing customer loyalty in liberalized residential energy markets: The impact of energy branding. *Energy Policy*, 35(4), 2661-2672.

Jang, J.H., Kim, S.W., Lee, Y.S. and Kim, J. (2013). The effects of relationship benefit on relationship quality and store loyalty from convergence environments-NPS analysis and moderating effects. *Electronic Commerce Research* 13(3): 291–315.

Jeong, M. and Lee, G. (2015). Quantitative Model for Predicting the Referential Intention of Construction Management Services. *Journal of Management in Engineering* 31(5).

Jones, T. O., & Sasser, W. E. (1995). Why satisfied customers defect. *Harvard business review*, 73(6), 88.

Keiningham, T.L., Aksoy, L., Cooil, B. and Andreassen, T.W. (2008). Linking customer loyalty to growth. *MIT Sloan Management Review* 49(4): 51.

Klaus, P.P. and Maklan, S. (2013). Towards a better measure of customer experience. International *Journal of Market Research* 55(2): 227–246.

Klimin, A.I., Tikhonov, D.V. and Trykov, A.V. (2017). Methodological problems of NPS index application for measuring customer relationship in b2b. In: *Soliman, KS (ed.) Vision 2020: Sustainable Economic Development, Innovation Management, and Global Growth*, VOLS I-IX, 2017. pp. 3149–3160.

Korneta, P. (2018). Net promoter score, growth, and profitability of transportation companies. *International Journal of Management and Economics* 54(2): 136–148.

Kristensen, K. and Eskildsen, J. (2011). The validity of the net promoter score as a business performance measure. In: Huang H, Zuo M, Jia X and Liu Y (eds.) *2011 International Conference on Quality, Reliability, Risk, Maintenance, and Safety Engineering. New York, USA*: IEEE, pp. 970–974.

Kristensen, K. and Eskildsen, J. (2014). Is the NPS a trustworthy performance measure? *The TQM Journal* 26(2): 202–214.

Krol, M.W., de Boer, D., Delnoij, D.M. and Rademakers, J. (2015). The Net Promoter Score - an asset to patient experience surveys? *Health Expectations* 18(6): 3099–3109.

Lathiras, P., Priporas, C.V., Vassiliadis, C.A. and Lianou, K. (2011). Assessing the impact of website quality on user satisfaction: A study of webqual and net promoter score in hotels. In: Vrontis, D and Weber, Y and Kaufmann, HR and Tarba, S and Tsoukatos, E (ed.) *4TH Annual Euromed Conference of the Euromed Academy of Business: Business Research Challenges in a Turbulent Era*. pp. 1058–1073.

Lewis, C. and Mehmet, M. (2020). Does the NPS (R) reflect consumer sentiment? A qualitative examination of the NPS using a sentiment analysis approach. *International Journal of Market Research* 62(1): 9–17.

Liuqu, Y., Fan, X. and Fu, P.L. (2015). From Customer Satisfaction to Customer Experience: Online Customer Satisfaction Practice in International E-commerce. In: Rau, PLP (ed.) Cross-Cultural Design: Application in Mobile Interaction, Education, Health, Transport and Cultural Heritage, CCD 2015, PT II, Lecture Notes in Computer Science, volume 9181. Berlin, Germany: Springer-Verlag, 80–89.

Pollak, F. and Dorcak, P. (2015). Analysis of Online Reputation of elected E-commerce entities operating in the Central European Market. In: Petr, D and Gerhard, C and Vaclav, O (ed.) IDIMT-2015: Information Technology and Society Interaction and Interdependence, Schriftenreihe Informatik, volume 44. pp. 255–262.

Pomp, M., & Shestalova, V. (2007). Switching Costs in Netherlands Energy Markets: Can Liberalisation Bring Benefits to Small Customers? *De Economist*, 155(3), 305-321.

Raassens, N. and Haans, H. (2017). NPS and Online WOM: Investigating the Relationship Between Customers' Promoter Scores and eWOM Behavior. *Journal of Service Research* 20(3): 322-334.

Reichheld, F. and Markey, R. (2011). The Ultimate Question 2.0: How net promoter companies thrive in a customer-driven world. Massachusetts: Harvard Business Press.

Reichheld, F. (2003). The one number you need to grow. *Harvard Business Review* 81(12): 46–55.

Rocks, B. (2016). Interval Estimation for the "Net Promoter Score". *American Statistician* 70(4): 365–372.

Rolbina, E.S., Novikova, E.N., Sharafutdinova, N.S. and Martynova, O.V. (2017). The Study of Consumer Loyalty Services. *AD Alta-Journal of Interdisciplinary Research* 7(2, 2): 248–253.

Situmorang, S.H. (2016). Gen c and gen y: Experience, net emotional value and net promoter score. In: 1st International Conference on Social and Political Development (ICOSOP 2016). Atlantis Press.

Austrian Beer Makers and *Slow Brewing*: A Global Movement Fostering Local Commitment?

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Abstract: *Slow Brewing* is a quality label for beer, distinguishing brewers in several European countries like Austria. This brewing method seems related to the Slow Food movement, launched in Rome in 1986 by Carlo Petrini. From a local protest action against the fast-food industry and the disappearance of local food traditions, it has become a global movement. From 2012, four Austrian brewers have been awarded the seal of *Slow Brewing*, which is meant to guarantee greater product quality and better taste. *Slow Brewing*, however, is not limited to the certification of beer quality, but also refers to the respect of ecological sustainability, participatory corporate climate, and professional and human development of employees. The results of the study show that the Austrian Slow Brewers borrow narratives from the Slow Food ideology, but that they also follow their own philosophy, adapted to local challenges. This article is the first academic study about *Slow Brewing*.

Keywords: Austrian beer, citizen-consumer, local commitment, slow brewing, slow food, sustainability

JEL Classification codes : L66 ; Q01 ; Q50

INTRODUCTION

Slow Brewing is a quality label for beer (Slow Brewing Institute), distinguishing 31 brewers in European countries like Austria, Italy, Germany, the Netherlands, and Switzerland. It signifies an evaluation process precisely defined, the same for all breweries. To qualify for the Quality Seal, „a beer should exhibit consistently superior flavour and character, the raw materials must be of the highest quality and the production process must adhere to strict standards." The *Slow Brewing* Quality Seal is nevertheless not limited to the certification of beer quality, but also refers to the respect of ecological sustainability, participatory corporate climate, and professional and human development of employees.

The evaluation is performed by auditors of the Slow Brewing Institute, and the quality and flavours of the products are analysed by the Weihenstephan Research Center for Brewing and Food Quality at the TU Munich. To guarantee the strict compliance with regulations and quality criteria, the assessment of the company takes place annually, beer quality is tested every month.

Slow Brewing seems to be focused on the factor of *time.* („Simply taking the time necessary to brew beer well is fundamental to the philosophy of *Slow Brewing"* (Slow Brewing Institute) and distinguishes itself from accelerated industrial mass production. Since 2012, four Austrian

brewers have been awarded the seal of *Slow Brewing*, which is meant to guarantee greater product quality and better taste. Their companies are dispatched in three Austrian regions: the city and the region of Salzburg (Stiegl, Trumer), Carinthia (Hirter) and Upper Austria (Braucommune Freistadt).

This paper will study the impact of time on beer brewing, and the consumption of beer and food in locations linked with the breweries, and further explore how regional anchoring and traditional brewing methods answer global challenges like sustainability and citizen-consumer requirements. It will further examine if, and how the aims of *Slow Brewing* could be compared with the Slow Food philosophy.

The present article is a socio-semiotic investigation of the narratives of Austrian beer brewers. It is an empirical study based on a qualitative survey with semi-structured interviews and analyses of the company websites and firm documents[1].

1 LITERATURE REVIEW

No peer-reviewed academic research articles about *Slow Brewing* have been published yet but given that the websites of the four Austrian breweries practicing *Slow Brewing* reveal certain similarities with the Slow Food movement, this paper will be based on research about Slow Food.

 In the 20th century, Europe experienced profound transformations in the food sector, particularly starting in the 1960s. The spread of supermarkets, the rise of mass production, and increased standards of wages and living have led to new forms of consumption (Fontefrancesco 2018. Industrial products became not only fashionable and cheaper but were also considered less risky than artisanal products (ibid.; see also Roberts, 2006). This trend in the worldwide foodscape resulted in a „globalization and standardization of taste" and a positioning of the agrifood industry between „profitability and productivity" (ibid.; see also Begin, 2016). In the late 1980s however, a new interest for local products emerged, particularly in Italy, driven by the Slow Food movement which was popularized by the journalist and activist Carlo Petrini. Within the space of thirty years, Slow Food „expanded into a global grassroots organization" with more than 10,000 members and 1,500 local Presidia in over 160 countries (Fontefrancesco 2018). The engagement against „McDonaldization" and the commitment to „good," tasty, and healthy food, „clean" production with a reduced environmental footprint, and „fair" prices and working conditions became the key commitment of the Slow Food movement (Fontefrancesco 2018).

An important step of its development was Petrini's conference called *At the Table with the Italian Communist Party,* and his inaugural address in favour of „honesty and authenticity at the table" (Mirosi et al., 2011). It cannot be happenstance that the *Slow Food Manifesto* was written and presented in Paris in 1989, the year of the bicentennial of the French Revolution. For Slow Food activists, it seemed possible that superior quality cuisine would be available to the masses. In the mid-1990s to the mid-2000s, the Slow Food members realized that some products as well as their producers were „in danger of extinction" (Mirosa et al. 2021). They created the *Ark,* „built on the biblical metaphor of Noah's Ark which would save traditional and rare food species from the big flood of industrial foods" (ibid.).

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[1] To facilitate reading, the German quotations are directly translated into English

With the establishment of a world meeting of food communities, called *Terra Madre* (2004), ethical issues for agriculture (sustainability, biodiversity, fair trade) and gastronomy were moved into the foreground, and key strategies to strengthen producers' organization and establish links between producers and consumers, „to preserve local traditional breeds, varieties, landscapes and practices in Presidia" were formulated (Mariani et al. 2021).

 The movement's self-identity developed from Italian focused to internationally focused (Mirosa et al. 2021), but wanted to „revive and preserve traditional methods of food preparation", to build „communal relationships between various stakeholders" (Chaudhury & Albinsson 2015), and to take „the time and making the effort of preparing meals from scratch, savouring nuances and flavours at a leisurely pace in a communal setting"). Food became more than a „simple product to be *consumed:* it is happiness, identity, culture, pleasure, conviviality, local economy, survival" (Chaudhury & Albinsson, ibid.).

 The ethical perspective of food production and consumption is an important aspect of Slow Food. Williams et al. (2015) investigate the motives and experiences of people attending a Slow Food festival in Melbourne, Australia and determine that the appeal of such events for the participants is to mutually satisfy consumers' self-interest as well as altruistic concerns. Three key themes arise from their investigations: The search of people for virtuous lifestyles, the significance of co-production, and ethical consumer principles in everyday life. There is also the desire of participants to learn more about both the origins of food and their production methods and their political impact, better food quality, new tastes and health advantages. The support of local producers is part of the ethical commitment.

Several members of the Slow Food movement want to enjoy the simple pleasures of eating and drinking local produce in sharing some „homespun philosophies", whereas the movement itself has more ambitious goals (Jones et al.,2003), and is looking for a „citizen-consumer", practising consumption „with an eye towards the „greater good" linking „consumption and citizenship" in everyday life (Chaudhury & Albinsson,2015). Food becomes more globally „politicized" including a large number of stakeholders like „farmers, lawmakers, public institutions, medical experts, retailers, manufacturers, communities, and consumers". Other researchers (Thompson & Kumar, 2022) equally scrutinize the role of the socially responsible consumer, expected to make the world better and fight against climate change. However, they criticize the fact that „political consumerism" is often falsely considered an efficient way to tackle environmental destruction and socio-economic disparity. They conducted 19 in-depth interviews with 19 participants of the Slow Food movement such as past and present chapter leaders, peripheral and low-income participants, and associate food producers (2022). Their interviews reveal that consumer accountability is „not regarded as a sufficient response to environmental crises," that ethical consumption is an elitist concept, and that consuming ethical goods can give consumers the impression that they are already doing enough regarding sustainability." The researchers further ascertain that Slow Food sometimes uses a nostalgic presentation of pre-modern traditions to conceive an alternative present.

We encounter other critical voices about food activists in Italy, and how food and language are used to construct meaning and value (Counihan, 2021). In studying the text of a menu prepared for a restaurant dinner for delegates to the Slow Food National Chapter Assembly in 2009, Counihan wonders what kind of activism could be promoted by these gastronomic meetings, and how the goals of good, clean, and fair could be attained. She concedes that the meal appealed to all senses, but regrets that foreign or „ethnic dishes, ingredients or spices, with the exception of black pepper" were absent, and asks herself how such events could reinforce food democracy and develop critical consciousness.

2 METHODOLOGY

At the beginning of the research, investigations included the search of websites of beer brewers practicing *Slow Brewing,* and it could be ascertained that in Europe there are 31 Slow Brewers, four of which in Austria. It was not possible to determine if Slow Brewers also work on other continents, but all interlocutors confirmed that *Slow Brewing* does not yet exist outside Europe. The study of the Slow Brewing Institute website gave detailed insights in the assessment criteria and processes for the obtention of the *Slow Brewing* Quality Seal, and the platform Trip Advisor provided precious indications about consumer aims and satisfaction.

In a second step, information on the internet allowed a familiarization with the philosophy of the Slow Food movement, the website of Slow Food Austria, and an E-mail exchange with the head of Slow Food Austria, and finally, the research on the EBSCO platform and on the internet gave access to academic papers about Slow Food and other sectors such as slow tourism, slow money, etc.

To the best of our knowledge, to date, there have been no academic publications about *Slow Brewing*. The present research will therefore study Slow Food theories to better understand the aims and functioning of *Slow Brewing*. It is part of a socio-semiotic investigation of the narratives (Bartel and Garud, 2009; Rinallo, 2020) of the four Austrian beer brewers awarded with the *Slow Brewing* Quality Seal. The study is based on a qualitative survey (Almeida et al. 2017) with semi-structured interviews, analysis of Slow Brewers' websites, Slow Brewing Institute and Slow Food websites and corporate documents, E-mail exchanges, videos, and the study of press articles. The research questions are:

1. To what extent do regional anchoring and traditional brewing methods answer global challenges like sustainability?
2. Can we consider Slow Brewing to be related to the Slow Food movement?

To treat these questions, the four Austrian beer brewers, the head of Slow Food Austria and the founder of the Slow Brewing Institute were contacted by E-mail. Three of the Slow Brewers (Freistädter Braucommune,Trumer Privatbrauerei and Hirter Privatbrauerei) responded positively, Stiegl Privatbrauerei, the largest of the four breweries, established the contact with the founder of the Slow Brewing Institute, but did not answer the questions itself. The three semi-structured interviews were conducted in February and March 2024 via the Teams and Zoom platforms and lasted between 45 and 60 minutes. The founder of the Slow Brewing Institute sent a detailed written response to the questionnaire. The interviews focused on three general themes and were all recorded and transcribed. The topics covered were:

1. *Slow Brewing* and Slow Food
2. The impact of time on traditional beer brewing and food consumption
3. Local anchorage as prerequisite for sustainability

Tab. 1 Interview Table

Company	Interlocutor (code)	Date	Duration
Braucommune Freistadt	Int 1	16/02/2024	60'

Hirter Privatbrauerei	Int 4	04/03/2024	60'
Slow Brewing Institute	Int 3	25/02/ 2024	Written responses to the questionnaire
Slow Food Austria	-	14/02/ 2024	E-mail exchange
Stiegl Privatbrauerei	Int 5	11/04/2024	Written responses to the questionnaire
Trumer Privatbrauerei	Int 2	16/02/2024	45'

Source: Semi-structured interviews and E-mail exchanges conducted from February to April 2024 (alphabetical order of companies, chronological encoding of the interview numbers)

For the data analysis, the narratives of the semi-structured interviews were scrutinized and compared question by question, while always focusing on the goal of answering the two research questions. The narratives of the company websites (with their restaurants), particularly based on selected data about food and time, in accordance with the Slow Food philosophy, were juxtaposed with each other, thereby providing an opportunity to more deeply analyze the *Slow Brewing* philosophy, beyond the official qualification criteria imposed by the *Slow Brewing* quality label. These data were completed by the analysis of visual and linguistic narratives of the Slow Brewers, represented in the form of logos, supplying insights in local anchoring, and historically based motivation for the local commitment. The most relevant data were synthesized in tables and reproduced in quotations in the 'Results' and 'Discussion' chapters.

3 RESULTS AND DISCUSSION

3.1. Results

3.1.1. Slow Brewing

It can be determined that in Austria the idea of *Slow Brewing* began with the founding of the *Slow Brewing* association in 2011. Since then, the core idea of „the best beer quality without compromise" (Slow Brewing Institute, Int 4) has continued to develop until the creation of the „Quality Seal for Beer", still applied to the current certifications. Slow Brewers are independent breweries, sharing a set of common fundamental values. They form „an entity with common ideals" and „like to meet, exchange ideas and information and decide as a group" (Int 4). The four certified Slow Brewers were awarded with the Quality Seal from 2012 on. They are well-known traditional private breweries (Privatbrauereien) with a long history, established in the country between the 13th and the 17th century, one in a regional capital, three in smaller towns.

Tab. 2 Austrian Slow Brewers (alphabetical order)

	Braucommune Freistadt	Hirter Privatbrauerei	Stiegl Privatbrauerei	Trumer Privatbrauerei
Year of foundation	1363	1270	1492	1601
Year *Slow Brewing*	2017	2013	2013	2012

Quality Seal awarded				
Head Office location	Freistadt (Upper Austria)	Hirt/Micheldorf (Carinthia)	Salzburg (city)	Obertrum (Salzburg region)

Source: Company websites (table realized by the author)

The Slow Brewing Institute emphasizes the assets of *Slow Brewing* what means that „Fewer fermentation by-products are created when the beer is brewed at a slower pace, that is, over the course of unhurried fermentation, maturation and lagering processes" (Slow Brewing Institute; Int 4). At Hirter private brewery, „each beer is brewed according to its own recipe and composition and, after a long maturing period, is preserved using double filtration" (Hirter Bier; Int 3). Trumer private brewery and Braucommune Freistadt emphasize „longer maturing times, colder fermentation temperatures," and no high gravity brewing (Int 1 and 2). Consumers can be assured that the beer they purchase „is held to high standards of quality and has an excellent flavor" and „has been brewed in a fair-minded and conscientious manner" (Hirter Bier). Slow Brewers equally guarantee „sustainability and environmental practices in their respective regions" (Int 3). *Slow Brewing* certified beers promise „enjoyment and convey a positive feeling" (Int 1, Int 3), and „increase beer lovers' quality of life with their exceptional beer and mindful business practices rooted in integrity" (Int 1). They treat employees fairly and honestly and always keep in mind future generations (Int 1 and 2).

3.1.2.   Slow Brewers' restaurants

The four Slow Brewers not only manage their breweries, but also run regional restaurants. Two of them openly display links with the Slow Food movement: Stiegl is partner of Slow Food Salzburg, and Hirter has been awarded with four Slow Food Snails (as recognition for the respect of high food quality) (Int 3). It will be interesting to study the narratives of the restaurants of the four Austrian Slow Brewers and identify, how their philosophy resembles the Slow Food movement. The following table presents the characteristics and philosophy of the restaurants, regionality and sustainability of the provided food and the assorted beer, and the factor „time" in its different dimensions.

Tab. 3 Slow Brewers and their restaurants

	Braucommune Freistadt	Hirter Privatbrauerei	Stiegl Privatbrauerei	Trumer Privatbrauerei
Restaurant/Name	Freistädter Brauhaus	Hirter Braukeller	Stiegl-Gut Wildshut (Krämerladen Wildshut)	Trumerei (since 2014, now leased out);
Location	Freistadt (Upper Austria)	Micheldorf (Carinthia)	Close to the city of Salzburg	A *city dependence* in Salzburg
Characteristics of the restaurant	Very regional, beer garden	One of the most traditional restaurants in all of Carinthia.	A combination of farm estate and brewery near the Salzburg state border, and Austria's first beer farm (own organic farm);	A new mix of craft-beer bar and Trumer beershop. A free space that embodies an open spirit.

			circular economy: use of old wood from the brewery for the restaurant floor etc.)	
Food +beer	Lunch menu/one vegetarian menu, seasonal menu monthly dinner: beer meets cuisine; regional farm products.	Regionality =important for the raw materials. Varietal diversity of barley and beer. Nature is the cornerstone of all their beer products.	Exclusively organic food. Tasty and precious food; use of heirlom grain varieties; organic beer to go with the dishes; food from nature, according to the seasons, from farmers in the surrounding area; preservation of the diversity of regional flavors.	„Globally local" cuisine, boundless regional cuisine, vegetarian cuisine; the taste of the regions, regional identity, homeland in the beers.
Philosophy	Common Good Balance Sheet (a good life for all living beings and the planet: human dignity, solidarity and justice, ecological sustainability, transparency and consensus.	Hirt Manifesto: Real life, real pleasure, real beer. Regionality and sustainability are important to us; the world belongs to those who enjoy it (Giacomo Leopardi); awarded with 4 Slow Food snails (Slow Food Travel Guide)	Partner and sponsor of Slow Food Salzburg: conscious enjoyment of natural and sustainable products from the region. A sense of responsibility, health and environmental awareness. Slow brewing = synonym for pleasure, the art of enjoying life.	Common Good Balance Sheet. Beers that are a declaration of love for life and that make us feel alive. Philosophy of *generational thinking.* „Einfach leben („live simply") - the gastro-philosophical forum.
Time factor	We give our beer the time to mature. Brewed slowly, enjoyed quickly. Never a *Turbo beer.* Acting in the now, thinking about tomorrow. We don't think in trimesters but in generations. A future worth living	*Herbstkult* (autumn worship) beer speciality = only limited availability.	We take time for the production of food and for enjoying it. Time is our fifth ingredient. Take your time, get in touch with what's on the plate; the clocks function fundamentally differently here;	More time to age. Good beer takes time. Today's beer for tomorrow. A slower life starts with slower brewing. …take time to consciously enjoy it. A culture for people who take the time.

	for future generations		one deliberately renounces Wifi.	

Source: Company websites (table realized by the author)

3.1.3. The logos, expression of regional anchoring and local commitment

After processing the outcomes resulting from the interviews and analyzing the self-portrayals of the companies on their websites, the study of their logos provides further insightful information for the paper. In fact, names, calligraphy, slogans, colors, visuals, and dates may be relevant indicators for their self-presentation. This chapter will therefore first present the company logos in the context of regional anchoring, and then evoke some evidence for the local commitment of the Slow Brewers.

Illustration 1: Logo of Freistädter Bier

Source: https://www.freistaedter-bier.at/

Above the name of the brewery „Freistädter Bier", written in green in traditional font (symbolizing the green landscape of the Mühlviertel, where the brewery is located), we can find the coat of arms of the city of Freistadt represented in the red-white-red bandage shield of the ancient dynasty of the House of Babenberg (today still the colors of the Austrian flag). The brewery itself gives explanations about its logo and the role of the regional origin and local roots: „Our myth has roots, and these are inextricably linked to our brewery in Freistadt", and „We are committed to the Brau-Commune historic site (Freistädter Bier)."

Illustration 2: Logo of Hirter Bier

Source: https://www.hirterbier.at/hirter-gruppe/logo-download

Hirter also uses traditional calligraphy and insists on „Real Passion" (Echte Leidenschaft) for its beer. As proof of longevity, it specifies its founding year (1270), and places in the center the bishop's coat of arms of the diocese of Gurk, where Hirter brewery was first mentioned in a document (about 70 kilometers far from the current company headquarters in Carinthia). In this context, the purple color of the background can be considered as a liturgical color and reference to the role monasteries played for beer brewing in history. Note that the German word „Hirt" means shepherd, an allusion to the rural origins where the firm is located, as well as to the biblical „guter Hirte," the „good shepherd."

Illustration 3: Logo of Stiegl Bier

Source: https://www.stiegl.at/en/the-brewery/service/media-downloads/

Also here, ancient calligraphy has been conserved. Above the name, Stiegl emphasizes its origins in Salzburg, ancient residence of prince-archbishops. The steps below symbolize the old brewery restaurant in Salzburg „Haus Bey der Stiegen" (house by the stairs), and the name „Stiegl" simply means little stairs, the stairs which, in former times, led from the brewery down to the Almkanal, where the brewery got its water supply for brewing. The characteristic traditional red color is called „Stiegl Rot".

Illustration 4: Logos of Trumer Pils

Source: https://untappd.com/TrumerPrivatbrauerei

Trumer has two logos, one for the Obertrumer product range, and one for the Pils line (Int 2). Both of them show a smiling waitress with curly hair, dressed in a typical Austrian Dirndl dress, carrying two big beer mugs with plenty of foam (designed in 1934 by the famous German poster and graphic designer Ludwig Hohlwein for the grandfather of the current CEO). The foundation date (1601) is mentioned on both of them, and the name of the beer and the company is added in a traditional writing for the Obertrumer line, the regional line, and in a larger and more modern print style for Trumer Pils, the international product line (Int 2).

When we compare the logos of the four Slow Brewers, we find several common denominators, demonstrating the regional anchoring with their Austrian roots (Freistädter), and their efforts for the preservation of the region and traditional products. The century-old existence of the breweries quoted in the logos (Hirter, Trumer), the reliance on Christian founding documents (Hirter), the reference to former brewery buildings (Stiegl), or the recourse to the drawing of a traditionally-dressed waitress (Trumer) convey the impression of continuity and stability, and seem to be intended to procure a sensation of happiness, pleasure and conviviality, as advocated both by the Slow Food and the *Slow Brewing* philosophy. The logos can therefore be considered as a connecting link between the global Slow Food ideology, and the expression of regional anchoring and local commitment.

3.2. Discussion

In this part of the paper, we will try to answer the two research questions, first recalling the essential theoretical statements in relation to each of the two questions, followed by some corresponding narratives of the four Slow Brewers.

3.2.1. To what extent do regional anchoring and traditional *Slow Brewing* methods answer global challenges like sustainability?

In his publication about the global Slow Food movement, Fontefrancesco (2018) emphasizes the commitment for „good" (tasty and healthy) food and „clean" production with a reduced environmental footprint, and Mirosa et al. (2011) mention the creation of the Ark, to save traditional and rare food species and protect food cultural biodiversity for future generations. Jones et al. (2003) underline, that exceptional quality, the provenance of local raw materials, and the relationship with the local region are often „indicated by a place name".

Similar themes emerge in the discourse of the Slow Brewers, as we will see in the following analysis. The *Slow Brewing* Quality Seal presents a guarantee of quality „from the raw materials to the beer served" (Stiegl), „from the field to the glass". Freistädter Bier uses, similarly to other brewers, only local ingredients: The beer is made with „primitive rock water from our own deep well, 100% Austrian malting barley that comes from natural, controlled cultivation" from the Mühlviertel (the region of Upper Austria surrounding their brewery), and from the 30-year-long collaboration with sustainability committed farmers of the Erzeugergemeinschaft Zistersdorf (EGZ) (in the north of Vienna). One hundred percent of the hops come from 37 hops farmers cultivating 14 different types of hops in the region (Freistädter Bier). Trumer, located in the region of Salzburg, near the Bavarian border, uses raw materials from Bavaria, much nearer than certain regions in Austria, and of excellent quality (Int 2). On their own organic farm at Wildshut, not far from Salzburg, Stiegl „nurtures the soil" and cultivates „long -forgotten ancient grains" (Stiegl). The recourse to „cutting-edge technology" enables „beer production that respects the environment" (Stiegl).

The cooperation with local suppliers and the short transport distances enables more sustainable production and transport and provide complete transparency and traceability (Hirter). Slow Brewers would never have recourse to GMO technology (Freistädter; Int 1), because „nature" is the „main pillar" of all beer products (Hirter). Sustainability means, that we „don't consume more than we need" (Stiegl), and measures are undertaken like „waste prevention" (Hirter) by using reusable glasses and barrels and recycled material (Hirter), the production of beer cases made from 75% regranulate (Stiegl), the use of electric trucks (Stiegl), and the own production of photovoltaic energy (Freistädter, Hirter).

3.2.2. Can we consider *Slow Brewing* to be related to the Slow Food movement?

Jones et al. (2003, 297) ascertain that many members of the Slow Food movement seek the simple pleasure of eating and drinking local products, whereas the movement itself seems to have more ambitious and far-reaching goals. Thompson & Kumar (2022) note that consumer-responsibilisation is „not regarded as a sufficient response to environmental crises", that „buying ethical goods can give consumers the feeling that they are already doing enough in terms of sustainability" and that „ethical consumption is an elitist concept". Chaudhury and Albinsson (2015) introduce the term of the „citizen-consumer" who practices consumption with an eye towards the greater-good, linking „consumption and citizenship" in everyday life, whereas Counihan (2021) attends a Slow Food National Assembly while studying the gastronomic narratives of the celebration dinner menu with a critical eye.

To answer the second research question, we will rely on the narratives of the Slow Brewers about their four restaurants. Three of them do not seem to pursue a particular philosophy for

the proposed meals, besides highlighting arguments about regional and vegetarian cuisine: *Freistädter Brauhaus* offers vegetarian and seasonal menus, and a monthly dinner proposing beers matching cuisine with regional ingredients. *Hirter Braukeller* emphasizes regionality, and *Trumerei,* „a new mix of craft-beer bar and Trumer beershop", „a free space that embodies an open spirit", dedicated to „globally local" cuisine, boundless regional cuisine or vegetarian cuisine, reflecting „the taste of the regions." The term „globally local" cuisine is interesting to observe, because it demonstrates a certain international openness whose absence Counihan (2021) finds is lacking during her Slow Food National Assembly.

For Stiegl-Gut Wildshut, partner of Slow Food Austria, the parallels to this organization appear more relevant: The restaurant suggests „conscious enjoyment of natural and sustainable products from the region", dishes matching with organic beer, food from nature according to the seasons, „exclusively organic food", an „art of enjoying life", and invites its guests to take their time „and get in touch with what's on the plate". Time is the „fifth ingredient", and Wi-Fi is not available in the guesthouse. The interior of the restaurant respects the circular economy, by using reclaimed wood from the brewery for the restaurant floor, etc.

When we compare these descriptions with the reviews left by customers of Stiegl- Gut Wildshut on the platform Trip Advisor during the last years, we realize that several guests obviously appreciated the atmosphere and style of the premises, the possibility to relax, and the quality of regional and organic food, but that they complain about high prices, little food on the plate („you shouldn't be too hungry"), and the small number of guests and consequently lack of life („life is missing here"). They even make fun of the fancy names of organic beer creations like „Hopfenherz" (heart of hops), „Gmahde Wiesn" (in Austrian dialect, something like mown meadow), or „Malzreigen" (round of malts) and ironically ascertain that „GRETA (Thunberg) would like it". Some of them regret that the transmission of the philosophy of the restaurant to the guests does not really function, and that the visitors would need to inform themselves before coming, to really appreciate it.

CONCLUSION

Research has shown that *Slow Brewing* is a brewing style (and philosophy), combining traditional brewing methods with high-performance modern technology, lending a typical, local character and high quality to the products. Slow Brewers are medium-sized companies, whose managers and employees are very involved in the whole production process and feel proud to express their emotions when it comes to their work (Int 2). They are connected to their region and its inhabitants and committed to „natural cultivation" and strong relationships with their raw material suppliers („farmers are friends, relationships that are good for the grain and the product," Int 1). Beer is brewed for local consumers, and the managers are not trying to expand their sales to a larger area (Int 1). Approximately 95 % of the total production is sold in Austria (Int 2). Beer prices are situated slightly above average („quality may also have a price," Int 1), but these producers must be aware of the mentalities and financial capacities of the surrounding rural population.

The study of the semi-structured interviews and the analysis of the company websites have demonstrated that it is not only the global Slow Food movement that motivates the Austrian Slow Brewers, but also the conviction of the necessity to improve local beer quality, and to preserve the environment for future generations. The idea of a rapprochement with the Slow

Food organization could interest some of them on one side (Int 1) but would require a significant commitment during a period when other questions are becoming more urgent (Int 2). A Slow Food recognition would furthermore constitute a less strict qualification than the *Slow Brewing* Quality Seal (Slow Food deals with several kinds of food, whereas *Slow Brewing* is specialized in beer assessment; Int 2). Slow Brewers and their consumers are not activists, and their *Slow Brewing* philosophy is not politically oriented, but concerns our society as a whole (Int 2).

Slow Brewers use their own documents like the Common Good Report of the Freistädter Braucommune, or the Hirt Manifesto, adapted to their philosophy and everyday challenges. Incidentally, Freistädter Biercommune has already been implementing practices it claims are for the common good for 250 years. As early as the Middle Ages, every house in the old town of Freistadt had the privilege of brewing its own beer. However, in 1770, a devastating fire destroyed the whole city, leaving only two small brewhouses. Thanks to a close alliance of 149 homeowners of the old town, a new brewery was built outside the city walls, called Braucommune, bestowing a particular legal form to this brewery. Today, Freistädter Braucommune is still in the hands of the citizens of Freistadt, a symbol of efficient and long-lasting local solidarity (Int 1).

On the other hand, we should be cautious, when tempted to generalize that „more regional is more sustainable" (Int 2), and when situating „local" within national boundaries. The example of Trumer Bier and its cooperation with Bavarian hops providers, cultivating their fields just across the Austrian-German border, proves that a clear commitment to the region must go hand in hand with open-mindedness, and must remain focused on common sense.

For future research, it could be interesting to carry out comparative studies with breweries in other countries to further validate the findings. Additionally, expanding the investigation to consumer perspectives on *Slow Brewing* could provide deeper insights into its market impact.

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REFERENCES

Almeida, F., Faria, D., et Queiros, A. (2017). Strengths and limitations of qualitative and quantitative research methods. *European Journal of Education Studies*, 3(9), 369–387.

Bartel, C.A. & Garud, R. (2009). The Role of Narratives in Sustaining Organizational Innovation. *Organization Science,* 20(1), 107-117. DOI: 10.1287/orsc.1080.0372.

Chaudhury, S.R. & Albinsson, P.A. (2015). Citizen-Consumer Oriented Practices in Naturalistic Foodways: The Case of the Slow Food Movement. *Journal of Makromarketing,* 35(1), 36-52. DOI: 10.1177/0276146714534264

Counihan, C. (2021). Food Activism and Language in a Slow Food Italy Restaurant Menu. *Gastronomica*, 21(4),76-87.

Fontefrancesco, M.F. (2018). The Slow Food Model: A Road for Small-Scale Productions in a Globalised Market. *International Journal of Agricultural Management and Development (IJAMAD),* 8(1), 17-21.

Freistädter Bier. (n.d). Retrieved in February and March 2024, from https://www.freistaedter-bier.at/

Hirter. (n.d.) Retrieved in February and March 2024, from https://www.hirterbier.at/

Jones, P., Shears, P., Hillier, D., Comfort, D. & Lowell, J. (2003). Return to traditional values? A case study of Slow Food. *British Food Journal,* 105(4/5), 297-304. DOI10.1108/00070700310477095.

Mariani, M., Casabianca, F., Cerdan, C. & Peri, I. (2021). Protecting Food Cultural Biodiversity: From Theory to Praxctice. Chammenging the Geographical Indications and the Slow Food Models. *Sustainability,* 13(9),5265. https://doi.org/10.3390/su13095265.

Mirosi, M., Wooliscroft, B. & Lawson, R. (2011). Dynamic Ideologies: The Case of Slow Food. *Advances in Consumer Research,* 39(11), 318-326.

Rinallo, D. (2020). Heritage storytelling, community empowerment and sustainable development. *Pravovedenie,* 64(1), 57–67. https://doi.org/10.21638/spbu25.2020.105.

Slow Brewing. (n.d.). Retrieved several times in February and March 2024, from https: https://slow-brewing.com/en/

Slow Food. (n.d.). Retrieved several times in February and March 2024, from https://www.slowfood.com/

Slow Food Österreich. (n.d.). Retrieved several times in February and March 2024, from https://www.slow-food.at/

Stiegl Privatbrauerei. (n.d.). Retrieved several times in February and March 2024, from https://www.stiegl.at

Thompson, C. & Kumar, A. (2022). Socially Responsible Consumers-A Trojan Horse of Neoliberalism? *NIM Marketing Intelligence Review, 8*(1), 19-23. DOI: 10.2478/nimmir-2022-0003.

Trumer Privatbrauerei. (n.d.). Retrieved several times in February and March 2024, from https://www.trumer.at/

Williams, L.T., Germov, J., Fuller, S. & Freij, M. (2015). A taste of ethical consumption at a slow food festival. *Appetite,* 91(2015), 321-328. http://dx.doi.org/10.1016/j.appet.2015.04.066.

The EU-US Trade Relations Changes During the COVID-19

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Abstract: The article aims to examine the changes in the EU trade relations with the United States during the COVID-19 pandemic. The pandemic had a significant impact on the commodity structure of mutual trade in goods, however it did not have a negative effect on trade in services. The Trade Intensity Index indicates that EU - US trade in goods is below the potential. The pandemic caused a stagnation in the intensity of trade in goods in 2020, thus halting the increasing trend before the pandemic. Regarding the intensity of trade in services, the EU and the US are achieving their trade potential, and the COVID-19 pandemic did not reverse the growing trend.

Keywords: trade in goods, trade in services, COVID-19 pandemic

JEL Classification codes: F10; F19; O24; F2

INTRODUCTION

Even though the relationship between the European Union and the United States is based on common values and goals, the ways to achieve them often differ. However, the prevalence of common attitudes and several decades of cooperation between the two entities have led to the creation of a strong bilateral partnership and cooperation on several issues in the areas of trade, security, climate, and digital transformation. Within the international community, they have created one of the most significant and influential bilateral relations, while factors such as the size of the market, the openness of the economy, orientation towards foreign trade, and the transparency of the foreign direct investment regime of both entities have predetermined their strong position and influence in the world.

Similar economic targets and the significant position of the EU and the United States in the world economy on one hand are the trigger for their cooperation, on the other they are also the reason for their competitive position. Despite a strong trade relationship, common values and goals, the EU does not have a preferential trade relationship with the US and the mutual foreign trade is governed by the rules of the World Trade Organization (WTO).

The COVID-19 pandemic and US president Donald Trump's approach to foreign trade policy have disrupted the long-term development of mutual relations between the EU and the United States. Transatlantic Trade and Investment Partnership (TTIP) was supposed to be a landmark agreement, intending to increase compatibility and openness in the field of trade and investment regulation while maintaining high standards of environmental protection, health, and safety and offering a remarkable opportunity to deepen relations between partners (USTR.gov. (n. d.).

The Trump administration exclusively pursued American interests and considered the EU as a competitor rather than a partner. US foreign policy began to move towards a unilateral and bilateral approach and the American public also expressed a negative attitude towards the potential preferential agreement between the EU and the US. Brexit also changed the approach within the EU itself, as the Great Britain was the biggest supporter of TTIP within the EU countries. These consequences were the reason for the suspension and subsequent termination of the TTIP negotiations (Škvrnda & Kurucz, 2020).

Deteriorating relations between the EU and the US peaked in 2018, when Trump administration-imposed tariffs of 10% on aluminium and 25% on steel from several states, including the EU countries. In response, the EU introduced tariffs on iconic American products, such as Levi's jeans, Harley-Davidson motorcycles, bourbon, and peanut butter. This had serious economic consequences, but President Donald Trump claimed it was in the interest of protecting the US. Mutual tariffs persisted until Joe Biden took office as the 46th president of the United States. In 2021, representatives of both parties agreed to re-establish trade flows in steel and aluminium and to suspend their WTO disputes regarding this issue. The United States allowed duty-free imports from the EU at a historical-based volume and the EU suspended its retaliatory duties on selected products from the US (Sadden & Coyne, 2023).

To highlight the impact of the pandemic and the position of the EU in the world economy, the Figure 1 shows the development of the GDP of the EU and the US in the period of years 2015-2021. According to Dossche and Martinez-Martin (2018) the slowdown of the EU GDP in 2018 was caused by external factors, in particular the weakness in external demand – decline in net exports in the first and third quarter of 2018. Economic slowdown, reflecting falling global demand and uncertainties due to trade tensions were also reflected in 2019 (BusinessEurope.eu, 2019). The COVID-19 outbreak and resulting economic impact had a visible impact on the EU's GDP in 2020, which stood at USD 15.3 trillion. In 2021, the EU economy recovered and recorded 5.4% growth with a GDP value of USD 17.09 trillion. Even though the EU was one of the most affected by the pandemic, its position in the world economy is stable. Figure 1 shows the similar trend for the United States as well.

Fig. 1 GDP development of the EU and USA in 2015 - 2021 (in USD trillion)

	2015	2016	2017	2018	2019	2020	2021
EU	13,55	13,89	14,77	15,98	15,69	15,3	17,09
US	18,21	18,7	19,48	20,53	21,37	20,89	23,32
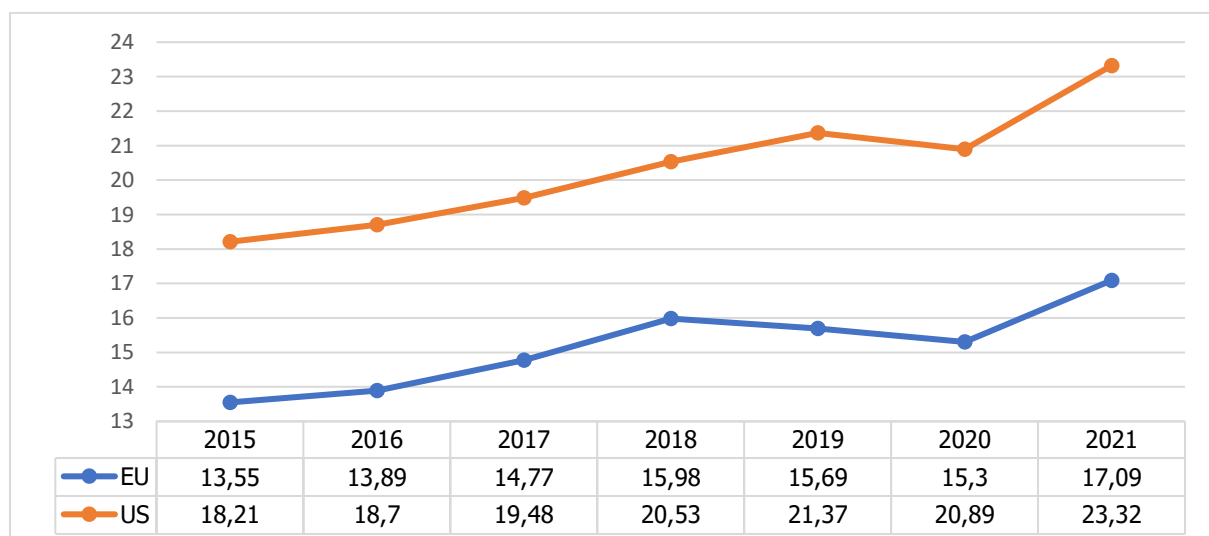
Source: own elaboration according to the World Bank (2023)

1 LITERATURE REVIEW

Wei Luo et al. (2023) analysed the international trade network vulnerabilities during the COVID-19 pandemic and concluded that the countries with strong anti-pandemic strategies like East Asia (including China), as well the Western countries, achieved higher resistance to fluctuations in the international trade and the most international connections have recovered after uncertainty time, whereas the low-income countries showed high vulnerability. The United States and the EU recovered at a moderate rate thanks to monetary support.

The results of the research of Coquidé et al. (2023) demonstrated negative impact of COVID-19 on international trade. For the US, the balance of mineral fuels slightly improved, but the balance in machinery and manufacturing products dropped in both the US and the EU. The authors propose the increase of industrial production in both regions to improve self-sufficiency. Wysokonska (2023) point out that the global trade declined during the pandemics significantly. The drop in trade was the biggest since the 2009 crisis. The largest trade markets during 2020 were the EU, United States and China accounting for 43% of total trade, but while the EU trade fell by 10%, and American by 9%, China's has risen by 2%. The e-commerce boom was noted worldwide. Ambroziak (2021) focused his paper on the EU intra and extra trade - in case of extra-trade, export position of the EU was not affected despite various restrictions on the EU level.

Giovannetti et al. (2023) reviewed the evolution of international trade on the background of slowbalisation, the US trade war with China, COVID-19 pandemics, the US "Buy American products" program and Russia's invasion of the territory of Ukraine as well as reaction on changes on the EU side. Global trade reached pre-COVID levels quickly and the EU participation in the international division of labour remained high. The trade and trade surplus with the US has grown as well. However, it is also worth noting the EU's dependence on imports from China and exports to the US.

Hilmola and Panova (2021) examined a ten-year period of the EU trade with China and the United States ending in 2019, including trade disputes, Brexit, and sanctions. They reviewed foreign trade competitiveness of all three players, re-import and re-export and discussed importance of the US for the main EU market – Germany. The paper confirmed the growing importance of the EU trade both with China and the US. Carreňo et al. (2020) studied trade related measures adopted by the EU during pandemics and global export restrictions.

2 METHODOLOGY

The purpose of the paper is to examine the changes in the EU trade relations with the United States during the COVID-19 pandemic.

Methods used in the paper: the analysis of mutual foreign trade in goods and services. The evaluation, by using the Trade Intensity Index, indicated the impact of the COVID-19 pandemic on EU trade with the United States

To assess and compare the impact of pandemics on mutual EU-US as well as vice versa trade with goods and services – we used the trade intensity index (TII). The purpose of TII is to determine whether the value of trade between two countries/regions is greater or smaller than it would be expected based on their importance in world trade. It is defined as the share of one country's exports going to a partner divided by the share of world exports going to the partner (World Bank, 2010). It is calculated as:

$$TIIij = \frac{\frac{xij}{Xit}}{\frac{xwj}{Xwt}} \ (1)$$

where xij is the value of country i´s exports to partner country j, Xit is the value of total exports of the country i; xwj – value of world exports to country j, and Xwt is the world exports´ value.

The TII values range from 0 to +∞. A value greater than 1 indicates a relationship more intense than the world average for the partner country (World Bank, 2013). If the index is more than 1, it indicates a more intensive trade between the partner countries than expected given their position in world economy; and if the TII is less than 1, the intensity of trade is at lower level, than it would be expected.

For our analysis and the calculation of TII, we used foreign trade data from International Trade Center (ITC), the Trade Map database. The monetary units of this database are expressed in USD.

3   RESULTS AND DISCUSSION

The COVID-19 pandemic has slowed economic growth and affected trade around the world. The EU and the United States were no exception. It is the US where the majority of the EU goods exports go, its value was 466.3 billion USD in 2021, representing 18% of the EU exports (European Commission, 2023). The USA is the EU's second largest import partner. The value of the import of goods was 312.2 billion USD, representing 11% of the EU imports (European Commission, 2023). As for trade in services, the US is the EU's most important trading partner in terms of both exports and imports of services. The total export of EU services to the USA in 2021 amounted to 280.6 billion USD with a total share of 13.9%, services with a value of 384.2 billion were imported from the USA in 2021. USD, i.e. a 17.8% share of total imports.

Regarding the EU's position in US foreign trade, in terms of trade in goods, the EU is the third largest export market after Canada and Mexico with a share of 15.8% in 2021 (272.4 billion USD) and the second in imports, the share of the EU was 17.1% (502.5 billion USD). When comparing export of services and goods, it is evident that the US exports significantly less services than goods. In services trade, the EU is the most important trade partner for the US. Exports reached 201.2 billion USD and made up more than 25% of the total export of US services (201.2 billion USD). The share of the EU in the total import of services was 23.6% (130.2 billion USD).

3.1 The EU's foreign trade in goods with the United States

Figure 2 shows the development of the EU's foreign trade with the US in goods from 2011 to 2021. Comparing the year 2011 with the year 2021, it shows that the export of EU goods to the US increased by 33.2%, which is more than 150 billion USD. Imports increased by only 20.7%, or 64.5 billion USD. With the declaration of the COVID-19 pandemic and the rapid spread of the virus, the total turnover of EU goods with the US fell by 7.5% in 2020. Trade recovery in 2021 brought a 15.1% increase in mutual merchandise trade, 8,2% more than in the pre-pandemic period. As can be seen on Figure 2, COVID-19 did not cause a change in the trade balance of the EU with the USA, and therefore we conclude that exports increase more than imports every year.

Fig.2 Development of the EU trade in goods with US from 2011 to 2021
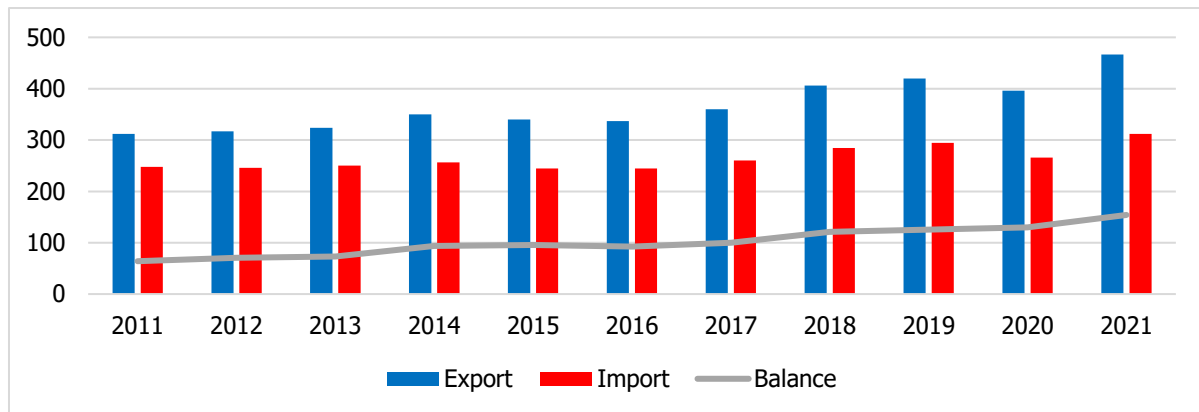
Source: own elaboration according to ITC (2023).

The commodities that the EU exported the most to the USA (according to HS2 classification) were:

- pharmaceutical products (84.1 billion USD, 18.0% of EU exports) - a large part of them consisted of protective equipment such as masks and suits, in addition, medicines, tests, or vaccines;

- machines, mechanical equipment, nuclear reactors, boilers, their parts, and components.

The largest increase (16.4%) compared to 2020 was recorded in electrical machines and equipment and their parts and components, devices for recording and reproducing sound. The EU imported the most machinery, mechanical equipment, nuclear reactors, boilers from the USA; their parts and components and the value of trade with these commodities was 46.9 billion USD and accounted for 15% of imports. However, the biggest increase (by 43.1%) compared to 2020 was recorded by mineral fuels, mineral oils and their distillation products, bituminous substances imports.

We can conclude that the EU's foreign trade in goods with the USA faced difficult challenges during 2020, but they were managed by observing the pandemic measures. EU trade losses with the US from 2020 became evident in 2021, when consumer demand increased enormously. The largest increase in EU exports to the USA in 2021 was recorded by electronic products, especially mobile phones, integrated circuits, and electric accumulators.

In terms of EU imports from the USA, we have seen the largest increase in products from the mineral oil group, namely crude oil, oil gas and refined oil. This increase was due to increased demand and reduced imports from other EU trading partners. We expect that foreign trade in goods between the EU and the USA will continue to grow in the coming years and will constitute a large share of global trade.

3.2 The EU's foreign trade in services with the United States

Figure 3 shows the development of the EU's foreign trade with the US in services from 2011 to 2021, that has a continuous upward trend and increased even during 2020 (mainly due to high imports from the USA). Total turnover of mutual trade in services increased more than twice from 318.3 billion USD in 2011 to 664.8 billion USD in 2021, while the total trade increased also in 2020 by 20 billion USD compared to the previous year (the decrease occurred only on the export side by 23 billion USD). Comparing the year 2011 with the year 2021, we

found that the export of EU services to the US increased by more than 130 billion USD (by 53.4%). The import of services also increased, by 215.9 billion USD, which represents 43.8%.

Fig. 3   Development of the EU trade in services with the US from 2011 to 2021.
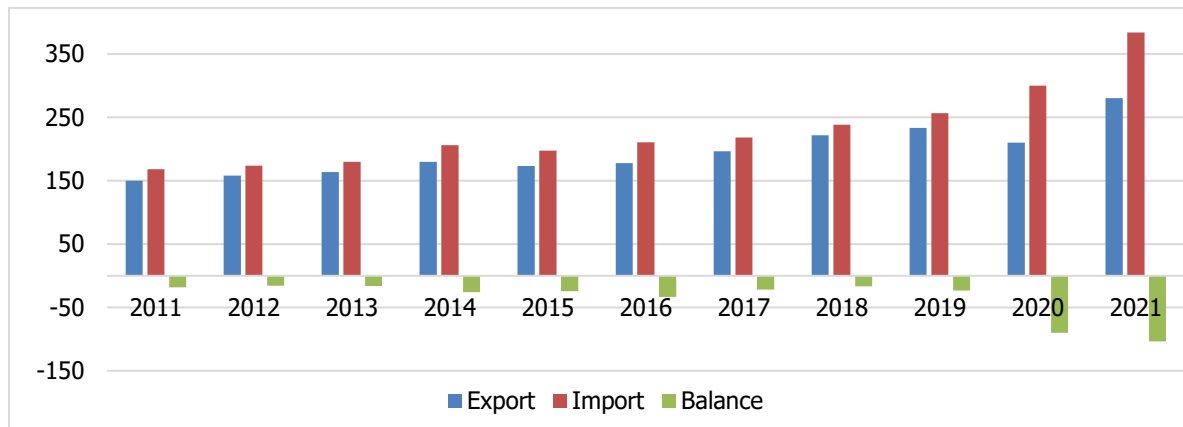
Source: own elaboration according to Eurostat (2023).

The EU has a services trade deficit with the US, which increased primarily in 2020 and 2021 (i. e. during the COVID-19 pandemic) due to faster growth in EU imports. Exports of EU services to the US were noticeably lower than imports. The EU exported to the United States in 2021 mainly "other business services" (76.2 billion USD) which accounted for 27.1% of exports. Second in line were fees for the use of intellectual property which recorded the largest increase compared to 2020, by 45.6%, contributing 17.9% to exports. This group of services, on the other hand, was the most imported from the US in 2021 accounting for 39% of imports (149.9 billion USD) followed by "other business services" accounting for 31 % of imports (119.2 billion USD).

The EU and the US are each other's largest partners in terms of both import and export of services, trade in services is very important for the mutual development of these two entities. The COVID-19 pandemic did not have a negative impact on the EU's trade in services with the US and did not disrupt the growing trend.

3.3 The intensity of trade in goods and services between the EU and the US

To assess and evaluate the impact of the COVID-19 pandemic on the intensity of trade in goods between the EU and the United States in years 2017 – 2021, we used the trade intensity index (TII), (Figures 4 and 5).

The intensity of trade in goods between the EU and the US does not reach expectations based on their position in international trade, as the value of the intensity of trade is less than 1. The reason is the high share of intra-exports in total EU exports.

The EU-US TII had an increasing trend from 2017 to 2019, reaching a value of 0.54 points in 2019, representing an increase of 8.6%. Since 2019, the stagnation is apparent due to the pandemic, which lasted until 2021. The pandemic stopped the growth of the intensity of trade in goods between the EU and the United States.

Fig. 4   The intensity of trade in goods between the EU and the US in 2017 − 2021
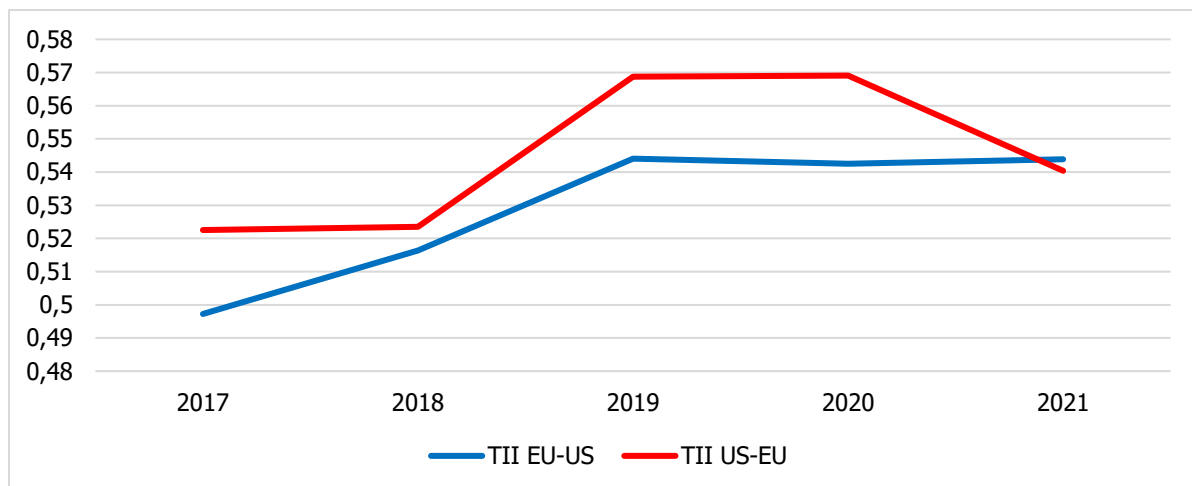
Source: Own elaboration.

In the case of the intensity of mutual trade in services between the EU and the USA, the expectations based on the position of these two entities have been fulfilled, it is higher than 1 point throughout the whole period. EU-US TII has a growing tendency and is evident that the impact of the pandemic on the intensity of trade in services was positive, as the intensity increased faster. In 2021, it reached a value of 2.55 points. In the case of the US-EU TII, the pandemic had an even greater positive impact on the intensity of mutual trade in services, with the value of the US-EU TII increasing by 39.3% from 2019 to 2021. Overall, the COVID 19 pandemic had a positive impact on the development of the intensity of mutual trade in services between EU and US.

Fig. 4   The intensity of trade in services between the EU and the US in 2017 − 2021
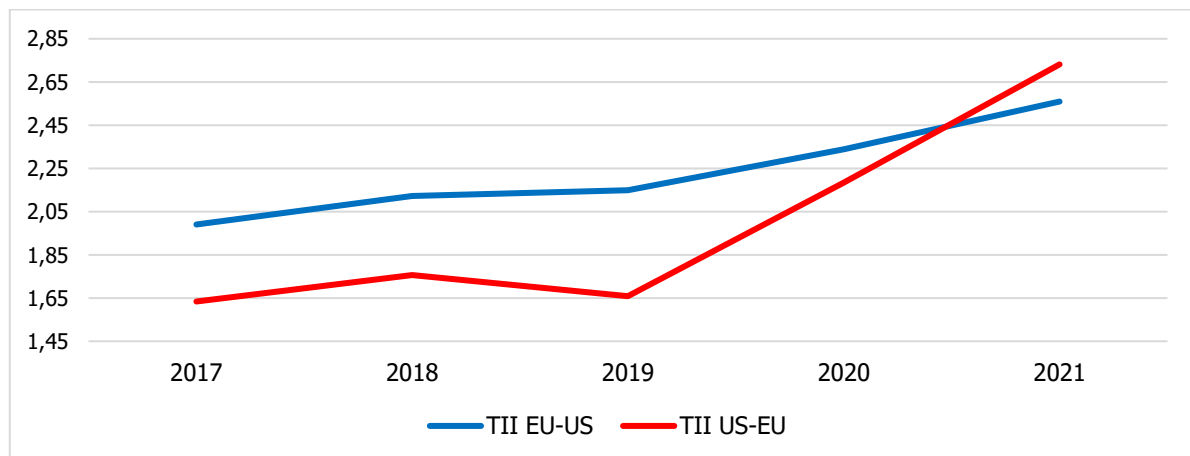
Source: Own elaboration.

The COVID-19 pandemic had a significant impact on the EU and the US in 2020 on GDP as well as trade in goods. The pandemic did not have a such a negative impact on trade in services, given the growth of both imports and exports in 2020 and 2021. We assess the impact of the COVID-19 on the service sector as positive or neutral, as we cannot prove the size of trade in services between the EU and the US in the absence of a pandemic. In 2021, there was a global revival of international trade, stabilization, and gradual growth. As a result of increased demand from European and American consumers, we could see an increase in

business production as well as a high pressure on supply chains. The EU's trade relations with the US improved in 2021 thanks to digitization and the growing importance of e-commerce.

We analysed the period of 2020 and 2021, and as for the policy during the Trump Administration, we assume that the pandemic further highlighted three years of strained mutual relations, however, the Trump administration asserted its interest in working together to address aspects of the pandemic. Ending the pandemic became one of the priorities of mutual EU-US cooperation in 2021 under the Biden Administration (Archick et al., 2022).

CONCLUSION

The EU's foreign trade relations with the USA constitute one of the most important bilateral cooperations in the world. As a result of the COVID-19 pandemic, international trade was limited and significantly slowed down in 2020, but saw a significant recovery in 2021, leading to record values of foreign trade between the EU and the US as for trade in goods. Based on the results of our study, we expect that mutual trade in goods will have a growing tendency in the coming years as well. The COVID-19 pandemic had a significant impact on the commodity structure. The most important EU export commodity to the USA in 2021 was pharmaceutical products.

As for trade in services, the US and the EU are each other's biggest trading partners. We found that the COVID-19 pandemic did not have a negative impact on trade in services, given the increase of total trade in services in 2020 and 2021. We even saw a large year-on-year increase in all service groups in 2021, but the largest was in fees for the use of intellectual property.

Using the trade intensity index, we found that the EU's trade in goods with the USA is below potential. The pandemic caused a stagnation in the intensity of trade in goods, thus halting the growing trend before the pandemic. Regarding the intensity of trade in services, the EU and the US are fulfilling their trade potential. The COVID-19 pandemic did not prevent the growing trend.

We believe that it is beneficial to continue in more thorough research/examination of the factors that led to a decrease in the intensity of trade in goods, or factors that would increase mutual trade in goods potential.

ACKNOWLEDGEMENT

REFERENCES

Ambroziak, A. A. (2021). Does the European Single Market Exist in the Era of a Coronavirus Pandemic? The Case of Intra and Extra-EU Trade in COVID-19-related Products. *Studiaja Evropejskie – Studies in European Affairs*. 25(1):63-83. DOI: 10.33067/SE.1.2021.3

Bilateral trade between European Union (EU 27) and United States of America │ ITC. (2023). Retrieved 16 December 2023 from https://www.trademap.org/Country_SelServiceCountry_TS.asp

BusinessEurope Economic Outlook Autumn 2019 - EU economy weakens as trade tensions continue / BusinessEurope.eu. (2019). Retrieved 10 April 2024 from https://www.businesseurope.eu/publications/businesseurope-economic-outlook-autumn-2019-eu-economy-weakens-trade-tensions-continue

Carreňo, I., Dolle, T., Medina, L. and Brandenburger, M. (2020). The Implications of the COVID-19 Pandemic on Trade. European Journal of Risk Regulation, 11(2), 1-12. DOI: 10.1017/err.2020.48

Coquidé, C., Lages, J., Ermann, L. and Shepelyansky, D. L. (2022). COVID-19's Impact on International Trade. *Entropy*, 24(3), 327. https://doi.org/10.3390/e24030327

Dossche, M. and Martinez-Martin, J. (2018). Understanding the slowdown in growth in 2018. Published as part of the *ECB Economic Bulletin*, Issue 8/2018. Retrieved 10 April 2024, from https://www.ecb.europa.eu/press/economic-bulletin/focus/2018/html/ecb.ebbox201808_03.en.html

Europe, COVID-19, and U.S. Relations / Archick, K., Belkin, P., Garding, S. E., Mix, D. E. and Martin, R. L. (2022). Retrieved 10 April 2024, from https://crsreports.congress.gov/product/pdf/IF/IF11635

European Union, Trade in goods with USA / European Commission. (2023). Retrieved 16 January 2024, from https://webgate.ec.europa.eu/isdb_results/factsheets/country/details_usa_en.pdf

GDP (current USD) European union / World Bank. (2023). Retrieved 16 December 2023, from https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=EU

Giovannetti, G., Marvasi, E. and Ricchiuti G. (2023). The Future of Global Value Chains and International Trade: An EU Perspective. *Italian Economic Journal*, 9(2), 851-867. DOI: 10.1007/s40797-023-00252-4

Hilmola O. P., and Panova, Y. (2021). Sustainability of the EU-28 Trade with China and the USA. *Economy of Regions*, 17(3), 956-970. DOI: 10.17059/ekon.reg.2021-3-17

International trade in services (since 2010) / EUROSTAT. (2023). Retrieved 16 December 2023, from https://ec.europa.eu/eurostat/databrowser/view/BOP_ ITS6_DET

Luo, W., He, L., Yang, Z., Zhang, S., Wang, Y., Liu, D., Hu, S., He, L., Xia, J. and Chen, M. (2023). Spatio-temporal heterogeneity in the international trade resilience during COVID-19. *Applied Geography,* 154(1):102923. https://doi.org/10.1016/j.apgeog.2023.102923

Online Trade Outcomes Indicators - User's Manual / World Bank. (2013). Retrieved 16 December 2023 from http://wits.worldbank.org/WITS/docs/TradeOutcomes-UserManual.pdf

Škvrnda, F. and Kurucz, M. (2020). *Súčasná svetová politika I.* 1. vyd. Bratislava : Ekonóm, 258 p. ISBN 978-80-225-4737-6.

Trade Indicators / World Bank. (2010). Retrieved 16 December 2023 from https://wits.worldbank.org/wits/wits/witshelp/Content/Utilities/e1.trade_indicators.htm.

Transatlantic Trade and Investment Partnership / USTR.gov. (n. d.).. Retrieved 16 January 2024, from https://ustr.gov/ttip

US, EU extend negotiations on global steel, aluminum pact as no deal reached at summit / Sadden, E. and Coyne, J. (2023). Retrieved 16 January 2024, from https://eurometal.net/us-eu-extend-negotiations-on-global-steel-aluminum-pact-as-no-deal-reached-at-summit/

Wysokonska, Z. (2023). Global and European Foreign Trade during the COVID–19 Pandemic. *Comparative Economic Research Central and Eastern Europe*, 26(2), 85-104. DOI: 10.18778/1508-2008.26.14

The Overview of ESG Doctrine application in Business Management in Europe and Asia

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Abstract: The article's value is the overview of ESG doctrine application in business management in Europe and Asia. The main research question was about the readiness and commitment of chosen European and Asian companies to implement ESG. The article uses qualitative research methods: companies annual reports for 2022-2023, studying literature and legal acts, business cases of European and Asian companies, analysis and synthesis, the descriptive method, and deductive inference. In conclusion, European business owners and investors perceive the ESG Doctrine as a concern and a result of restrictive environmental politics from the European Commission side business-wise, and they are not eager to sacrifice their profits to ESG. In the case of Asian companies, ESG may turn out to be unfeasible. An important finding is that the United Nations with The Black Rock through open cooperation with the European Commission can influence the effects of implementing the ESG Doctrine worldwide.

INTRODUCTION

ESG (Environmental, Social and Governance) is a set of standards used by investors and companies to measure the impact on climate change and society. The word doctrine used in the title (Greek analogue: katēchēsis) refers to the meaning of the instruction and principles in a belief of ESG concept.

This word has the meaning also of the indoctrination. From the perspective of economic theory, the ESG Doctrine can be referred to John Elkington who 30 years coined the phrase "Tripple Bottom Line (TBL)" which put stress on the business that should focus as much on the social and environmental aspects as on the profit. Hence, there are three bottom lines: people, profit and planet (Elkington, 2018).

The article evaluated the impact of ESG doctrine on chosen companies in Europe and Asia. The findings cannot be generalized, but they show how ESG can be implemented in those countries and its effects. As ESG doctrine is linked to the Sustainable Development Goals (SDGs) of Agenda 2030 not only European and Asian countries had problems meeting these goals.

1 LITERATURE REVIEW

Although the literature regarding ESG is vast there is rather limited research that can be found on the effects of ESG doctrine on international business management in Europe and Asia. There are some comparisons of ESG implementation in India and The European Union. The authors underlined that the EU was much more advanced in legislation and implementation of ESG than India (Gupta and Rangaswamy, 2021). The recent development of ESG non-financial reporting requirements made a discussion regarding the aim of that. Many companies tried to implement and adjust to ESG doctrine changing their model of business and reporting systems (Tylec, 2022). Many authors underlined the important concept of ESG which refers to the environment, society and governance (Domańska-Szaruga, 2011; Boffo and Patalano, 2020; Mgbame et al., 2021; Żychlewicz, 2015; Stecko, 2012; Abad-Segura et al., 2019) but there is minimal information about the real effects ESG doctrine has on European and Asian companies. One of the research regarding the Polish energy sector confronted ESG norms with the impact on the corporate financial performance (CFP) of the chosen energy companies. The authors did not confirm a direct effect of ESG (Baran et al, 2022).

From the literature, it is known that ESG was implemented in accounting practice that linked the business strategy with the environment to inform the stakeholders about the effects of the business on the environment and society (Esch et al., 2019; Thomson, 2015; Erkens et al., 2015; Casonato et al., 2019). Some authors analyzed the association between ESG and the performance of the business by applying different measures such as return on assets, the market value of equity, and market-to-book value. In many cases, for countries such as India, China, Norway and Germany the association result was positive (Giannopoulos et al, 2022). The obligation of ESG non-financial reporting made by Directive 2014/95/EU caused the change in financial reporting standards of Polish companies without a clear methodology, standards and rules.

It could be treated as a challenge or state-of-the-art of the new reporting ESG doctrine. In 2021 the European Commission improved the standards of ESG non-financial reporting to sustainable reporting by issuing the Corporate Sustainable Reporting Directive (CSRD) which linked ESG doctrine with SDGs of the UN (Agenda 2030) and Green Deal. That complicated not only the reporting aspects but also put a lot of pressure on the government of Poland to fulfil the EC's requirements regarding the "Fit for 55 packages". Interestingly enough, a voice claims that climate crisis does not exist. The Nobel Laureate in physics from 2022 Dr John Clauser claimed that during Quantum Korea 2023 Seoul on June 26, 2023. Even though he is recognized as a climate change sceptic he became a member of the board of directors for CO2 Coalition. More authors criticized global institutions and governments for not having efficient policies regarding the climate crisis (Somerville, 2020; Kamarck 2019) and problems for scientists with the accurate scenario for the real effects of climate change in future (Crist, 2007). Considering so far literature on ESG Doctrine there is a lack of interoperability aspects between Poland and India and indication of the areas where those two countries can learn from each other. There are also no studies regarding which part of ESG reporting and measures are the most crucial, particularly for Poland and India. It is worth noting that due to the country-specific India has its own SDG Index so the ESG Doctrine should also take it into account. As the topic is still very important and hot, new research will be published. In the literature, there are no ESG benchmarks yet as it is still too early to develop the standards of ESG for different companies and sectors as the obligation for ESG reporting for the big enterprises starts from 2024.

2 METHODOLOGY

The methodology is based on empirical research of existing literature using the *Mendeley.com* tool and accessible data for the impact of the ESG Doctrine on international business management on the chosen businesses in Europe and Asia. Important ESG strategy factors were used to evaluate the impact on the leading ESG companies: the net-zero year, ESG reporting regime type, the main sectors impacted, and the key transition strategies of business for ESG. The main research question was about the direct impact of ESG doctrine on the readiness and the commitment of chosen European and Asian companies to implement it. The ESG Doctrine's impact on the business was done upon the analysis of the annual sustainability reports for 2022-2023 of those companies especially from the ESG implementation perspective. The authors also reviewed existing publicly accessible government and business documents relevant to the subject. There is not enough data as the subject is new, but the research is based on reports published by private businesses and governmental authorities. There are different estimations of the ESG Doctrine's impact on business management outcomes in Europe and Asia. The observations of business management change regarding the implementation of ESG are quite interesting for the conclusions and interpretations of the presented data. This is also valid for the identification of research gaps and possibilities for future research. The financial impact on business was not evaluated as the entire ESG reporting obligations for the business is still new and at the first stage, the large companies are obliged to provide such ESG reports.

3 RESULTS AND DISCUSSION

3.1 ESG Doctrine's impact on European companies

The EU's Corporate Sustainability Reporting Directive (CSRD) which was enforced in January 2023, requires almost 50,000 large companies and listed SMEs to report on and audit a broad range of ESG indicators (EC, 2023). The European Commission plans to reach net zero in 2050. Besides EU 27 countries obliged to follow the EC's directives some countries like Norway, Switzerland, and the UK, were chosen as interesting examples from the perspective of the ESG implementation advancement and comparison to EU countries (Poland, The Czech Republic and Hungary). The main findings are presented in Table 1 below.

Table 1. Important ESG factors for businesses in Europe overview, 2022-2023

Country	Net-Zero emission year	ESG reporting	Main sectors impacted by ESG	Most advanced companies in ESG	Key transition strategies of business for ESG
Switzerland	2050	Mandatory	Finance & Banking, FMCG, Fashion	Nikin, Migros	Swiss Code of Best Practice for Corporate Governance (SCBC) The Swiss Climate Scores The Science Based Targets Initiative (SBTi)

Norway	2050	Mandatory	Maritime, Energy	Hydro, Scatec	Norway's Green Shipping Program
UK	2050	Mandatory	Energy, Finance, Health care	Sonnedix, Cera Care, Vergin Mobile O2,	Sustainability Disclosure Requirements (SDRs) The Task Force on Climate-related Financial Disclosures (TCFD) recommendations UK Green Financial Strategy
Poland	2050	Mandatory	Mining, Petrochemical, Energy, Transport (railway)	PKP, KGHM, Orlen, BASF Polska	CSRD, European Sustainable Reporting Standards (ESRS)
Czech Republic	2050	Mandatory	Mining, Energy, Automotive, Finance & Banking	ČEZ Group, ČSOB, Komerční Banka, ŠKODA AUTO	CSRD, European Sustainable Reporting Standards (ESRS) National Action Plan for Corporate Social Responsibility
Hungary	2050	Mandatory	Energy, Finance & Banking, Telecom	MOL, Magyar Telecom (T-Mobile Group), OTP Bank,	CSRD, European Sustainable Reporting Standards (ESRS)

Source: based on the sources given in 3.1

Table 1 compares different countries in Europe regarding the application of ESG Doctrine in business management showing the main sectors affected and also the key transition strategies of business for ESG. The table shows the findings for the most advanced countries in ESG in Europe like Switzerland, Norway, and the UK and also countries from The CEE region to see the difference in approach and strategy of implementing ESG in the business.

Switzerland implemented 6 ESG measures: gas emissions, exposure to fossil fuels, global warming, verified commitment to net zero, credible climate dialogue, and management in favour of net zero. The number of companies that have committed to the Science-Based Target initiative (SBTi) has more than tripled in 2021, compared to 2020, outpacing the global increase. Switzerland is the number 4 worldwide in ESG performance (Wörner, 2022). The ESG strategy of the companies consists of 8 steps: conduct a comprehensive diagnostic, define ambitions and measurable targets, merge business and sustainability strategies, sketch out the whole transformation path, set up an effective governance system, gather and foster the right talent and skills, build useful partnerships, ensure transparent communication. In 2022 there were 84 companies with SBTi commitments or targets. Nikin, a Swiss fashion company offering clothing and accessories, manufactures its products from materials such as upcycled

plastic waste or sustainably sourced linen and other fibres. Nikin has committed to planting a tree for each item sold. Migros will reduce greenhouse gas emissions by 80% by 2030 across its entire in-house operations and logistics (Swiss Climate Scores, 2022).

In Norway even though the advancement of ESG levels in business is high only several of the listed companies reported ESG activities every year for the past ten years. Hydro's ambition is to contribute to creating a fair society and circular economy by producing and sourcing responsibly, offering zero-carbon aluminum, circular solutions, and more renewable energy. Scatec is committed to operating in line with the Equator Principles and IFC's Environmental and Social Performance Standards to ensure consistent practices across all projects 100% of Scatec's revenue is derived from eligible activities that are aligned with the Taxonomy. Scatec developed a tool for estimating lifetime environmental and climate impacts in the planning of potential projects, based on procurement data for materials and components as well as habitat data (Scatec, 2022).

In The UK the public sector is more confident in the ESG Doctrine than the private business. Based on the Virgin Media report in 2023 it is common that the majority of the business leaders either have gaps in or lack entirely, access to clear and reliable information about the carbon footprint of the products and technologies their organizations use (Vergin Media, 2023). There are high-profile ESG companies like Sonnedix which focus on areas of education, environment and communities. Sonnedix planted 12,000 trees in 2022 and supported three organizations in Poland that directly helped Ukrainian refugees (Sonnedix, 2022). Another UK ESG leading company is Cera Care which operates also in Germany, delivering care, nursing, telehealth and prescription delivery services in the home supported by technology, a model that is around 10-fold more affordable than a patient receiving care in a hospital. Cera's digital-first home healthcare frees up much-needed hospital beds by supporting the NHS to discharge healthy patients sooner and enabling them to live independently in their own homes for longer. Virgin Mobile introduced a carbon calculator for their business solution, and it was also verified by the Carbon Trust in the UK. This solution helped the partners limit the carbon footprint of working with Virgin Mobile and its technology.

In Poland, there are no leaders in ESG compared to the Western companies in the UK, Switzerland, and Norway. According to CSRD Directive ESG refers to the biggest companies and by 2028 will include all companies. Poland's economy is mainly based on SMEs so the real impact can be evaluated after 2028. As of now, it can be seen only in the big companies. One of the state-owned railway companies PKP SA in their ESG strategy for 2024-28 wants to invest, innovate, and educate the transport market in management (Kolejowy Portal, 2023). Orlen started the biggest green energy project in Central Europe the Baltic Power, the first Poland offshore wind farm (Orlen, 2023). Polish companies like Orlen, PKP or KGHM which are involved in ESG Doctrine implementation build their strategy on several pillars like climate, environment, employees, communities, and governance and link them with SDGs of Agenda 2030. KGHM the copper producer and mining company, focuses on the green energy transformation process, and it formed in the organizational structure of the Council for Sustainable Development (Rada) (KGHM, 2022). BASF Polska used recycling tyres and processed them into pyrolysis oil. This was part of a larger chemical recycling project called ChemCycling™, created in 2018. Besides that, BASF Polska also introduced to the Polish market a biodegradable foil, used in field vegetable production. This foil is biodegradable.

In the Czech Republic in general ESG doctrine's implementation by businesses is in the very initial stage. ČSOB seems to be very active in the use of geothermal heat or recycling and limiting water consumption, but it is still the question regarding such an approach of other branches and if the water usage is well managed. Komerční Banka has set up detailed monitoring in the field of energy consumption and social responsibility. ŠKODA AUTO already uses 30% of its electricity from renewable sources, and by 2030 all energy used for the

production of cars and components should be CO2-neutral. ČEZ Group has VISION 2030 – Clean Energy Tomorrow, which is in line with ESG principles (Spolecenskaodpovednost, 2023)

In Hungary among listed companies, only a few businesses and institutions provide adequate ESG data, and the scope and quality are very different. MOL launched a program to simplify the process of collecting used oil from households. As part of this program, used oil can be dropped off at designated MOL service stations. Collecting used cooking oil across the service station network represents a unique solution to a widespread problem. The cooking oil collected at the stations is converted into biomotor fuel. MOL has its sustainable support activities in Asia as well. It planted 2,400 olive trees in Karak, Pakistan as this country is the first largest importer of edible oil (MOL, 2022). OTP Bank adopted active ESG risk management practices in its banking activity. It introduced Green Finance & Responsible Lending by issuing "green bonds" and investing 16 bn HUF in household energy efficiency. The bank developed also a methodology to measure emissions of its supply chain (OTP Group, 2022). Magyar Telecom as part of T-Mobile Group follows the German approach to ESG so it gained the attention of socially responsible investors. In 2023, Magyar Telekom received a rating of AAA (on a scale of AAA-CCC) in the MSCI ESG Ratings assessment (Magyar Telecom, 2022).

3.2 ESG Doctrine's impact on Asian companies

Asian companies due to cultural and regulatory factors are not as advanced in implementing ESG standards and reporting as European businesses. India declared to be Net-zero emission in 2070, China in 2060 while the EU wants it in 2050. The important factors are gathered in Table 2 below. Net-Zero emission year was taken from the PwC Net Zero Economy Index 2023 (PwC, 2023)

Table 2. Important ESG factors for businesses in Asia overview, 2022-2023

Country	Net-Zero emission year	ESG reporting	Main sectors impacted by ESG	Most advanced companies in ESG	Key transition strategies of business for ESG
China	2060	Not mandatory	Automotive, mining, energy	Vitasoy Xinyi Solar Holdings Ltd Beijing Enterprises Water Group (BEWG)	Governmental policy guidelines: Green Financial System
India	2070	Mandatory – 1000 big companies	Automotive, IT services, heavy industry, mining, energy	Mahindra&Mahindra Tata Motors Wipro Hindustan Unilever	Materiality assessment to identify ESG factors relevant to the business and investors, long-term value creation
Japan	2050	Mandatory	Automotive, energy, IT services, FMCG, Real estate	NTT KAO Corp. Eisai Co Ltd	Task Force on Climate-related Financial

					Disclosures (TCFD) Green Transformation (GX)
Malaysia	2050	Mandatory	Energy	Tenaga Nasional Berhard	Phased approach
Singapore	2050	Mandatory	Energy, Real Estate	CapitaLand City Development Ltd. StarHub	Task Force on Climate-related Financial Disclosures (TCFD)
South Korea	2050	Not mandatory	Energy, IT, heavy industry	Samsung Hyundai Motor KB Financial Group Inc	Establishing preemptive strategies to brace for the growing calls to pursue ESG management practices

Source: Source: based on the sources specified in 3.2

In general, Asian companies struggle with gathering reliable data on environmental impact, social performance, and governance practices due to diverse data sources, limited historical data, and variations in data collection methods.

In China, the ESG framework is managed centrally, and all Chinese companies must follow the rules. The fact that China produces 30% of CO2 globally requires the government's introduction of ESG policies for businesses to follow. Chinese companies still have different priorities than European companies regarding climate change and board diversity. For Chinese companies in the MSCI World Index, women represented 15% of board directors, compared with the global level of 31%. The governance area regarding transparency and the share of independent board members requires significant improvement. In China, regulations require that at least one-third of the directors on boards of listed companies are independent. Only 1.6% of companies are governed by a board with an independent majority (more than 50% independence) (van Kemenade, et al, 2023). Those priorities are rather put for future actions. Product sales and work safety are still the most important aspects for many Chinese companies. The low quality of ESG reports the lack of standards and the possibility of data verification put Chinese ESG in question. China ranked 120th out of 150 countries in The Economist Intelligence Unit's 2023 ESG index (The Economist, 2023). There is a challenge for those Chinese companies that export goods to the EU because they will also need to begin reporting their emissions for the EU's Carbon Border Adjustment Mechanism (CBAM) which imposes a tariff on carbon-intensive products imported by EU companies. There are a few examples of Chinese companies which took ESG as the priority in business. Vitasoy International Holding invested in water-efficient equipment and technology that also uses green energy. It tracks waste mix in all production plants, with a target of zero manufacturing waste to landfill by 2025/26. Xinyi Solar Holding has successfully developed and mass-produced more efficient and cost-competitive solar glass products (thin glass, large-format glass) to support the realization of SDGs. This company was ranked 12th out of 100 top Sustainable Companies ranking by Corporate Knights Global 2023. BEWG company has set a series of ESG management targets regarding water conservation, energy conservation,

emission reduction, quality, and safety. One of the projects managed by BEWG solved the problem of sludge treatment in Qinhuangdao. It improved the urban ecology and further promoted coordinated and sustainable economic and social development in Qinhuangdao. BEWG developed the integrated industry-education-research cooperation model and realizes the transformation from closed innovation of a single enterprise to collaborative innovation of the whole water industry chain. According to the Material ESG Issue Matrix, there are three top areas for BEWG to focus on anti-corruption (social), corporate governance (governance) and water management (environment) (BEWG, 2022).

In India, companies use alternative energy sources (solar power) to reduce the emission of CO_2. This is the case of Tata Motors, Wipro and Tech Mahindra. Some other Indian companies like ITC used reforestation projects to compensate for CO_2 emissions and Infosys used a special building design to lower the use of electricity per capita. Hindustan Unilever introduced the policy of zero-net waste initiative to reuse the waste and send zero waste to landfills. In the area of social aspects, Indian companies like Tata Group or ITC introduced education programs for adults in rural areas regarding agricultural support and rural development. In the governance dimension, the key role is played by the Securities and Exchange Board of India (SEBI) which introduced the Board diversity, transparency of business and the obligation of ESG reporting for 1000 listed companies in India. Companies like Wipro or Tata Motors appointed women to their management boards and disclosed comprehensive ESG-related information in their annual reports, providing stakeholders with a clear view of their sustainability initiatives. In India, companies treat ESG as an investor incentive tool, but if it is not standardized soon, it may impact the reasoning for ESG implementation (Agrawal, 2023).

In Japan, companies are advanced in identifying ESG material issues and linking them with the SDGs of Agenda 2030. In Japan, some companies in ESG Doctrine besides environmental, social and governance also indicate business one. In NTT company, the most important thing to business is offering social infrastructure and category-specific solutions based on advanced technologies and stable management.

In social areas securing and developing IT resources and promoting diversity and inclusion are of high importance. In the environmental dimension responding to climate change is of high priority for NTT and in the governance, part is to respond to disaster risks and ensure compliance. In KAO Corporation ESG is fulfilled by the Kirei Lifestyle Plan (KLP) which means enriching the customers' lives to make it beautiful inside and out. KAO has set up three main objectives in ESG: (1) become an essential company in a sustainable world, (2) transform to build a robust business through investment, and (3) maximize the power and potential of employees. In the matrix of materiality, KAO indicated that sustainable raw materials procurement, recycling system development and product innovation are most important for KAO and the stakeholders. Besides that, KAO believes that implementing the KLP strategy can make the world healthier and cleaner (KAO,2023). Eisai company has formulated ESG indicators, targets, and results. As the materiality index for 2023 Eisai company indicated a realization of social good in global health focusing on developing medicines and maximizing their value for customers to fight dementia and cancer as the top illnesses in Japan. Other priorities are to increase corporate and financial values through solutions and innovations reaching RoE 25% for the shareholders by 2030 (Eisai, 2023).

In Malaysia, the ESG ambition is supported by five pillars deploying renewable energy (RE) managing carbon emissions, water, and waste; driving the development of sustainable cities; and accelerating the green economy. Malaysia aims to deliver 31% of Renewable Energy in the national capacity mix by 2025, and 40% by 2035. According to the Institute of Corporate Directors Malaysia (ICDM), the Malaysian Corporate Governance Code is more aligned with sustainability than that of most Asian countries. Tenaga Nasional Berhad is a company which

is a good example of ESG implementation in Malaysia. It has issued sustainability reports since 2017. The company results for 2022 were impressive (Krishnan, 2023).

In Singapore, CapitaLand company introduced the Sustainability Master Plan 2030 which was based on three pillars: build portfolio resilience and resource efficiency, enable thriving and future-adaptive communities and steward responsible business conduct and governance. CapitaLand has received numerous accolades in recognition of its sustainability leadership such as the Global 100 Most Sustainable Corporations in the World Index and Dow Jones Sustainability World Index for the 11th year and achieving a 5-star rating from GRESB for seven years. Another well-recognized company in the effort of ESG implementation is StarHub (Scott, 2023). Its approach to sustainability is in line with several international standards and frameworks, such as the Global Reporting Initiative, the Sustainability Accounting Standards Board, the Task Force on Climate-related Financial Disclosure, the Ten Principles of the United Nations Global Compact, and the United Nations Sustainable Development Goals (Birch, 2022).

In South Korea, Samsung's ESG strategies draw attention from foreign businesspeople. It has become more important for Samsung to establish preemptive strategies to brace for the growing calls to pursue ESG management practices. In March 2022, Hyundai Motor Group launched a new sustainability vision: 'The Right Move for the Right Future', outlining 15 focus areas, in three categories: 'planet', which covers environment and circular economy strategies; 'people', which includes safety, diversity and growth; and 'community', which addresses the company's impact on customers and suppliers (Samsung, 2023).

Table 3 below shows the ESG doctrine application influence on the business management for chosen European and Asian companies.

Table 3. The management impact of ESG Doctrine's implementation on business in Europe and Asia

Region and countries	Companies	Management impact evaluation
Europe: Switzerland, Norway, UK, Poland, Czech Republic, Hungary	Nikin, Migros, Hydro, Scatec, Sonnedix, Cear Care, Virgin Mobile, PKP, KGHM, Orlen, BASF Polska, ČEZ Group, ČSOB, Komerční Banka, ŠKODA AUTO, MOL, Magyar Telecom, OTP Bank	increase engagement with key suppliers to share strategy, improve data quality, and new roles and positions in organizational structure (Compliance Officer), ESG energy transformation projects, increased cost of ESG consulting, the increase of competition among the companies, lower profits related to higher ESG costs,
Asia: China, India, Japan, Malaysia, Singapore, South Korea	Vitasoy, Xinyi Solar Holdings Ltd, BEWG, Mahindra & Mahindra, Tata Motors, Wipro, Hindustan Unilever, NTT, KAO Corp., Eisai Co Ltd, Tenaga Nasional Berhad, CapitaLand, City Development Ltd., StarHub, Samsung, Hyundai Motor, KB Financial Group Inc	Lower corruption, increase usage of renewable energy sources by businesses for daily operations, increase the foreign investment in Asian businesses, promotion of Asian sustainable products in other countries

Source: author's research findings on the presented information in 3.1 and 3.2

Asian and European businesses perceive ESG Doctrine as important but the meaning of that and the way they implement it differs. It relates to the culture and ethics understanding in Europe and Asia. There are some major challenges on the way to net zero, for example, the necessity to determine a precise baseline for emissions in the institutions' lending and other financed portfolios and to start an intensive dialogue with key customers. ESG makes it difficult for businesses in Europe to navigate multiple requirements — especially the divergence between different markets applying different models such as slow fashion, veggie food, and circular business models.

It can be also quite difficult for consumers both in Europe and Asia to get the information needed to form an opinion on the sustainability of a product and, there is a risk for the companies to be exposed to greenwashing. Although the ESG measures in Europe are more restrictive than in Asia it can be also a bigger challenge for companies in Europe to implement the required changes in organizational structure and investment decisions. Asian businesses are more flexible in the requirements of ESG requirements than European businesses, especially concerning EU countries such as Poland, Czech Republic, and Hungary, which are less developed than Western countries such as Norway, Switzerland, and the UK.

The main engines of Asia, namely China and India, build their net-zero strategy based on their approach related to the geoeconomic changes in the long-term international competitive perspective. China and India want to be on the safe side by declaring a net-zero year much later than Europe. It can be understood as the approach "the first does not mean the best." Businesses in Europe perceive the ESG Doctrine as an important incentive for investors and additional marketing for many types of rankings. Besides that, the general idea of business in Europe is to be the first because the first is the best. This is the risk for all businesses in Europe that focus so deeply on ESG Doctrine implementation and want to have satisfactory results in the short term. It also generates high consultancy costs. That may explain why in Norway, there are not so many highly profiled ESG companies among the stock-listed ones. This risk puts European companies in a challenging position regarding facing global competition with Asian companies, which are much more flexible in ESG regimes. Additionally, the current situation in the global economy is demanding due to the war in Ukraine and Israel.

Linking ESG's Doctrine with Sustainable Development Goals (SDGs) by the United Nations and the help of The Black Rock (one of the biggest in the world asset management company) obliged European and Asian companies to ESG reporting. Probably businesses cannot step out from this process, but Asian companies are more flexible with the ESG measures modification, and adjustments compared to European ones. In the UK 55% of companies treat ESG as critical to business and how it operates (Investec, 2023). There is also the second side of ESG.

There is a problem for many companies in Asia and Europe to excel in three pillars environment, social and governance at the same time. It is similar to the project management dilemma of how to optimize the three main constraints budget, time, and resources. In 2023 UK Prime Minister Rishi Sunak in his speech about a new approach to net zero said that the proposed net zero legislation was a governmental overreach that threatened the rights of the British people (GOV UK, 2023).

In Eastern European countries like Poland ESG Doctrine could be ineffective concerning the energy sector due to its structure, history, and strong ties with politics (Baran et al, 2022). There are no leading companies in Poland regarding the ESG Doctrine's implementation because there is a lack of clarity regarding which way it should be implemented so as not to affect the business negatively. Polish companies are not interested in sacrificing their profit for ESG as the costs for implementing and auditing ESG are very high up to 0.5 bn EUR annually (Olko, 2023).

The situation in the Czech Republic regarding ESG is less advanced than in Poland. The Czech Republic does not yet have a comprehensive ESG policy. However, this does not mean that there is no interest in sustainable development practices. There are Czech companies that are already implementing their initiatives. It can be assumed that many Czech companies have not had time to respond to the increasing demands of the market and therefore are no longer at the level of leaders in the field of sustainability. The interesting fact is that Czech businesses (big and SME companies) perceive themselves positively regarding ESG development, but they differ significantly in the way how they measure direct and indirect emissions (Spoleczenskaodpovednost, 2023).

Hungary operates much better in ESG Doctrine implementation by businesses compared to the Czech Republic and Poland. The Hungarian government is trying to decarbonize transport through tax benefits and cash support for electric vehicles, and encouraging intermodal freight junctions for cities, so containers can be transported mostly by rail with road used for the last few kilometers.

CONCLUSION

Taking into consideration the above data and the material presented the main conclusion is that the ESG Doctrine's impact on Asian and European businesses is a kind of paradox because there is a dilemma between ESG and business performance. Making ESG mandatory through the link to Agenda 2030 and the Sustainable Development Goals (SDGs) left rather no choice for international business regarding the implementation of ESG concept into the business. The further questions that can be addressed for further research are: (1) is a company doing well because it implements and follows ESG Doctrine? (2) Is a company able to bear the cost of implementing ESG because is profitable?

Another important conclusion is that Asian countries like India, China, South Korea, Japan, Malaysia, and Singapore are the owners and shapers of ESG in their lands. At the same time, the EU countries must follow the European Commission CRSD directive and European Sustainable Reporting Standards (ESRS) which is also related to the high cost of implementation and audit. In the case of European rich countries like Switzerland, Norway and the UK ESG is treated as a tool for increasing their country's competitiveness on the global market and marketing for leveraging companies in the global ESG rankings. It widens the gap between those rich Western countries and the rest of the European and Asian businesses. The impact of the ESG Doctrine on the business shows how ready they are for the concept implementation. Some of companies may use ESG for their marketing and promotion to be better perceived by the customers and international business. It always helps with the international ranking of the most sustainable business, but another question is if the company is ready to implement ESG and how the business can benefit from this. Additionally, European companies operate in higher ESG regimes than Asian companies. High cost related to ESG implementation and audit creates natural discomfort for companies operating in CEE regions like Poland, The Czech Republic and Hungary. Besides, the regulations set by the European Securities and Markets Authority (ESMA, 2021) are unclear regarding ESG funds classification such as light green vs dark green ones. Those unclear regulations with their impact on the UK investment market were also criticised by the Top 20 European Law firm named Fieldfisher (Fieldfisher, 2021). Despite that, the prevailing ESG strategy of European businesses is "to be first as the first is best" which can be misleading and hurt the business. The ESG Doctrine has also a good outcome for Asian businesses because it helps to fight corruption which is one of the pains of businesses in Asia.

REFERENCES

A journey towards sustainable future, Samsung Electronics Sustainability Report 2023 | Samsung. (2023). Retrieved 10 January 2024, from https://www.samsung.com/global/sustainability/media/pdf/Samsung_Electronics_Sustainability_Report_2023_ENG.pdf

Abad-Segura, E. Cortés-García, F., Belmonte-Ureña, L.J. (2019). The Sustainable Approach to Corporate Social Responsibility: A Global Analysis and Future Trends. Sustainability, 11(19), 5382. https://doi.org/10.3390/su11195382

Agrawal, V. (2023). From Tradition to Transformation: ESG Initiatives in Indian Corporate Landscape, *ICSI Charted Secretary October 2023*, 81-87, https://www.icsi.edu/media/webmodules/CSJ/October/12.pdf

Baran, M.; Kuźniarska, A.; Makieła, Z.J.; Sławik, A.; Stuss, M.M. (2022). Does ESG Reporting Relate to Corporate Financial Performance in the Context of the Energy Sector Transformation? Evidence from Poland. *Energies 2022*, 15(2), https://doi.org/10.3390/en15020477

Beijing Enterprises Water Group Limited Sustainability Report 2022 | BEWG. (2022). Retrieved 5 of January 2024 from https://www.bewg.net/uploadfile/2023/0426/20230426053908640.pdf

Best practice transparency on the Paris alignment of investments | Swiss Climate Scores. (2022). Retrieved 10 January 2024, from https://www.sif.admin.ch/dam/sif/en/bilder/dossier/swiss-climate-scores/swiss-climate-scores.pdf.download.pdf/20220629-swiss-climate-scores-en.pdf

Casonato, F., Farneti, F., Dumay, J. (2019). Social Capital and integrated reporting: losing legitimacy when actions do not support reporting talk. *Journal of Intellectual Capital*, 20(1), https://doi.org/10.1108/JIC-08-2018-0132

Corporate Sustainability Reporting, European Commission | EC, European Commission. (2023). Retrieved 5 January 2024, from https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en

Domańska-Szaruga, B. (2011). Rola czynników ESG w budowaniu wartościprzedsiębiorstwa. *Współczesne Zarządzanie* 4/2011 pp.1-11, http://31.186.81.235:8080/api/files/view/12868.pdf, accessed 04.01.2024

Eisai's materiality (Material Topics), Eisai Sustainability Report and Data 2023 | Eisai. (2023). Retrieved 5 January 2024, from https://www.eisai.com/sustainability/management/materiality/index.html

Elkington, J. (2018). 25 Years Ago I Coined the Phrase "Triple Bottom Line." Here's Why It's Time to Rethink It, *Harvard Business Review*, June 25, 2018, https://hbr.org/2018/06/25-years-ago-i-coined-the-phrase-triple-bottom-line-heres-why-im-giving-up-on-it

Erkens, M., Paugam, L., Stolowy, H. (2015). Non-financial information: State of the art. and research perspectives based on a bibliometric study. *Comptabilité-Contrôle-Audit*, 21(3), https://doi.org/10.3917/cca.213.0015

Esch, M., Schnellbächer, B., Wald, A. (2019). Does integrated reporting information influence internal decision-making? An experimental study of investment behaviour. *Business Strategy and the Environment*, 28(4), https://doi.org/10.1002/bse.2267

Esch, M., Schnellbächer, B., Wald, A. (2019). Does integrated reporting information influence internal decision-making? An experimental study of investment behaviour. Business Strategy and the Environment, 28(4), https://doi.org/10.1002/bse.2267

ESG Investing: Practices, Progress and Challenges. Paris: OECD / Boffo, R., Patalano, R. (2020). Retrieved 4 January 2024, from www.oecd.org/finance/ESG-Investing-Practices-Progress-andChallenges.pdf

ESG RATING 2022: How are Czech Companies performing in sustainability? / Spolecenskaodpovednost. (2023). Retrieved 19 Januarz 2024, from https://www.spolecenskaodpovednost.cz/en/esg-rating-2022-how-are-czech-companies-performing-in-sustainability/

ESG Ratings Service Report, The Economist Intelligence Unit, March 2023 / The Economist. (2023). Retrieved 5 January 2024, from https://www.eiu.com/n/solutions/esg-rating-service

ESG Scatec Performance Report 2022 / Scatec. (2022)., https://annualreport2022.scatec.com/wp-content/uploads/sites/11/2023/03/Scatec-ESG-Performance-Report-2022.pdf, accesses 10.01.2024

ESG spotlight. How UK organisations are tackling environmental, social and governance issues, Virgin Media O2 Business 2023 / Virgin Media. (2023). Retrieved 18 January 2024, from https://www.virginmediao2business.co.uk/pdf/insights/reports/vmo2b-esg-report.pdf, pp.7-8

Final Report on Draft Regulatory / ESMA, European Securities and Markets Authority. (2021). Technical Standards about the content, methodologies and presentation of disclosures under Article 2a(3), Article 4(6) and (7), Article 8(3), Article 9(5), Article 10(2) and Article 11(4) of Regulation (EU) 2019/2088, 2nd February 2021, Retrieved 5 February 2024, from https://www.esma.europa.eu/sites/default/files/library/jc_2021_03_joint_esas_final_report_on_rts_under_sfdr.pdf

Giannopoulos, G., Kihle Fagernes, R.V., Elmarzouky, M., Afzal Hossain, K.A.B.M.(2022) The ESG Disclosure and the Financial Performance of Norwegian Listed Firms. J. *Risk Financial Manag*. 2022, 15, 237. https://doi.org/10.3390/jrfm15060237

Grupa PKP Cargo publikuje strategię ESG na lata 2024-28 / Kolejowy Portal. (2023). Retrieved 10 January 2024, from https://kolejowyportal.pl/grupa-pkp-cargo-publikuje-strategie-esg-na-lata-2024-28/

Gupta, E., Rangaswamy, A. (2021). The importance of ESG and its application in India. *Lexforti Legal Journal*, 2(4), https://lexforti.com/legal-news/wp-content/uploads/2021/04/The-Importance-of-ESG-and-its-application-in-India.pdf

KAO Sustainability Report, Strategy 2023 / KAO. (2023). Retrieved 5 January 2024, from https://www.kao.com/content/dam/sites/kao/www-kao-com/global/en/sustainability/pdf/sustainability2023-e-07.pdf

Krishnan, G. (2023). Environmental, Social and Governance (ESG) Integration in Malaysia: Navigating Challenges and Embracing Opportunities for a Sustainable Future, *ICMR July 2023*, https://www.icmr.my/wp-content/uploads/2023/08/ESG-Integration-in-Malaysia.pdf

Light Green and Dark Green Funds under the SFDR / Fieldfisher. (2021). Retrieved 5 February 2024, from https://www.fieldfisher.com/en/insights/light-green-and-dark-green-funds-under-the-sfdr

Mgbame, C.O., Aderin A., Ohalehi P., Chijoke-Mgbame A.M. (2021). Achieving Sustainability through Environmental Social Governance Reporting: Overcoming the challenges. *Advances in Environmental Accounting & Management*, 9, https://doi.org/10.1108/S1479-359820200000009002

MOL Group Sustainability Case Study / MOL. (2022). Retrieved 10 January 2024, from https://molgroup.info/storage/documents/case_studies/environment/casestudy_olive_plantation_in_.pdf

ORLEN Group Sustainability Strategy for 2024-2030 / Orlen. (2023). Retrieved 10 January 2024, from https://www.orlen.pl/en/sustainability/orlen-group-sustainability-strategy-for-2024-2030

OTP Group Our Environmental, Social and Governance approach / OTP Group. (2022). Retrieved 10 January 2024, from https://www.otpbank.hu/static/portal/sw/file/ESG_leaflet_OTPGroup.pdf

PM speech on Net Zero: 20 September 2023 / GOV UK. (2023). Retrieved 18 January 2024, from https://www.gov.uk/government/speeches/pm-speech-on-net-zero-20-september-2023

PwC (2023). Summary of climate pledges and policies in Asia Pacific. *PwC Net Zero Economy Index: Asia Pacific's Transition*, https://www.pwc.com/gx/en/issues/esg/esg-asia-pacific/net-zero-economy-index-asia-pacifics-transition.html

Responsible Investments – Achievements / *Magyar* Telecom (2022). Retrieved 10 January 2022, from https://www.telekom.hu/about_us/investor_relations/magyar_telekom_shares/achievements

Scott, M. (2023). 100 most sustainable companies of 2023 still flourishing in tumultuous times, Corporate Knights Ranking Global 2023, https://www.corporateknights.com/rankings/global-100-rankings/2023-global-100-rankings/2023-global-100-most-sustainable-companies/#more-story

Somerville, P. (2020). A critique of climate change mitigation policy, *Policy Press,* 48(2), 355-378. https://doi.org/10.1332/030557319X15661682426163

Sonnedix Sustainability Report 2022 / Sonnedix. (2022). Retrieved 10 January 2024, from https://www.sonnedix.com/sustainability-report-2022

Stecko, J. (2012). CSR 1.0 a CSR 2.0 porównanie i analiza pojęć. *Zeszyty Naukowe Politechniki Rzeszowskiej*, 285, Zarządzanie i marketing 3. https://doi.org/10.7862/rz.2012.zim.10

Sustainability Report 2022: Advantage Switzerland, Bain&Company 2022 / Wörner, S. (2022). Retrieved 17 January 2024, from https://www.bain.com/contentassets/5e38da55b21846f59eb6240b9a07af77/studie_nachhaltigkeit_ch_2022_finalforrelease.pdf

Swiss Climate Score (2022).

The challenging politics of climate change, Brookings September 23, 2019 / Kamarck, E. (2019). Retrieved 15 December 2023, from https://www.brookings.edu/articles/the-challenging-politics-of-climate-change/

The ESG premium might be more valuable than you realise, Financial Times Partner Content October 19, 2023 / Investec. (2023). Retrieved 17 January 2024, from https://investec.ft.com/the-esg-premium-might-be-more-valuable-than-you-realise

Thomson, I. (2015). But does sustainability need capitalism or an integrated report a commentary on 'the International Integrated Reporting Council: A Story of Failure by Flower? *Critical Perspectives on Accounting*, 27. https://doi.org/10.1016/j.cpa.2014.07.003.

Top 10 sustainable companies in Asia-Pacific / Birch, K. (2022). Retrieved from https://businesschief.asia/sustainability/top-10-sustainable-companies-in-asia-pacific

Tylec, A. (2022). ESG reporting framework in Poland – the current state of affairs and perspectives, Scientific Papers of the Silesian University of Technology, Organization and Management Series, 157, 609-622.

van Kemenade, A., Shukla, A., Yanning, J., McCafferty, G., Lim, H. (2023). ESG priorities in China: How companies in China are approaching ESG. *Fidelity International 2023*, 1-35. https://www.fidelity.com.cn/media/PDF/esg/esg-priorities-in-china-en.pdf

Zarządzanie zrównoważonym rozwojem i ryzykami ESG, Raport zintegrowany 2022 | KGHM. (2022). Retrieved 10 January 2024, from https://raportcsr2022.kghm.com/zarzadzanie-i-etyka/zarzadzanie-zrownowazonym-rozwojem-i-ryzykami-esg/

Żychlewicz, M. (2015). Społeczna odpowiedzialność biznesu jako strategia prowadzenia działalności polskich przedsiębiorstw, Zeszyty Naukowe Uniwersytetu Szczecińskiego. *Współczesne Problemy Ekonomiczne. Globalizacja. Liberalizacja.* Etyka 2015, 11, 281-289.

Cross-Border Acquisition of a Slovak Start-up by an American Company: Who Benefits More?

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Abstract: Businesses that want to stay competitive need to react to changes in a global arena. One of the strategies they may use is to acquire innovative start-up. The aim of the article is to identify the benefits that accrue to stakeholders from the acquisition of a Slovak start-up Exponea by an American company Bloomreach in 2021. Due to the lack of resources in the Slovak literature on Slovak start-up acquisitions, the authors use a single case study. They conclude that both sides benefit from the deal. For a start-up, the primary advantages are: start-up owners' profit; the start-up becoming an important part of the future market giant and growth in the number of employees. The advantages for the American company consist of a new approach to digital marketing automation and enhanced product recognition in the European market.

Keywords: innovation, cross-border acquisition, benefits for acquirer and acquiree, start-up, Slovakia

JEL Classification codes: M13; M19

INTRODUCTION

In today's international business arena, companies face intense competition and escalating demands. To remain competitive, businesses must be flexible and adapt to the rapidly changing global business environment. Therefore, they are exploring new adaptation strategies.

Acquiring a start-up as a source of new knowledge and as a means to keep pace with, and eventually surpass, competition is one such strategy. Numerous researchers have examined the topic of start-ups in literature (Silva Junior, 2022). Our focus lies in characterizing start-ups and providing various interpretations of this term within the theoretical framework of our article.

We also concentrate on Slovakia, where this topic has been researched from several points of view. While Bacík & Nastikin (2016) delve into the start-up ecosystem in the Slovak market, Hudáková (2018) examines the assistance provided to start-ups in Slovakia. The significance of start-ups for the future growth of the Slovak economy is explored by Gregova & Dengov (2016), while their failures are studied by Bednar et al. (2018).

Despite some researchers exploring start-up acquisitions, there remains a notable gap in the literature regarding the acquisition of Slovak start-ups. In identifying this gap, we aim to delve into this phenomenon in more detail. As a starting point, we seek to investigate a concrete case of a Slovak start-up acquisition by a foreign company. Our article aims to identify the benefits accruing to stakeholders from the acquisition of a Slovak start-up by a foreign company, specifically an American one. The research question is as follows: What are the benefits of this cross-border acquisition for both the acquired and acquiring companies? Are they more significant for the acquirer, or can a Slovak start-up paradoxically benefit from them as well?

1 LITERATURE REVIEW

The "start-up" is widely debated in the academic field as well as the definition of this term (Silva Junior, 2022). According to Blank (2010), a start-up is a company, a partnership, or a temporary organization designed to search for a repeatable and scalable business model. The main characteristic of start-ups is the search for ways to scale their business model through the development of solutions with a high degree of innovation and low expenditure of human and financial resources (Berg et al., 2020; Clarysse & Bruneel, 2007).

One of the major challenges faced by start-ups is obtaining funding to launch and operate their businesses. As start-ups are small and at the beginning of their journey, they lack a history and credible reputation, making them high-risk ventures for financial institutions. This, in turn, makes it costly for financial institutions to monitor these businesses (Korosteleva & Mickiewicz, 2011). According to Ries (2012), a start-up is a human enterprise designed to create products/services under conditions of high risk and uncertainty. According to Blank, a 2012 start-up is not a smaller version of a large company. Start-ups usually enter the market with some innovation. That means a new product or service that has not been proven by the market and customers yet. Start-ups bring innovation to other parts of the business, which must be tested first.

Due to their smallness, start-ups suffer a structural lack of tangible and intangible resources (Wymer & Regan, 2005). The lack of financial and human resources hinders the development of innovation processes (Bogers, 2011).

Krejcí et al. (2015) indicate, that start-ups are early-stage and temporary companies that have a business model based on innovation and technology. Also, the business model is crucial for digital start-ups even before the organization starts operating (Kainde & Batmetan, 2019). Compared to other businesses, start-ups have different goals and priorities. Start-ups first concentrate on their origins and then on their ability to survive in the market (Ojaghi et al., 2019).

The most extensively studied countries, according to Spender et al., (2017), were the USA, UK, and Israel. The writers analyzed several countries including the Netherlands, Norway, Spain, Belgium, Finland, Australia, Taiwan, Switzerland, Portugal, and China. The authors also look at other countries. This article will concentrate on the evaluation of start-ups in developing countries, which also includes Slovakia.

Some writers focus only on start-up acquisitions in literature. Start-up acquisitions are crucial in fostering innovation and entrepreneurship (Clausen & Rasmusen, 2011, 2015). According to Bryan and Hovenkamp (2020), start-up acquisitions are ubiquitous, particularly in high-tech industries.

However, over time, persistent start-up acquisitions by highly dominant incumbents may provoke countervailing competition policy concerns. In the aggregate, such acquisitions may have significant adverse effects on market structure, competition, and the diffusion of innovations. Indeed, there is growing empirical evidence that decreased business dynamism and lower productivity growth may be related to the growing productivity gap between "superstar" firms and others (Decker et al. 2018). According to Bryant and Hovenkamp (2019), there has been very little antitrust enforcement in this area. Many researchers and practitioners worry about harm to competition or innovation.

2 METHODOLOGY

The article employs various scientific research methods. The first section is based on the collection, processing, and analysis of theoretical literature sources. The literature includes studies on start-ups from different perspectives, as well as studies on start-ups in relation to their acquisition.

Spender et al. (2017) claim that while examining start-ups, the authors typically use qualitative research methodologies, paying close attention to case studies. When investigating start-ups, the writers rely on information from interviews or single case studies from the standpoint of sources.

A case study, according to Yin (2014) is an empirical approach that explores current phenomena in a real-life environment, particularly when the boundaries between the phenomenon and the setting are not clear and visible. A case study as a research technique is a research strategy that combines many research methodologies, each with its approach to data collecting and analysis. Based on the previous, it is possible to infer that the case study is more than just a data-gathering technique or a design feature. It is a sophisticated research strategy. For the sake of digesting this post, we used the case study technique using one example.

In the empirical part of the article, the single case study method predominated. Using this method, we investigated a selected start-up located in Slovakia that was acquired. Based on the case study, it was possible to identify the competitiveness of the Slovak start-up. For processing the empirical part of the article, we used a variety types of data sources. The primary source of information for processing this part of the article was an interview with a senior representative of an American company that took over a Slovak start-up through an acquisition. Giardino et al. (2016) also used the interview to obtain information about start-ups.

We supplemented the material from the interview with information from websites that post interviews with numerous representatives from both parties. Finally, secondary data include theoretical literature published in databases such as Web of Science, and Scopus, which served as the foundation for processing the theoretical part of our article. Using the synthesis approach, we give the fundamental and most relevant conclusions from this single case study at the end of the article.

3 RESULTS AND DISCUSSION

Many Slovak start-ups operate successfully in Slovakia. These start-ups are an interesting source of know-how, technologies, and other benefits for large as well as smaller foreign companies. An example of such a start-up is the Slovakian company Exponea. The fundamental attributes related to this company are displayed in the following table.

Tab. 1 Basic indicators of a Slovak start-up

Exponea – innovation and subsequent acquisitions	
Indicators	**Exponea, s.r.o. (Slovakia)**
Year of Foundation	2015
Localization in Slovakia	Bratislava
Founders	Ivan Chrenko, Peter Irikovský, Jozef Kováč
Transferees	American company Bloomreach (2021)
Price	Unpublished
Industry	Technology – digital marketing automation (artificial intelligence)
Reason for foundation	The excellence of service in the domestic and especially foreign market
Staff	100 -149 employees
Financial Indicators	Exponea still had considerable growth potential. Their sales increased by millions of EUR every year, but at the same time their loss, within the Slovak market, was increasing until 2019, when it was minus EUR 14.5 million.
Market Indicators	The fastest-growing company in Europe and the second fastest-growing in the world (according to the SaaS 1000) Success in the foreign market, such as the Benelux countries, the Nordic countries, Russia and England
Countries of operation	Russia, Benelux, Nordic countries, England, and later USA

Source: processed by authors

The American company Bloomreach expressed interest in the Slovak start-up. Bloomreach's primary value proposition lies in delivering high-quality services in both domestic and foreign markets, particularly in digital marketing. Bloomreach integrates real-time customer and product data, enabling businesses to gain insights into customer preferences. This understanding is then applied across various channels, resulting in a seamless e-commerce experience that continuously adapts to evolving customer needs. Leveraging artificial intelligence, Bloomreach creates numerous opportunities for increased profitability, rapid business growth, and innovative paths to purchase (Bloomreach, 2022).

Bloomreach today is (Bloomreach, 2022):

- serving more than 850 global brands,
- own 33 patents for artificial intelligence,
- powering 250 million searches each day,
- helping marketers execute 100,000 e-mail campaigns each day,
- powering the equivalent of 25 % of all e-commerce experiences in the US and UK,
- driving innovation with the help of 900+ global employees.

In the following text, we present the development of the Slovak start-up and the subsequent acquisition of this company by an American company.

3.1   Acquisition of a Slovak start-up by an American company

Exponea, a Slovak start-up, was acquired in 2021 by Bloomreach, an American firm focusing on e-commerce consumers, which means assisting clients with internet searches for items. It is a highly successful California software start-up created in 2009 that searches and processes online material (Dennik N, 2021).

Irikovský discusses the reasons for the start-up's acquisition in his blog post. He says Bloomreach's services are focused on processing data about products that customers buy on websites. Exponea processes data about the customers themselves, as well as their behavior. The combination of these companies created a comprehensive package. For the Exponea team, this acquisition had a great result, as it became an important part of the future market giant. At the same time, Bloomreach has enabled them to continue shaping their future and continue the innovative path of business growth. Therefore, the main challenge is to continue to grow and support a strong customer- and product-centric culture (Irikovský, 2021).

Bloomreach benefits from this purchase since it puts it closer to digital marketing automation. At the same time, it is also a strategic partnership, as both companies are focusing on different markets. Exponea has a strong reputation in the European market and Bloomreach in the US market, from which both companies can benefit, and together they can expand into the above locations (Jakubová, 2021).

Over the past twelve months, Exponea has become Bloomreach's biggest product. Now we can find it under the new name, Bloomreach Engagement. Slovakia continues to be a significant country for Bloomreach, with the number of employees in Slovakia having grown to almost 200 and worldwide to almost 800 (Bloomreach, 2022).

3.2 Negotiation of the acquisition with the authorized person from the original company Exponea

The management headed by Peter Irikovský participated in various meetings to find investors or partners. Various meetings and information sessions took place in parallel. At the same time, the start-up went through better and worse periods in terms of performance. The coronavirus crisis was advantageous for the start-up in terms of performance since people were at home and shopped online, through e-shops. During this period of the pandemic, the start-up's numbers improved significantly and gained more customers, including at the global level. These were brands in the world that helped the start-up go to the American market, as it is difficult to break through in America. Until then, Exponea had a strong position in Russia and Europe - in the Benelux regions, the Nordic countries, and England. On this occasion, Peter Irikovsky began to create a background in the American market, which meant finding resources and talent – sales and marketing positions that focused on customer acquisition. Of course, the search for new investors was also connected with this. The start-up relied primarily on the relationship with customers and feedback to help brand and market image within reputation (Online Consultation, 2022).

Bloomreach's initial goal was not to establish a massively profitable firm that it could subsequently sell. Their ambition was to develop a globally known start-up. The fact that it would happen in its line or through collaboration with another firm did not play a significant role. Bloomreach felt it was critical to protect the start-up's identity and culture (Online Consultation, 2022).

The actual acquisition of the Slovak start-up was preceded by a large number of meetings, presentations, income documents, profitability metrics, annual income, etc. Growth potential and security were very important and key factors for Bloomreach to get a new investor. On the other hand, it was important for the company to preserve the company structure, as it is based on values and corporate culture, which was also one of the conditions of the acquisition. It was therefore necessary to negotiate and agree on specific conditions. Whether it was about employees, the company, or how the product would function. At the same time, Exponea

already had its investors before the acquisition, and they had to approve the acquisition (Online Consultation, 2022).

It was very important for Exponea that the team did not change and that everyone who worked there until the acquisition also worked at Bloomreach. This was done by agreement. Work benefits in the form of company events were also very interesting and attractive (Online Consultation, 2022).

The founders of Exponea insisted on all workers knowing everything – knowledge and transparency were critical. Bloomreach staff were notified in advance about lost or gained clients, as well as how the firm was performing, in advance. In the instance of the purchase of Exponea, Bloomreach staff were informed that they had identified a partner firm, that they were doing well in arranging the conditions, and that the alliance would be a good one. A month later, it became clear that the collaboration would provide no results. The store was immediately shuttered following that (Online Consultation, 2022).

Under the terms of the agreement with Bloomreach, the initial investors have the option to receive a cash payment and transfer their shares to Bloomreach, and most have exercised this option. As a result, despite the lengthy procedure, this acquisition was a wise one. In terms of turnover and profitability, the enterprises investigated exceeded their expectations. Since the takeover, the firm has expanded its workforce. As a result, despite the initial lower outflow of people, investments in human resources were made and continue to be made (Online Consultation, 2022).

Tab. 2 Exponea – innovations and strategies

Innovation and strategies in the foreign market	Triggers for innovation	The goal was to build a globally recognized product, which means the need for innovation
	Creating follow-up start-ups	Undetected data
	Motivations for entering foreign markets	Gaining a strong market position in the world Through the expansion of the market, the opportunity to acquire new customers
	Foreign expansion	Yes, Exponea has operated on 4 continents
	Sources of competitive advantage	Company culture, strength, and performance of its company
	Methods of entering foreign markets	References, getting investors, reinvesting profits
	Current organization abroad	Local subsidiaries
	Foreign strategies	Through subsidiaries, strong positions were built in foreign markets Building the company's image and getting feedback
Conclusions	Success factors	Specific corporate culture, the founders were already moving in the business environment, reinvesting the acquired sales

Source: processed by authors

3.3   Discussion

The high-tech industry is not only profitable, but it is also marked by a high level of innovation and rapid development. Companies must face these changes and flexibly respond to them if they want to establish themselves in the market and remain competitive. A link with a company that comes to market with such know-how is a valuable instrument for obtaining modern technology. Competition is not limited to huge corporations. Start-ups are likewise engaged in a competitive fight. The essential success element of start-ups was explored by Silva Junior et al. (2022). They categorize them into three groups:

• Organizational; Innovative profile; Intellectual property protection; Research and Development; Resources available at start-ups; Absorptive capacity; Financial capacity; Technological capacity; Dynamic capacity; Value creation; Competitive strategies; Organization quality; Organizational culture.

• Human; Employee educational level; Founders' characteristics; Employee satisfaction; Capital invested by entrepreneur; Founding team experience; Employee commitment.

• Environmental: State support and political environment; Alliances formation; Relationships with Universities; Support from incubators, accelerators, and technology parks; Venture capital; Economic and technological environment; Competitive environment.

Start-ups with more of these characteristics are more likely to be of interest to larger companies. When a start-up merges with a larger firm or is acquired, new prospects emerge for the start-up. One of the most critical is market penetration into new markets. The successful acquisition of the Slovakian start-up we analysed was due to the ability of a small Slovakian company to make significant inroads into the American market. At the same time, both organizations complemented one another. Exponea uses customer data, whereas Bloomreach uses product data, allowing for such tailored connections with customers that this vision became a vital decision. This link impacted not just Exponea's earnings as a provider but also customers. The combination of these two firms resulted in a product with a level of service that no one else on the market offers. These two firms have collaborated to produce something special.

In this setting, it is critical to be aware of the rivalry that occurs among start-ups. They frequently compete for the attention of huge corporations. According to the CEO of the business that acquired the Slovak start-up, three other companies were discussed during the decision-making process, in addition to the Slovak start-up. However, pricing, as well as the culture and essential principles of the supplied organizations, played a significant role in their decision-making (particularly when rejecting the final three start-ups) (Online Consultation, 2022).

CONCLUSION

In the global marketplace, the continued development of digital technologies means that many companies in all sectors are competing on a much larger scale than in previous years. It's no different when it comes to marketing and e-commerce. A well-known American company operating in the above field was looking for new ideas to improve its competitiveness and market potential. One option for her would be to acquire a start-up that delivers excellent solutions and technology. In the example we examined, a small Slovakian company processed data about its customers and their behaviour.

Both parties to the transaction outlined the benefits that arise from the acquisition.

Benefits for the Slovak start-up:
- Start-up owner's profit;
- the Slovak start-up became an important part of the future market giant;
- the American company allowed them to continue shaping their future and continuing the innovative path of business growth;
- Exponea became Bloomreach's largest product over the last twelve months;
- growth in the number of employees - Slovakia remains a key country for the entire corporation's activities.

Benefits for the American corporation include:
- a novel approach to digital marketing automation;
- enhanced product recognition in the European market.

Based on our research, we can conclude that:
- the combination of a Slovak start-up and a larger American company resulted in a complex package of marketing and e-commerce services that they provide to customers,
- is also a strategic partnership, as both companies are focused on different markets.

We can infer that the company under consideration in this article is adequately competitive and draws the attention of international investors. Based on this, it can be claimed that in less developed countries such as Slovakia, there are sufficient resources (human resources, workforce certification, and equipment) to create a competitive start-up that draws the interest of foreign investors. Our research has a disadvantage in that it focuses on one example of a company in a single country. The study will be expanded in the future to include additional start-ups in the country under study, as well as in other developing countries.

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REFERENCES

Bacík, R. & Nastikin, Ľ. (2016). Analysis of the Startup Ecosystem in the Conditions of Slovak Market. In *MANAGEMENT 2016: INTERNATIONAL BUSINESS AND MANAGEMENT, DOMESTIC PARTICULARITIES AND EMERGING MARKETS IN THE LIGHT OF RESEARCH* (pp. 405-409). Prešov, Bookman, s.r.o.

Bednar, R., Tariskova, N. & Zagorsek, B. (2018). Startup Revenue Model Failures. *Montenegrin Journal of Economics, 14*(4), 141-157. https://10.14254/1800-5845/2018.14-4.10

Blank, S. (2010). Why startups are agile and opportunistic – pivoting the business model. Retrieved November 1, 2015, from http://www.steveblank.com

Berg, V. et al. (2020). Achieving agility and quality in product development - an empirical study of hardware startups. *Journal of Systems and Software*, 167, 110599. https://doi.org/10.1016/j.jss.2020.110599

Blank, S. (2012). *The Startup Owner's Manual.* Pescadero : KS Ranch, Inc.

Bloomreach. (2022). About us. Retrieved July 10, 2022, from https://www.bloomreach.com/en/about-us

Bloomreach. (2021). Bloomreach valuation soars to USD 2.2 billion following USD 175 million investment led by Goldman Sachs Asset. Retrieved January 4, 2021, from https://www.bloomreach.com/en/news/2022/bloomreach-valuation-soars-to-usd2.2-billion-following-usd175-million-investment-led-by-goldman-sachs-asset

Bogers, M. (2011). The open innovation paradox: knowledge sharing and protection in R&D collaborations, *European Journal of Innovation Management, 14*(1), 93-117. https://doi.org/10.1108/14601061111104715

Bryan, K. & Hovenkamp, E. (2019). Startup Acquisitions, Error Costs, and Antitrust Policy. *The University of Chicago Law Review, 87*(2), 331-356.

Bryan, K. & Hovenkamp, E. (2020). Antitrust limits on startup acquisitions. *Review of Industrial Organization, 56*(4), 615-636. https://doi.org/10.2139/ssrn.3350064

Clarysse, B. & Bruneel, J. (2007). Nurturing and growing innovative start-ups: the role of policy as integrator. *R & D Management, 37*(2), 139-149. https://doi.org/10.1111/j.1467-9310.2007.00463.x

Clausen, T. & Rasmussen, E. (2011/2015). Open innovation policy through intermediaries: the industry incubator programme in Norway. *Technology Analysis & Strategic Management, 23*(1), 75-85. https://doi.org/10.1080/09537325.2011.537109

Decker, R. A. et al. (2018). Changing Business Dynamism and Productivity: Shocks vs. Responsiveness. *American Economic Review, 110*(12), 3952-90. https://doi.org/10.3386/w24236

Dennik N. (2021). The Slovak Exponea is bought by the American Bloomreach, another unicorn is said to be born. Retrieved January 3, 2021, from https://e.dennikn.sk/minuta/2244113?fbclid=IwAR130BWJ81WfngTJXp7-_0KSQ-4dsVs046yb_3o1meGe__4Xta-FrbsYVA8

Giardino, C. et al. (2016). Software development in startup companies: The Greenfield Startup model. *IEEE Transactions on Software Engineering, 42*(6), 585-604. https://doi.org/10.1109/tse.2015.2509970

Gregova, E. & Dengov, V. V. (2016). Startups importance for the successful development of the Slovak economy. In *GLOBALIZATION AND ITS SOCIO-ECONOMIC CONSEQUENCES, 16TH INTERNATIONAL SCIENTIFIC CONFERENCE PROCEEDINGS, PTS I-V* (pp. 505-514). Rajecké Teplice, Žilinská univerzita.

Hudáková, J. (2018). Startups support in the Slovak republic. In *21st International Colloquim on regional sciences* (pp. 149-154). Kurdejov; Masarykova Univerzita.

Irikovský, P. (2021). CEO's perspective: Bloomreach's acquisition of Exponea will change digital commerce. Retrieved January 4, 2021, from https://exponea.com/blog/bloomreach-

acquisition-ceo-perspective/?fbclid=IwAR0omFgdBfBgHXcCQhBeKrarfr-uh3my0RLOubFkQJwQxP113Mp0EraXwpk

Jakubová, R. (2021). Huge success: Slovak startup Exponea is rushing to America with a new partner. His account is still growing. Retrieved January 3, 2021, from https://www.startitup.sk/obrovsky-uspech-slovensky-startup-exponea-sa-s-novym-partnerom-ruti-na-ameriku-jeho-konto-stale-rastie/?fbclid=IwAR12HIOcxNpJEgf80zlYRykXeTXaqi9xbTUOYTBolh6vRek55V5HdKOHYQM

Kainde, Q. C. & Batmetan, J. R. (2019). Digital business model for digital startup in industrial era 4.0. *International Journal of Advanced Trends in Computer Science and Engineering, 8*(1), 177-181. https://doi.org/10.30534/ijatcse/2019/3481.52019

Korosteleva, J. & Mickiewicz, T. (2011). Stat-up Financing in the Age of Globalization. *Emerging Markets Finance and Trade, 47*(3), 23-49. https://doi.org/10.2753/ree1540-496x470302

Krejcí, M., Strielkowski, W. & Čabelková, I. (2015). Factors that influence the success of small and medium enterprises in ICT: a case study from the Czech Republic. *Verslas Teorija Ir Praktika, 16*(3), 304-315. https://doi.org/10.3846/btp.2015.521

Ojaghi, H., Mohammadi, M. & Yazdani, H. R. (2019). A synthesized framework for the formation of startups' innovation ecosystem. *Journal of Science and Technology Policy Management, 10*(5), 1063-1097. https://doi.org/10.1108/jstpm-07-2018-0071

Online consultation with a marketing manager from Bloomreach, the original Exponea. (2022, February 22). Bloomreach SK s.r.o., Staromestská 3, Bratislava – Old Town district, 811 03, Slovak Republic.

Ries, E. (2012). *A startup enxuta: como os empreendedores atuais utilizam an inovação contínua para criar empresas extremamente bem-sucedidas.* São Paulo: Lua de Papel.

Silva Junior, C. R. et al. (2022). Overview of the factors that influence the competitiveness of startups: a systematized literature review. *Gestão & Produção, 29*, e13921.

Spender, J., Corvello, V., Grimaldi, M. & Rippa, P. (2017). Startups and open innovation: a review of the literature. *European Journal of Innovation Management, 20*(1), 4-30. https://doi.org/10.1108/ejim-12-2015-0131

Bloomreach. (2021). StartupJobs. Retrieved January 3, 2021, from https://www.startupjobs.cz/startup/exponea?fbclid=IwAR3Oh6hcirzfupGsiA-KB2ULTxTpz6c9imYPnYGjAyo2ri_vh5z_gs49UhY

Wymer, S. & Regan, E. (2005). Factors influencing e-commerce adoption and use by small and medium businesses, *Electronic Markets, 15*(4), 438-453. https://doi.org/10.1080/10196780500303151

Yin, R. K. (2014). Case study research: Design and methods. Los Angeles: SAGE Publications.

Reporting of Non-Financial Information in the V4 Countries

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Abstract: The area of sustainability reporting is becoming increasingly important in view of the mandatory implementation of European law, which will affect up to 50,000 large companies in the EU from 2024. The paper assesses the level of reporting of this information in terms of quantity and quality between 2017 and 2021 in the V4 countries. The quantitative analysis was carried out on the basis of a conceptual content analysis. The qualitative analysis was then carried out only for companies in the Czech Republic using evaluation criteria and a scoring scale. Based on the analyses conducted, an increasing level of reporting of non-financial information was identified in all countries, especially in the area of the environment, specifically carbon footprint, emissions and climate change. Within the Czech Republic, the largest relative change of 825% was recorded for the climate change criterion.

Keywords: sustainability, ESG, directive reporting, V4 countries

JEL Classification codes: M40; M48; Q56

INTRODUCTION

Until 2016, companies disclosed non-financial information on a voluntary basis. On 22 October 2014, the European Parliament and the Council of the European Union adopted Directive 2014/95/EU (NFRD), which introduces new obligations in the reporting of non-financial information. The European Union believes that entities affected by this Directive could benefit from reporting non-financial information. The Directive has as one of its objectives the promotion of business transparency, and this is where investor and customer confidence could be enhanced. The main expected benefits of the introduction of this Directive are then the positive impact on the environment, on combating discrimination and on the social aspects of business. However, the NFRD has not met these expectations and has therefore been replaced by the CSRD with effect from 1 January 2024, when the comparability of the information reported is expected to increase, based on specific criteria. Following the adoption of the CSRD, an increasing number of companies will be required to report sustainability information, progressively from 2024. The content of this information is set out in the European Commission's ESRS sustainability reporting standards. The focus is on double materiality as well as the value chain.

1 LITERATURE REVIEW

The goal of corporate sustainability, based on ESG reporting principles, is to minimize threats arising from environmental, social and governance aspects. A sub-goal is to look for opportunities to gain advantage through the incorporation of ESG principles into their corporate activities. (Lenox & Nash, 2003; Michelon et al., 2015) Companies disclosing ESG information can contribute to transparency and accountability to external stakeholders such as banks and potential investors. This is because they provide external parties with a basis for comparison of observed sustainability practices of firms (Bewley & Li, 2000; Kassinis & Panayiotou, 2018) Key to this argument is that an adequate amount of information must be disclosed. (Dando & Swift, 2003). Otavova et al. (2023) mention that there has been an increase in the reporting of non-financial information by insurance companies following the introduction of the NFRD. There was an increase in insurance companies that have this obligation, but also in insurance companies that do not have this obligation. The same finding was also confirmed for banks as reported by Glaserova et al. (2024).

Although an increase in the amount of information reported does not necessarily imply that the information is of high quality, we can hypothesize that companies that follow ESG reporting guidelines can increase the credibility of their activities (Minutiello & Tettamanzi, 2021; Plumlee et at., 2015). The exact content and procedures for corporate sustainability disclosure are not yet fully defined (Hahn et al., 2021), hence the content and format of ESG reporting varies considerably from company to company.

In 2022, research was conducted from a Japanese setting that focused on the quantity of ESG information reported. The authors of this research are Darnall, Ji, Iwata, and Arimura (2022). The authors examined ESG reporting environments that are subject to Japanese EPA guidelines, which the authors believe is the only global example of an ESG directive. The research found that firms that follow ESG guidelines disclose 30% more sustainability information compared to firms that publish sustainability reports but do not follow ESG guidelines. Furthermore, research has shown that content-focused reporting leads to more valuable disclosures. In this sense, companies disclose 23% more text in their sustainability reports (Darnall et al. 2022).

Further research was carried out in 2020 at Sapienza University in Rome. The main objective of this research was to find out the impact of ESG indices on stock returns, over the period 2010-2018. The result of the research was that investing in ESG and communicating ESG strategy positively affected returns for only a small proportion of firms (La Torre et al., 2020).

The new CSRD Directive on non-financial reporting is effective from 2024, when the number of companies required to report non-financial information will gradually expand, as already mentioned. The aim of the Directive is to make non-financial reporting an integral part of mandatory reporting in general, i.e. to give equal weight to financial and non-financial reporting in the future. The main reason why the EU has embraced the CSRD is to deal with climate change and other negative impacts on the environment and society. The emerging directive will help investors to channel their investments into greener businesses. The directive will also be of great importance to businesses wishing to apply for investment or credit, as businesses that are demonstrably more socially responsible will have an advantage in this respect. The implementation of the CSRD in Member States' national legislation must be completed by 6 July 2024 at the latest (KAČR, 2023). It is important to stress that the CSRD replaces the term 'non-financial information' with 'sustainability information'. The main reason for this change is that the term 'non-financial information' can be confusing and misleading, especially in relation to the idea that such information is not financially meaningful (Kubcová, Tittelbach, 2023).

To ensure that investors and banks receive consistent information from companies, the European Financial Reporting Advisory Group (EFRAG) has introduced detailed standards for ESG reporting. These standards will be binding for all companies in different sectors. Under these standards, they will have to disclose information on, for example, their carbon footprint and the significant human and environmental impacts of their supply chains (Frank Bold Advisory, 2023).

As a result of the CSRD, Regulation (EU) No 537/2014, Directive 2004/109/EC, Directive 2006/43/EC and Directive 2013/34/EU are being amended. The CSRD also affects audit-related legislation by extending the obligation to audit also sustainability information. Already in the first reporting period, verification by an independent third party (auditor) will be mandatory. From 2028 onwards, there should be a transition to a so-called full audit, which includes more extensive procedures. Verification of sustainability reports can be provided as standard by the statutory auditor or by the audit firm carrying out the statutory audit of the financial statements. However, Member States may allow other options, such as verification by a statutory auditor other than the one auditing the financial statements or by another independent assurance provider. However, if the opinion on the sustainability report is given by an independent assurance provider, this opinion must be published together with the annual accounts and the management report. Member States are required to establish and ensure uniform requirements for all persons and undertakings, including statutory auditors and audit firms, that may issue opinions relating to sustainability reports.

PwC (2023) states that mitigating the impacts of climate change is arguably the greatest challenge humanity has ever faced. Without a well-set ESG strategy, a company will not be able to succeed in the market eventually.

KPMG (2023) makes a similar point, stating that sustainable growth is the only way to build a long-term successful business. These views are also shared by Deloitte (2023) and EY (2022). All these audit firms, belonging to the "Big Four", are ready to help companies in the areas of legislation, data collection, selecting the appropriate reporting methodology, preparing the non-financial report and its verification.

2   METHODOLOGY

The aim of the research was to analyse annual reports, which potentially contain data on companies' activities, in the area of non-financial information (sustainability information). In this context, to assess whether there has been an increase or decrease in the frequency of reporting over the years based on predefined keywords (related to the area of non-financial reporting) and to assess the quality of this data being published.

The starting point of the research was the selection of a set of companies within the V4 countries, which were then subjected to analysis. This consisted of 10 companies from each country, selected based on the Coface database "Coface CEE top 500 ranking" (2022). A research sample of Polish, Hungarian, Slovak and Czech companies was selected from the ranking of the largest companies operating in Coface database, without sectoral breakdown. Annual reports or relevant sources containing non-financial information (or sustainability information) of the company were analysed.

In the first phase, **a quantitative analysis** was carried out manually within each country and their companies. The method chosen was **conceptual content analysis**. The conceptual content analysis method is *"[...] a research tool that helps to quantify the number of occurrences of a text or a particular word in a specific text."* (Christie, 2007, cited in Jílková & Knihová, 2022). The advantage of the chosen method, when the input data involved is properly defined, is the achievement of consistent, reliable, and structured content from initially

unstructured text. The advantage of this method is its objectivity and its systematic nature (Jílková & Knihová, 2022). A total of 30 annual reports (for 2017, 2019 and 2021), within each country, were analysed and nine keywords and their equivalents were manually examined. These years have been selected because the obligation to report a summary of non-financial information started for some entities in 2017. The year 2019 has been chosen because the NFRD has been in force for two years and therefore it is possible to examine whether there has been a change in the information reporting framework over this period. The last year chosen is 2021 because it was the most recent year available at the time of analysis, for all companies analysed. At the same time, it is possible to assess whether there has been an increase or decrease in reporting compared to the previous years examined.

In the second phase, the purpose was to obtain the relative and absolute change in the results of the quantitative analysis. This was done to compare the year 2021 with the first analyzed year 2017.

Data processing in the **third phase** was carried out only at the level of the Czech Republic, where the reported data were analysed from a **qualitative point of view**. In this phase, the years 2017 and 2021 were assessed. 2017 was chosen due to the fact that with its beginning, the Czech Republic became legally obliged to report an overview of non-financial information for a narrow range of entities. The year 2021 is relevant for several reasons, one of which is to assess the development in reporting over the years, it is the last year of available disclosures for all the companies analysed at a given point in time, and at the same time there is increasing pressure on the availability and reporting of non-financial information by its users. Content relating to pre-defined areas was scored on an absolute scale of 0 to 2. A score of zero indicated absolute non-reporting in that area, whereas a score of two corresponds to a situation where reporting is not only marginal but more sophisticated. Thus, a total of 20 annual reports were analysed.

A **fourth phase** followed, building on the previous phase, and was therefore carried out only for companies in the Czech Republic. The absolute financial ratios of assets, equity, and net profit in 2021 were determined, from which relative ROA and ROE were then calculated. Using Pearson's correlation coefficient r, the total number of reported words (identified in the quantitative analysis for the Czech Republic) was correlated with ROA and ROE. The absolute indicators, and their potential relationship with the total number of words, were evaluated using a graphical representation.

3 RESULTS AND DISCUSSION

3.1 ESG rating of the Visegrad Four (V4) countries

The ten largest companies according to the COFACE database (2022)[2], within each V4 country, have a different ranking compared to other countries and their companies, of which the database considers up to 500. The non-V4 countries and their companies that the database takes into account in the overall ranking are Bulgaria, Croatia, Estonia, Latvia, Romania, Serbia and Slovenia.

The different rankings of the largest companies of a given country in the overall comparison are shown in the following table (Tab.1). The last row shows the average ranking of the companies in a given V4 country. Thus, it can be said that Poland has the largest companies,

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[2] It considers the turnover in 2021.

the Czech Republic comes second, then Hungary and Slovakia have smaller companies compared to the others.

Tab. 1 Ranking of V4 companies by country

	Czech Republic	Slovak Republic	Hungary	Poland Republic
1.	2	8	3	1
2.	6	20	10	4
3.	9	34	11	5
4.	18	38	24	7
5.	22	44	32	12
6.	23	62	46	13
7.	26	107	49	14
8.	28	132	52	16
9.	33	140	56	17
10.	48	144	66	19
AVG	24	80	38	12

Source: own processing according to the COFACE database (2022)

In (Tab. 2) we can observe that each keyword that is tracked in the annual reports in the Czech Republic appears at least 8 times in each year. The areas with the highest number of records are emissions and environment, while the areas of governance and carbon footprint are the least frequent.

In the "relative change" column we see values above 100 percent, indicating an increasing trend in the frequency of the monitored words between 2017 and 2021. The exception is the area of education, which indicates a decrease in the frequency of the monitored keywords between 2017 and 2021, at a relative scale of around 12 percent. In the area of climate change we see the most significant relative change. The absolute biggest change we have seen is in the emissions category, which is the only one to reach triple digits.

Tab. 2 ESG - Quantitative Analysis - Czech Republic

	2017	2019	2021	Relative change	Absolute change
Environment	123	120	155	126 %	32
Social	44	58	73	166 %	29
Governance	10	10	14	140 %	4
Carbon footprint	9	18	50	556 %	41
Emissions	265	378	489	185 %	224
Climate Change	8	48	66	825 %	58
Local community	61	63	70	115 %	9
Working conditions	91	138	165	181 %	74

Education	67	50	59	88 %	-8
Ethics	30	44	64	213 %	34

Source: own processing

The number of words reported based on annual reports and their relative and absolute change in the Slovak Republic is shown in third table (Tab. 3). It is characteristic of the Slovak Republic that each keyword occurs at least 2 times in these reports in the three years under review. The keywords with the highest frequency are emissions, environment and working conditions, while the least frequent areas are climate change and governance. In the relative change column, we can highlight an increasing trend in the occurrence of the monitored words between 2017 and 2021. Between the monitored years, we observed only one decrease in occurrence in the area of working conditions and no change in the keyword education. On the other hand, the word emission shows a significant increase of up to 150 words between the surveyed years.

Tab. 3 ESG - Quantitative Analysis - Slovak Republic

	2017	2019	2021	Relative change	Absolute change
Environment	221	214	276	125 %	55
Social	74	77	95	128 %	21
Governance	17	5	24	141 %	7
Carbon footprint	14	15	78	557 %	64
Emissions	168	226	318	189 %	150
Climate Change	2	10	18	900 %	16
Local community	20	18	38	190 %	18
Working conditions	144	102	135	94 %	-9
Education	97	106	97	100 %	0
Ethics	36	38	40	111 %	4

Source: own processing

Table 4 (Tab.4) shows the results of the quantitative analysis for Hungary. An important finding is that the word governance does not appear at all in the annual reports of the years under review. This fact can be explained by the fact that it is a foreign concept that does not have an adequate translation in the Hungarian language. Zero occurrence can also be noted in the area of ethics, which only received a passing mention in 2019. However, most areas score relatively low, with the exception of the areas of environment, emissions and carbon footprint. This is confirmed by the absolute change column, where these three key areas have seen double-digit changes in the number of words mentioned. In the relative change column between 2017 and 2021, the most significant changes can be seen in the areas of climate change, carbon footprint and local community. Mentions, in the social domain, only started to become noticeable with the 2021 year.

Tab. 4 ESG - Quantitative Analysis - Hungary

	2017	2019	2021	Relative change	Absolute change
Environment	83	99	164	198 %	81
Social	0	0	4	x	4
Governance	0	0	0	0 %	0
Carbon footprint	24	31	60	250 %	36
Emissions	60	73	112	187 %	52
Climate Change	2	2	6	300 %	4
Local community	5	10	13	260 %	8
Working conditions	4	2	7	175 %	3
Education	9	6	12	133 %	3
Ethics	0	2	0	0 %	0

Source: own processing

Table 5 (Tab. 5) shows the results of the quantitative analysis of the Republic of Poland, the last V4 country monitored. All keywords have a high number of occurrences in the annual reports, with most of the occurrences reaching triple digits. The exceptions are keywords such as governance, carbon footprint and working conditions, which show a lower number of occurrences. The relative change indicates a significant upward trend in the reporting of non-financial information. The largest relative change was recorded in the area of carbon footprint, followed by climate change. In the case of absolute change, the most significant changes can be observed for the words emissions, environment, and climate change.

Tab. 5 ESG - Quantitative Analysis - Republic of Poland

	2017	2019	2021	Relative change	Absolute change
Environment	251	454	950	378 %	699
Social	62	104	215	347 %	153
Governance	20	4	59	295 %	39
Carbon footprint	1	19	49	4900 %	48
Emissions	224	570	1099	491 %	875
Climate Change	19	77	571	3005 %	552
Local community	103	202	284	276 %	181
Working conditions	14	35	57	407 %	43
Education	80	174	193	241 %	113
Ethics	58	113	255	440 %	197

Source: own processing

Based on the results of the quantitative analysis, for all V4 countries, a particularly positive trend in the growth of reporting of non-financial information can be observed. Significant changes in the number of reported words are observed especially in the Republic of Poland, which also has the highest total number of reported words. In contrast, Hungary ranks last among the V4 countries in the quantitative analysis. In this case, only some areas are reported, and some areas are not reported at all.

3.2 ESG rating of the Czech Republic

For 2017 and 2021, a qualitative analysis was conducted for companies in **the Czech Republic** to assess the quality of reporting of non-financial information in five areas. It is important to note that additional specific criteria were set for these areas. On the basis of Table 6 (Tab. 6), it can be concluded that in the areas of charitable activities, investment in innovation and employee discounts on products, there was no significant improvement in the quality of reporting in the period under review. The most significant improvement can be observed in the adoption of commitments under the Paris Climate Agreement, followed by the area of the Code of Conduct in relation to respect for human rights. At the same time, the highest quality reporting is observed in reducing negative environmental impacts, with only a slight improvement in this area over the years under review. Based on these findings, it can be concluded that there has been a gradual improvement in the quality of reporting over time.

Tab. 6 Overall ESG scores - qualitative analysis of companies in the Czech Republic

Non-financial reporting areas		Total points		Absolute change
		2017	2021	
Environment	reducing the negative impact on the environment	14	16	2
	limiting investment in the coal sector	2	6	4
	making a commitment under the Paris Climate Agreement	0	7	7
	motivating employees to protect nature	5	7	2
Social issues	educational courses and awareness-raising	5	6	1
	charity work	9	9	0
	investment in innovation	9	9	0
	motivating employees to charitable and volunteer activities	6	7	1
Employees	education of employees	10	11	1
	employee discounts on products	0	0	0
	employee benefits	9	11	2
Respect for human rights	code of ethics	10	15	5
	zero tolerance for discrimination	5	9	4
	support for the inclusion programme for disadvantaged people	3	5	2
Fight against corruption and bribery	ethical code of conduct	7	8	1
	employee training	4	6	2
	implementation of the EP Regulation	2	4	2

Source: own processing

The following table (Tab. 7) statistically analyses the companies in the Czech Republic. The second column of the table shows the summation number of the number of reported keywords relevant for non-financial reporting of the company. The third to fourth columns show the financial indicators, which are then used to obtain the relative indicators in the sixth and seventh columns. The indicator ROA expresses the return on assets of the company and the indicator ROE the return on equity of the company. The values of 0,14 and 0,26, shown in the last row of the table, express the correlation between the independent matrix of values, which is the total number of words reported (column two), and the dependent matrix of values, which is the respective relative indicator (columns six and seven).

Using Pearson's correlation coefficient r, we can say that there is no dependence between how much (quantitatively) companies in the Czech Republic report keywords and the relative profitability indicators of a given company.

**Tab. 7 Correlation analysis of companies in the Czech Republic[3]**

	Total number of words 2021	Assets	Equity	Net profit	ROA	ROE
ŠKODA AUTO A.S.	214	231 463	101 528	22 410	9,68 %	22,07 %
EP COMMODITIES, A.S.	48	151 813	3 787	1 860	1,23 %	49,12 %
RWE SUPPLY & TRADING CZ, A.S.	13	252 751	1 435	4 918	-1,95 %	-342,72 %
HYUNDAI MOTOR MANUFACTUR-IN CZECH S.R.O.	54	82 486	47 895	8 908	10,80 %	18,60 %
ORLEN UNIPETROL RPA S.R.O.	65	98 532	46 905	2 905	2,95 %	6,19 %
ČEZ, A. S.	585	1 110 890	116 428	4 407	0,40 %	3,79 %
ALPIQ ENERGY SE	14	36 359	2 465	2 658	-7,31 %	-107,83 %
MND A.S.	60	30 548	5 706	283	-0,93 %	-4,96 %
OTE, A.S.	106	27 041	1 089	235	0,87 %	21,58 %
FOXCONN CZ S.R.O.	46	37 367	4 631	282	-0,75 %	-6,09 %
PEARSON'S CORRELATION COEFFICIENT r					**0,14**	**0,26**

Source: own processing

Tab. 7 is followed by a graphical representation of the absolute financial asset and equity values that were used to calculate the relative ratios (ROA and ROE). Presented below (Fig. 1). According to it, it can be concluded that there is a dependence between the values achieved by companies in the Czech Republic within the static balance sheet indicators and the extent to which they mention individual keywords in their non-financial reports.

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[3] Financial data in million CZK.

Fig. 1 Relationship between financial indicators and total number of keywords reported
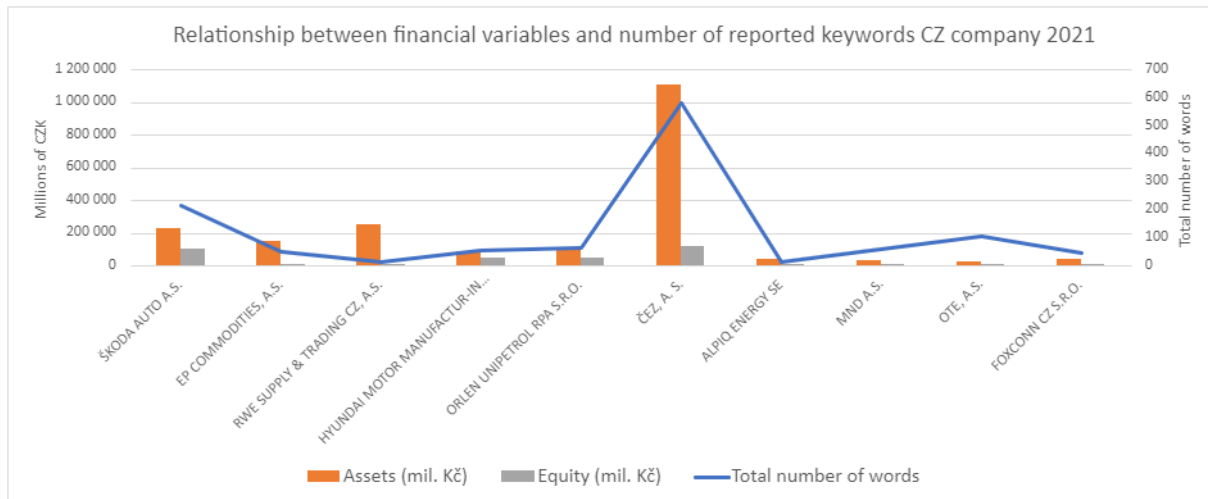
Source: own processing

CONCLUSION

The aim of the research was to analyse annual reports, which potentially contain data on companies' activities, in the area of non-financial information. In this context, to assess whether there has been an increase or decrease in the frequency of reporting over the years on the basis of predefined keywords and to assess the quality of this data being published.

The analysis shows that the largest absolute change in the frequency of relevant words in non-financial reporting areas is in the area of emissions, which is confirmed in the Czech, Slovak and Polish Republics. In Hungary, the largest absolute change is identified in the area of environment. However, both areas (environment and emissions) have over the years, in all V4 countries, reached some of the highest frequencies in reporting. In the area of working conditions, the smallest absolute change over the years has been recorded in all countries except the Czech Republic. However, it should be noted that this does not imply a lower quality or a lack of shift, as a high number of occurrences can be found in this area over the years, which may potentially already be sufficient. The area of governance reaches some of the lowest values in each year, with Hungary (Tab. 4) having zero values and the other V4 countries reaching values which, given the complexity of this area[4], can be said to be low. The most significant changes, both relative and absolute, were clearly recorded in the Republic of Poland (Tab. 5). In contrast, non-financial reporting is the least comprehensive in Hungary (Tab. 4). The results of the qualitative analysis (Tab. 6) show a gradual increase in the quality of the reported information of the monitored Czech companies over time. The area of reducing negative environmental impacts shows the highest quality of reporting. The results of the dependency analysis between profitability indicators and the level of quality of reporting of key ESG information by companies in the Czech Republic show that there is no proven dependency between these indicators (Tab. 7).

The limitations of the research can be seen in the potentially small sample of companies analyzed in each country. Given the situation where only a small number of companies are subject to mandatory reporting of this information and the reporting methodology is not clearly established, the sample of companies analyzed can be considered relevant. As far as the quality assessment is concerned, it may reach subjective conclusions, but the research was

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[4] This is a difficult area for companies to grasp.

carried out with a view to being systematic and objective. A limitation in the research may be the analysis of companies from different sectors; however, on the other hand, a cross-section of different sectors is more suitable for generalization.

Future research could pay attention to the reporting of non-financial information based on the European Standards (ESRS) developed by EFRAG. In addition, reporting in selected sectors, in line with ESRB sectoral standards.

The research results and expected future developments point to a gradual improvement in the quality of non-financial information with increasing systematicity and clarity within individual reports. However, we expect that in the coming years there will be an increasing quantity of reporting on key words and areas, which does not necessarily mean increasing quality. Gradually, we expect a change in trend that will mean increasing quality at the expense of increasing quantity, which we consider to be a desirable state of affairs. We also expect this information to be more easily accessible, via websites, and for the reporting to be gradually harmonized across EU countries.

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REFERENCES

Bewley, K., & Li, Y. (2000). Disclosure of environmental information by Canadian manufacturing companies: A voluntary disclosure perspective. *Advances in Environmental Accounting and Management, 1*, 201-226. https://www.emerald.com/insight/content/doi/10.1016/S1479-3598(00)01011-6/full/html

Coface CEE top 500 ranking. (2022). Retrieved May 10, 2023, from https://biz.coface.com/CEETop500LPCZ2022

Dando, N., & Swift, T. (2003). Transparency and assurance minding the credibility gap. *Journal of Business Ethics, 44*(2/3), 195-200. https://www.jstor.org/stable/25075028

Darnall, N., et al. (2022). Do ESG reporting guidelines and verifications enhance firms' information disclosure? *Corporate Social Responsibility and Environmental Management, 29*(5), 1214-1230. https://onlinelibrary.wiley.com/doi/epdf/10.1002/csr.2265

Deloitte. (2023). *Poradenské služby v oblasti udržitelného rozvoje*. Retrieved May 10, 2023, from https://www2.deloitte.com/cz/cs/pages/risk/solutions/poradenstvi-v-oblasti-udrzitelneho-rozvoje.html?icid=nav2_poradenstvi-v-oblasti-udrzitelneho-rozvoje.

EY. (2022). Směrnice EU o zprávách o udržitelnosti (CSRD). Retrieved May 10, 2023, from https://assets.ey.com/content/dam/ey-sites/ey-com/cs_cz/noindex/sustainability/ey-28-11-2022-ey-smernice-eu-o-zpravach-o-udrzitelnosti.pdf.

Finalizace pravidel ESG reportingu v EU: přijetí CSRD a dokončení prvního setu závazných standard | Frank Bold Advisory. (2023). Retrieved January 29, 2024, from https://www.frankboldadvisory.cz/post/finalizace-pravidel-esg-reportingu-v-eu-prijeti-csrd-a-dokonceni-prvniho-setu-zavaznych-

standardu?_gl=1*12gr6hf*up*MQ..&gclid=Cj0KCQiAgaGgBhC8ARIsAAAyLfFZDaLsuhaznmg7
gGVieabpT3XCHa20fWSfhFBn0Ut3sc6hZw-0fQIaAonREALw_wcB

Glaserova, J., Otavova, M., & Blazkova, J. (2024). Non-Financial Reporting by Banks in the Context of Current Development. *Montenegrin Journal of Economics, 20*(2), 121-134. https://mnje.com/sites/mnje.com/files/currentissue/Komplet%20MNJE%20Vol.%2020,%20No.%202.pdf

Hahn, R., et al. (2021). Legitimation strategies as valuable signals in nonfinancial reporting? Effects on investor decision-making. *Business & Society, 60*(4), 943-978. https://www.researchgate.net/publication/335520581_Legitimation_Strategies_as_Valuable_Signals_in_Nonfinancial_Reporting_Effects_on_Investor_Decision-Making

Jílková, L., & Knihová, P. (2022). ESG faktory jako součást CSR v rámci holistického pojetí nefinančního reportingu. *Vědecký časopis FINANČNÉ TRHY, 2022*(2). https://www.derivat.sk/files/casopis2022/FT_2_2022_Knihova,Jilkova_ESG%20faktory%20jako%20sou.pdf

KACR. (2023). Zveřejňování informací o udržitelnosti v souladu se směrnicí CSRD. Retrieved January 29, 2024, from https://www.kacr.cz/zverejnovani-informaci-o-udrzitelnosti-v-souladu-se-smernici-csrd.

Kassinis, G., & Panayiotou, A. V. (2018). Visuality as greenwashing: The case of BP and Deepwater horizon. *Organization & Environment, 31*(1), 25-47. https://www.jstor.org/stable/26408352

KPMG. (2023). *ESG služby a udržitelnost*. Retrieved May 10, 2023, from https://kpmg.com/cz/cs/home/sluzby/poradenske-sluzby/risk-consulting/esg-slu-by.html

Kubcová, H., & Tittelbach, V. (2023). ESG Reporting: nová výzva? *Finanční, daňový a účetní bulletin, 2023*(3). https://www.dauc.cz/clanky/12135/esg-reporting-nova-vyzva

La Torre, M., et al. (2020). Does the esg index affect stock return? Evidence from the Eurostoxx50. *Sustainability, 12*(6). https://www.mdpi.com/2071-1050/12/16/6387

Lenox, M. J., & Nash, J. (2003). Industry self-regulation and adverse selection: A comparison across four trade association programs. *Business Strategy and the Environment, 12*(6), 343-356. https://onlinelibrary.wiley.com/doi/10.1002/bse.380

Michelon, G., et al. (2015). CSR reporting practices and the quality of disclosure: An empirical analysis. *Critical Perspectives on Accounting, 33*, 59-78. https://www.sciencedirect.com/science/article/abs/pii/S1045235414001051?via%3Dihub

Minutiello, V., & Tettamanzi, P. (2021). The quality of nonfinancial voluntary disclosure: A systematic literature network analysis on sustainability reporting and integrated reporting. *Corporate Social Responsibility and Environmental Management, 29*(1), 1-18. https://doi.org/10.1002/ csr.2195

Otavova, M., Glaserova, J., & Hasikova, I. (2023). Social Responsibility for Insurance Companies. *Montenegrin Journal of Economics, 19*(2), 129-140. https://mnje.com/sites/mnje.com/files/v19n2/129-140%20-%20Otavova%20et%20al..pdf

Plumlee, M., et al. (2015). Voluntary environmental disclosure quality and firm value: Further evidence. *Journal of Accounting and Public Policy, 34*(4), 336-361. https://www.sciencedirect.com/science/article/abs/pii/S0278425415000320

PWC. (2023). Udržitelnost a klimatická změna (ESG). Retrieved March 29, 2023, from https://www.pwc.com/cz/cs/sluzby/sustainability/esg-strategie.html.

The Influence of Emotional Marketing and Corporate Social Responsibility on Consumer Behaviour: A Big Data Perspective. A systematic review.

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Abstract: This paper explores the integration of corporate social responsibility (CSR) within the framework of emotional marketing to influence consumer behaviour and perceptions. Leveraging big data and digital technology, the study emphasizes CSR's role as a pivotal element in shaping consumer connections through targeted emotional engagement. By analysing theoretical and empirical sources, the paper categorizes CSR impacts into gratitude and identity dimensions, illustrating how they foster consumer loyalty and advocacy. The methodology combines literature review and network analysis to assess CSR's influence on consumer emotions and decision-making processes. The research results reveal that CSR, when effectively communicated, enhances corporate image and stakeholder engagement, influencing consumer behaviour positively. The research paper argues for the strategic alignment of CSR initiatives with consumer expectations, facilitated by digital advancements that enhance transparency and interaction. It concludes by highlighting the need for future research focused on the nuanced responses of different consumer segments to CSR activities, aiming for a more inclusive understanding of CSR's impact in the emotional marketing.

Keywords: corporate social responsibility, big data, consumer behaviour, emotional marketing, systematic review

JEL Classification codes: M14; D11

INTRODUCTION

In the age of Internet and social media, any action taken by a company that disrupts public social order has the potential to be magnified by online users, leading to an instant online uproar. As a result, it is crucial for companies to focus on "pre-emptive management" in their crisis response strategy. This approach enables them to promptly detect isolated instances of negative information, receive early warnings about potential crises at their nascent stage, gain valuable insights into public sentiment trends, and craft more scientific and precise responses.

Apart from gaining a comprehensive understanding of public opinion big data and developing effective analytical models, companies must also demonstrate a keen sense of social responsibility. While striving for economic growth and innovation, enterprises should not solely

rely on big data to understand their users but should also prioritize the emotional needs of consumers and align with the prevailing values of the public. By leveraging big data, companies can enhance their awareness of corporate social responsibility (CSR).

The ongoing utilization of big data in business transformation is an iterative process that involves continuously gaining insights into consumer behaviour and public expectations. Throughout this process, companies need to constantly adjust their cognitive structure, aiming not only to achieve performance targets but also to consistently meet the evolving expectations of users and society. By doing so, they can sustain their performance while remaining attuned to the needs and aspirations of their stakeholders.

Companies that possess a strong commitment to social responsibility can effectively utilize CSR and Consumer Emotional Marketing strategies to attract consumers and secure a lasting market share. CSR is no longer just an accessory to commercial interests or a reactive response to external demands; it has become a fundamental element of corporate competitiveness and a proactive pursuit of long-term goals.

Operating a strategic planning process in an uncertain, volatile, and dynamic business environment poses significant challenges. It necessitates establishing a collaborative partnership among various stakeholders, including inter-organizational actors. Social media plays a crucial role in integrating resources, while corporate social responsibility (CSR) helps in building relationships and reinforcing trust (Bowen et al., 2020). López-Fernández and Silva (2021) conducted an analysis using big data retrieved from Twitter, focusing on five companies that have initiated efforts towards social responsibility but are yet to gain stakeholders' recognition through engagement in CSR. Their study contributes to understanding the impact of firm dynamics, whether embracing CSR or lacking it, on social networking platforms, as observed through big data analysis. Barbeito-Caamaño and Chalmeta (2020) present an alternative approach for assessing sustainable development and corporate social responsibility (CSR) practices by examining the perspectives of stakeholders expressed on Twitter. Through the analysis of big data, valuable insights regarding CSR practices and stakeholders' opinions can be derived from online social networks, enabling a better understanding of these aspects. These findings offer advantages for both stakeholders and the firm. Stakeholders will gain a more objective understanding of a firm's CSR practices, while the firm itself will be able to enhance its CSR performance, refine its communication strategy, and foster stronger stakeholder engagement.

The significance of effectively communicating corporate social responsibility (CSR) initiatives, such as employee engagement, community involvement, environmental efforts, and stakeholder relations, to attract job applicants is increasingly acknowledged by companies. Jakob et al. (2021) conducted a study where they analyzed 67,189 posts published on the career pages of 58 Fortune 500 companies on Facebook, spanning from the inception of their respective career pages until June 2018. The findings indicate that when a company exhibits low CSR performance, the impact of CSR communication on organizational attractiveness is heightened. Consequently, inconsistencies between CSR communication and actual CSR performance appear to result in positive evaluations from prospective applicants.

Emotional marketing is a strategic approach that effectively taps into universal human emotions during marketing activities to establish a deeper connection between brands, products, and consumers. Any marketing endeavor that successfully captures, leverages, and evokes positive emotions in consumers falls under the umbrella of emotional marketing. The concept of socially responsible marketing is often considered an extension of corporate social responsibility (CSR). Acknowledging that CSR initiatives have an impact on various stakeholders, including customers, CSR is advocated as a business model that enables companies to engage in self-regulation.

Currently, big data technology not only facilitates the growth and visibility of businesses but also brings greater transparency to the image of corporate social responsibility (CSR). As a result, CSR has garnered increased attention from consumers. While it may appear that CSR does not directly impact the "price" and "product" aspects that consumers typically prioritize, psychological and behavioral perspectives shed light on this phenomenon through the lens of emotional marketing theory. Emotional marketing emphasizes that emotions serve as a connecting bridge between CSR and consumers, influencing their perceptions and behaviors.

Fig.1 highlights the areas of overlap between digital technology, big data, and corporate social responsibility (CSR), showing how each contributes uniquely and collectively to influencing consumer behavior. It illustrates the distinctive contributions of digital technology (innovative solutions), big data (predictive analytics), and CSR (sustainable practices) to consumer behavior. The diagram also highlights the combined effects of these elements, such as enhanced targeting (digital technology + big data), efficient operations (digital technology + CSR), market insights (big data + CSR), and how together they form an integrated strategy to influence consumer behavior. This visual representation emphasizes the synergy between these three domains in shaping consumer engagement and behavior.

Fig. 1 Digital Technology, Big Data, and Corporate Social Responsibility in Consumer Behaviour
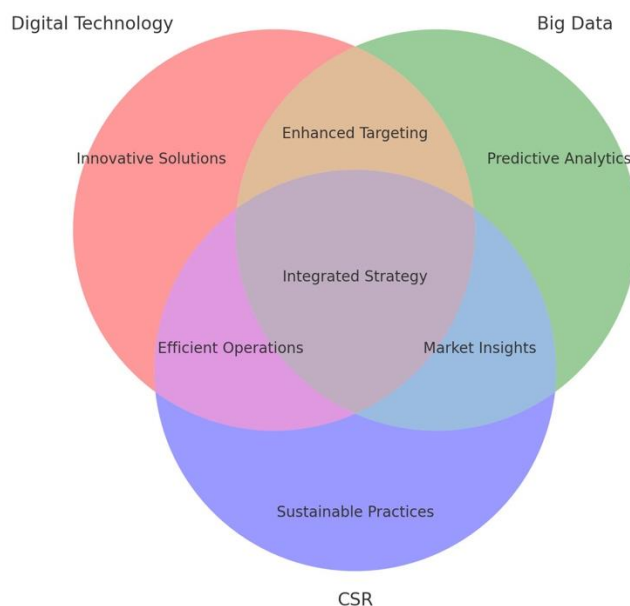
Source: own elaboration

In the subsequent sections, this paper will initially delve into the interpretation of emotional marketing theory in relation to the connection between CSR and consumer relationships. Drawing from the principles of emotional marketing theory, it posits that CSR is an integral component of emotional marketing, establishing a bond with consumers through targeted emotions. Additionally, this paper will review and analyze the existing literature on the topic. By focusing on the overarching theme of feelings and emotions, it will categorize the current decentralized theories on CSR and emotional marketing into gratitude and identity. Furthermore, it will explore the specific interplay between social responsibility and emotional marketing within these subcategories.

This paper makes several significant research contributions. Firstly, it underscores the significance of corporate social responsibility (CSR) within the framework of emotional marketing theory. By leveraging emotional marketing strategies, CSR can enhance the marketing efforts of enterprises. Secondly, this paper systematically categorizes and classifies the existing fragmented literature on the topic. Building upon the majority of research in the realm of CSR and emotional marketing, it highlights that the specific emotional connection between consumers and CSR revolves around gratitude and identity. Lastly, this paper concludes by discussing the future research direction in this field, outlining potential areas for further exploration.

1 LITERATURE REVIEW

The integration of digital technology and big data has significantly reshaped the dynamics of corporate social responsibility (CSR) and consumer behavior in the current digital age. This evolution is primarily driven by the unprecedented access companies now have to vast datasets, enabling a deeper understanding of consumer preferences and behaviors (Smith & Langford, 2009; Chandra & Verma, 2021). The advent of digital platforms has facilitated more effective communication of CSR initiatives, fostering engagement with consumers across a variety of online environments. Such developments have heightened the emphasis on transparency and accountability, empowering consumers to readily obtain information about a company's CSR efforts and assess their social and environmental contributions.

Moreover, the fusion of digital technology with big data has granted businesses the capability to customize their CSR strategies, targeting specific segments of the consumer population more efficiently. This approach has not only augmented consumer awareness and transparency regarding CSR activities but has also refined the evaluation processes consumers use to judge these efforts. The shift towards data-driven decision-making enables corporations to synchronize their CSR endeavours with consumer expectations and preferences, thereby positively influencing consumer behaviour and enhancing brand reputation (Puriwat & Tripopsakul, 2021; Sen et al., 2016). Shao et al. (2022) underscore the critical role of big data in amplifying CSR awareness and transparency among consumers and how diverse CSR practices affect various consumer segments, emphasizing the necessity for a nuanced understanding of digital tools in CSR communication (Shao et al.). This perspective is complemented by Paricahua et al. (2023), who delve into the potential of digitization to refine CSR metrics, suggesting that leveraging big data analytics could significantly enhance the evaluation and reporting of sustainable practices (Paricahua et al.,2023).

The distinction between corporate digital responsibility (CDR) and traditional CSR is critically analyzed by Li and Zhu (2021). They argue for a comprehensive approach towards digital impacts on stakeholders, outlining essential considerations for businesses in the era of digital transformation (Li and Zhu). Ethical dimensions of big data usage in marketing strategies, particularly within Brazilian enterprises, are scrutinized by Kuazaqui (2020), who stresses the importance of ethical conduct in the collection and application of digital marketing strategies. An empirical evaluation of consumer preferences towards CDR activities by Carl et al. (2023) reveals a halo effect associated with data privacy and security initiatives, underscoring the demand for a holistic approach to digital responsibilities and the segmentation of consumer preferences in the digital age (Carl et al.).
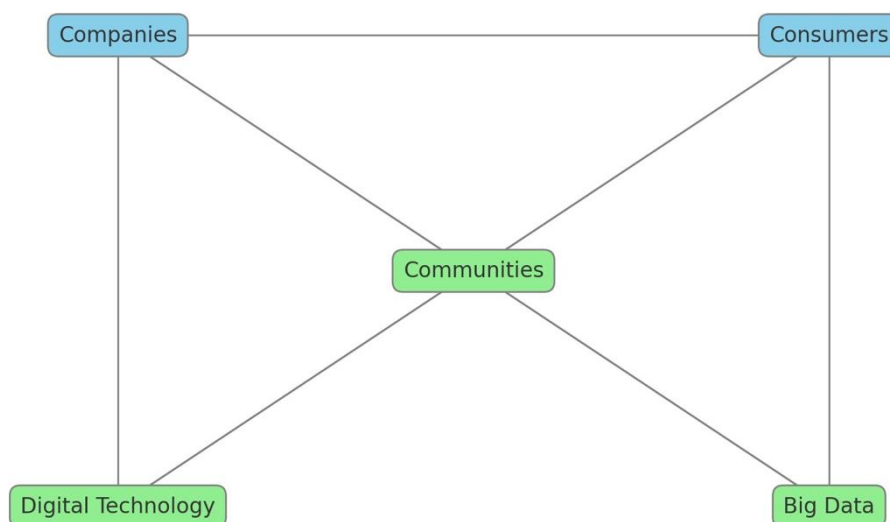
The application of digital technology and big data in CSR strategies has revolutionized how companies engage with and understand consumer behavior. It has provided the tools needed for more personalized, transparent, and accountable CSR practices, allowing for a stronger alignment with consumer expectations. This alignment leads to a more impactful and targeted approach to CSR, which not only benefits consumers but also contributes to the overall

strengthening of a brand's reputation in the market. The digital transformation in CSR is pivotal for companies aiming to navigate the complexities of modern consumer expectations and behaviours, underlining the critical role of technology and data in shaping the future of corporate social responsibility.

2   METHODOLOGY

This research examines the interconnectedness of emotional marketing, corporate social responsibility (CSR), and consumers through the following avenues. Firstly, it delves into the influence of CSR as a crucial element of emotional marketing on consumers' psychology, emotions, identity, value judgments, and decision-making. Specifically, it explores the impact relationship between CSR and emotional marketing from the perspective of consumers' perception and response. Secondly, by drawing upon the concept of emotion, the existing decentralized theories on CSR and emotional marketing are categorized into two dimensions: gratitude and identity. The methodology of our research could illustrate by Fig. 2 and gives more understanding how companies interact with both consumers and communities, and how digital technology and big data serve as pivotal tools in enhancing these interactions.

Fig.2 Interaction within the CSR Ecosystem

Source: own elaboration

The Network Diagram visualizes the network of interactions between companies, consumers, and communities within the CSR ecosystem, highlighting how digital technology and big data facilitate these relationships. Our research underscores the role of digital technology and big data in enabling companies to better understand and engage with their stakeholders, thereby fostering a more connected and responsive CSR ecosystem. The paper further investigates the perceived relationship between consumers and CSR based on these dimensions of gratitude and identity.

3 RESULTS AND DISCUSSION

3.1 Perception of Corporate Social Responsibility through Emotional Marketing

The relevance of emotional marketing to corporate social responsibility (CSR) lies in bridging the connection between "CSR" and "consumers," thereby integrating CSR as a marketing factor. Consoli and Patrut (2010) highlighted that emotional marketing investigates methods of stimulating people's emotions and compelling them to purchase specific products or services. Moreover, Consoli and Patrut (2010) explained the link between CSR and Consumer Emotional Marketing, emphasizing that emotions encompass psychological and physiological states associated with various feelings, thoughts, and internal (physical) or external (social) behaviours.

Human emotions and cognition are intricately interconnected, with emotions playing a vital role in shaping social behaviour. Emotions have the power to stimulate cognitive processes and influence decision-making strategies. Recent studies have demonstrated that purchasing choices and decisions, which are social actions, emerge from a thoughtful blend of rational analysis and emotional considerations.

Furthermore, the field of psychology acknowledges that emotional states have an impact on every stage of the decision-making process when it comes to purchasing. As such, emotions play a pivotal role in any decision-making process, whether in social or business contexts. According to Consoli and Patrut (2010), customer purchase decisions are motivated by two distinct needs: functional needs that are fulfilled by the product's practical features, and emotional needs that relate to the psychological aspects of owning the product.

In an increasingly saturated market, consumer desires hold greater significance compared to traditional factors like supply and demand that traditionally determine marketing outcomes. In this scenario, factors such as mentality, emotion, and compassion take center stage. Alongside quality and price, consumers also seek intangible factors such as trust, love, and aspirations. As a result, the principle of consumer pleasure has gained prominence, making emotions increasingly crucial. Consequently, products should not only fulfil consumers' functional needs but also evoke the desired emotions. Roberts (2004) and Thompson et al. (2006) affirmed that certain brands have successfully employed emotional marketing strategies, centered around the consumer, establishing deep and long-lasting emotional connections between consumers and brands. When consumers develop an emotional attachment to CSR activities, emotional marketing serves as the link between CSR and consumers.

Emotional marketing relies heavily on corporate social responsibility (CSR) as it offers consumers three distinct forms of value: emotional value, social value, and functional value. Each of these values contributes to the overall proposition that consumers perceive. Wisker et al. (2019) conducted an analysis of Airbnb, a prominent big data e-commerce platform, and revealed that the CSR information of hosts significantly influences consumers' purchase intentions. Consumers exhibit a preference for socially responsible hosts. This preference arises from the understanding that companies practicing CSR can enhance their reputation, leading to the attraction and retention of customers over the long term, thereby improving the overall performance of the company (Romani et al., 2013).

Moreover, Aaker (2004), Marin et al. (2009), Skinner et al. (2010), Dennis et al. (2016), and Xie et al. (2019) have examined the diverse functions of CSR within emotional marketing. On one hand, CSR can serve as a powerful tool in emotional marketing, enabling companies to compete and sustain a competitive advantage in the dynamic and fiercely competitive contemporary business environment.

In such instances, a strong corporate image yields both emotional and functional advantages as it fosters customer loyalty and generates a sense of attachment and emotional connection. Bhattacharya and Sen (2003) illustrate this by using the higher education industry as an example. When a university attains a high ranking in the academic hierarchy, its stakeholders perceive it as a leading institution within the field. When students or parents perceive a university to be of high quality based on its ranking, they tend to develop a more positive attitude towards the institution. This positive perception can translate into increased confidence and active engagement in various projects or learning endeavors. Similarly, universities that actively contribute to solving local community issues, offer financial support to students during the COVID-19 pandemic, or engage in volunteer programs establish emotional connections with their stakeholders. Consequently, within the higher education context, when stakeholders believe in the university's strong corporate image, they are more likely to develop an emotional attachment to the establishment.

Conversely, CSR poses a new and expanding financial risk factor. Ogrizek (2002) highlighted that if a company is poorly managed, it risks significant damage to its reputation, directly impacting its business and financial performance. Brown and Dacin (1997), Sen and Bhattacharya (2001) underscored that numerous empirical studies have demonstrated the positive impact of CSR initiatives on consumers' evaluation and perception of a company. These mediating factors subsequently influence consumer behavior, leading to favorable outcomes such as loyalty, positive word-of-mouth, and emotional attachment.

In summary, the preceding discussions emphasize the significance of corporate social responsibility (CSR). CSR plays a progressively vital role in marketing and is considered an integral component of emotional marketing theory. This research paper categorizes the arguments found in the current literature into two categories: gratitude and identity. The subsequent section explores these emotional connections between consumers and CSR in greater detail.

3.2 Corporate Social Responsibility and Emotional Marketing: Cultivating a Sense of Thankfulness

The sustainable longevity of an enterprise relies on the backing of its stakeholders. To garner support and earn recognition, companies must adapt their behavior accordingly. In doing so, they respond to the demands set forth by diverse pressure groups and stakeholders, taking action to address societal issues—this is known as social responsibility. It is worth noting that the relationship between a company's contribution to social welfare and individual moral values can evoke gratitude towards these enterprises. According to ancient Greek philosophy, the inclination to reciprocate good deeds stems from a predisposition to affirm altruistic values and acknowledge the source of thankfulness.

According to the definition provided by McCullough et al. (2001), gratitude is a positive emotion that arises when an individual acknowledges and appreciates the intentional and considerate actions bestowed upon them by another person.

Bartlett and DeSteno (2006) asserted that gratitude plays a crucial role in fostering social connections by facilitating reciprocal and prosocial behaviors between individuals who benefit from the actions of others. Gratitude tends to emerge when individuals perceive themselves as beneficiaries of prosocial acts. The highest level of gratitude is typically experienced when people recognize that the actions of a philanthropist have positively impacted their lives.

By examining the dynamics at play, it becomes evident that corporate social responsibility (CSR) facilitates the cultivation of a reciprocal relationship based on gratitude between consumers and enterprises. Typically, CSR initiatives garner a positive reputation among

consumers and elevate their expectations for engaging in advocacy behaviors. In the consumer-enterprise relationship, when enterprises prioritize enhancing consumer welfare through actions like charitable endeavors, a sense of gratitude is fostered. This, in turn, strengthens consumers' commitment to the enterprise, prompting reciprocal behaviors rooted in gratitude (Morales, 2005; Palmatier et al., 2009). This implies that when a business allocates resources for the betterment of consumers, it can evoke a sense of gratitude from consumers. As a result, consumers may reciprocate by demonstrating increased trust and commitment towards the organization (Park et al., 2016). Consequently, consumers' gratitude and their subsequent inclination for reciprocation contribute to their commitment to enterprises. This effect is particularly pronounced among individuals with a strong capacity for empathy, as noted by Xie et al. (2019). Individuals with higher levels of empathy are more inclined to provide feedback and respond positively under the influence of gratitude compared to those with lower levels of empathy.

Thankfulness towards corporate social responsibility (CSR) initiatives, on one hand, motivates consumers to provide more valuable feedback to enterprises. Research conducted by Grappi et al. (2013) reveals that consumers display a greater willingness to offer positive feedback regarding the CSR activities of proactive companies. For instance, they are more inclined to explore a wider range of products offered by the company and share their experiences on various social media platforms. In addition, gratitude plays a regulatory role in shaping consumers' responses towards CSR-related emotions. This can manifest in various ways, such as positive word-of-mouth, resilience against negative information, acknowledgment of the company, and investment in the company (Xie et al., 2019). However, it is important to note that not all instances of CSR elicit a sense of thankfulness from stakeholders. Using donation as an example, we can observe that the perception of corporate donation's underlying motivation plays a crucial role in its effectiveness as a CSR initiative. When consumers perceive that the motivation behind a donation is driven by self-interest, it fails to enhance the corporate image. While unconditional donations may help irresponsible enterprises regain some reputation, they have limited impact on fostering customer relationships. On the other hand, for regular enterprises, a utilitarian donation aimed at increasing profitability is perceived as such by the public, thus having minimal effect on maintaining customer relations.

Also, corporate social responsibility helps mitigate retaliatory behavior from consumers in response to product failures (Dionisio et al., 2024). This is because the gratitude evoked by CSR initiatives encourages consumers to reduce their inclination towards retaliatory actions. Kim and Park (2020) further emphasize that the buffer effect is more pronounced when there is a higher level of CSR performance, such as greater public recognition of CSR efforts or higher frequency of CSR initiatives. The attitude of the company also serves as a mediator in this process. Notably, subsequent model analysis reveals that the attitude of the company continues to inspire consumer gratitude (Xie et al., 2019). The feedback provided by companies to society and the gratitude expressed by consumers form a dual social response between business and consumers.

3.3 Corporate Social Responsibility and Emotional Marketing: Exploring of recognition.

The concept of identity was initially conceptualized within the realms of social psychology and organizational behavior, addressing the requirements of social identification and self-definition. Subsequently, research has demonstrated that identity plays a significant role in regulating the influence of perceived corporate identity on product utilization (Ahearne et al., 2005) and loyalty (Mael and Ashforth, 1992).

In practice, corporate social responsibility (CSR) is an exceptionally effective tool for corporate marketing. When implemented effectively, it has the potential to establish a robust and enduring bond based on identity between the company and its significant stakeholders from various backgrounds. Furthermore, by facilitating internal communication and involving employees in CSR initiatives, managers can successfully align the perceived corporate identity by external stakeholders with the perceived identity held by internal stakeholders. This promotes consistency and coherence between internal and external perceptions of the company.

To begin with, companies can enhance their moral identity and promote the utilization of CSR products. Moral identity pertains to the self-schema organized around a set of moral attributes, such as caring for others, compassion, fairness, friendliness, generosity, helpfulness, diligence, honesty, and kindness (Aquino and Reed, 2002). Reed et al. (2007) suggest that companies can evoke consumers' moral identity through their promotional activities, such as emphasizing the moral significance of their career-related endeavors. Previous research has demonstrated that consumers' moral identity can be temporarily stimulated or enhanced through exercises and stimuli related to morality.

Hence, one crucial aspect of purchasing a brand-related product for marketing reasons is its influence on how consumers perceive their own moral identity. Additionally, it is important to highlight the findings of Sheikh and Beise-Zee (2011) and Vitell (2015), who specifically point out that given the likelihood of inconsistencies in consumers' understanding of identity, different CSR activities yield varying emotional marketing effects on different individuals. While positive CSR efforts have a favorable impact on customer attitudes, their influence is more pronounced among "customers with high causality" (Sheikh and Beise-Zee, 2011). For certain products, CSR primarily serves to stimulate the recognition of values among interested consumers.

If consumers do not have a direct stake in a company's activities, corporate social responsibility might not significantly impact marketing efforts. For instance, while consumers generally express a preference for environmentally friendly products, they may prioritize personal financial savings over the ethical aspect of "buying green products" when the cost of such products becomes prohibitively high. From an individual perspective, the perceived ethicality of saving money may outweigh the desire for green products.

Moreover, Vitell (2015) highlighted consumers' responses to "unethical behavior," which refers to immoral or negative corporate social responsibility (CSR) practices. It was discovered that the company's lack of accountability significantly mediates consumers' negative emotions, serving as a strong mediator in influencing their negative emotional reactions. Specifically, individuals who prioritize social justice, exhibit higher levels of empathy, possess a strong moral identity, and identify strongly with relationships or collective groups are more prone to experiencing negative moral emotions such as contempt, anger, and disgust when confronted with irresponsible corporate behavior in the context of CSR and Consumer Emotional Marketing. Following exposure to negative corporate social responsibility information, individuals not only engage in negative word-of-mouth and lodging complaints with the company but also resort to protest and boycott actions against various authorities. Conversely, in response to positive CSR activities undertaken by companies, individuals not only engage in positive word-of-mouth, resist negative information, and develop a sense of identification with the company but also consider investing in the company's shares. This demonstrates that individuals' moral sentiments can drive active participation in both actions against and support of prominent companies, spanning across multiple domains. In the long term, as Vitell (2015) concludes, "good ethics" equates to "good business." While some may perceive short-term success through deceptive practices, such strategies are self-defeating. Ethical organizations, or those deemed "good," prioritize fair treatment of consumers and other stakeholders. This

approach often yields benefits for companies, as consumers are more likely to continue purchasing products from businesses that treat them fairly. No one wants to be deceived. Conversely, "bad ethics" typically equates to "bad business," particularly in the long term, as consumers are reluctant to engage with organizations they do not trust.

While corporate identity may not consistently hold considerable influence, companies that activate specific social identities among consumers can impact their responses to product stimuli and foster increased consumer loyalty. Marin et al. (2009) and Pérez and Bosque (2015) conducted a study involving 1124 banks and confirmed that the CSR image of a company positively affects customers' recognition, emotions, and satisfaction towards the company. This sense of identity also extends to customers' emotions and satisfaction at the institutional level, leading to improved customer loyalty behaviors. Although customers may occasionally harbor doubts about the motivations behind CSR projects, effective promotion of good CSR initiatives can alleviate such doubts.

Based on our analysis we created the Strategy Map (Fig.3) outlines the strategic objectives related to CSR, outcomes and the role of emotional marketing in achieving these goals and connecting strategic initiatives to performance indicators. This diagram shows the pathway from setting strategic objectives like enhancing brand image, increasing customer loyalty, and promoting sustainable practices, to achieving expected outcomes such as improved brand perception, higher customer retention, and positive social impact. It further illustrates the critical role of emotional marketing in connecting emotionally with consumers, communicating CSR values effectively, and building trust and loyalty. Finally, the map identifies key performance indicators to measure success, including brand awareness metrics, customer satisfaction scores, and CSR impact assessment, providing a comprehensive overview of how strategic CSR objectives translate into tangible outcomes through the application of emotional marketing strategies.

Fig. 3 Strategy Map: CSR Objectives, Outcomes, and Performance Indicators
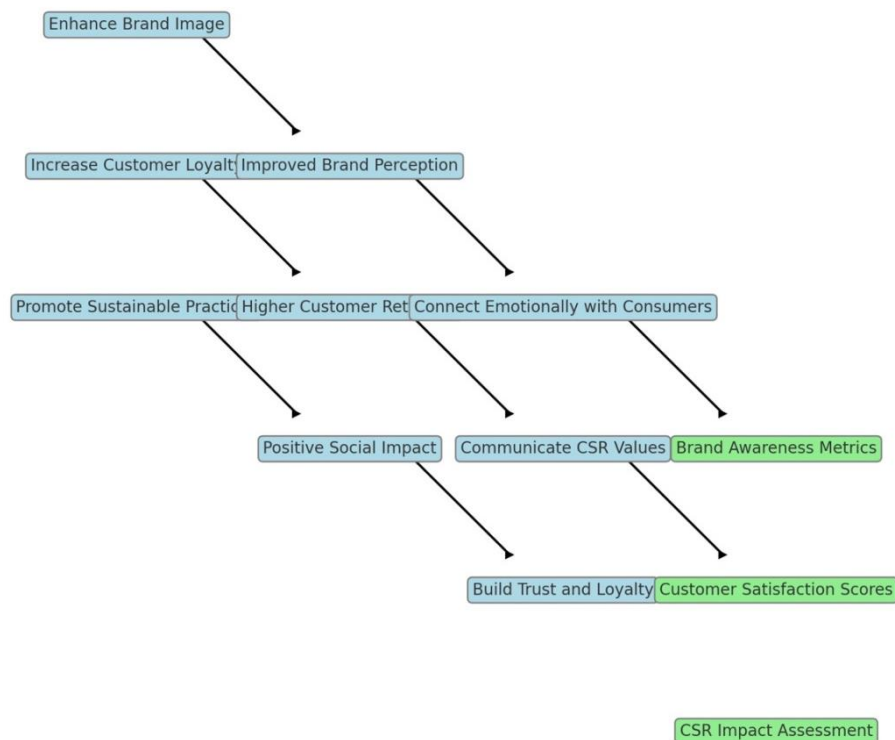
Source: own elaboration

In the Strategy Map provided, the "CSR Impact Assessment" appears without a direct connection to the other components because it serves as an ultimate performance indicator in the CSR strategy framework. It is designed to measure the overall effectiveness of the CSR initiatives and their alignment with strategic objectives and outcomes.

In practical terms, "CSR Impact Assessment" is often a culminating step in the strategy execution where the cumulative impact of the CSR initiatives is evaluated against the set objectives and outcomes, hence it is not directly connected to a single component but is the result of the entire strategy. It's the point in the strategy map where the organization evaluates the entire CSR approach, gathering data from various indicators to gauge overall success and areas for improvement.

CONCLUSION

Collectively, conducting a concise review of the literature enables us to grasp the interconnected relationship between corporate social responsibility (CSR), emotional marketing, and consumer psychology at a novel intersection. In previous times, corporate social responsibility (CSR) and marketing were considered distinct entities, with limited direct consumer awareness of CSR practices. However, the current tendencies reflect a growing trend where companies are increasingly embracing CSR initiatives and leveraging them as powerful tools for emotional marketing. This evolution is propelled by big data, which amplifies CSR's visibility and enables precise consumer feedback, enhancing the strategic alignment of CSR initiatives with diverse consumer expectations. Scilicet, CSR has evolved into a fundamental aspect of emotional marketing theory, strengthening the link between consumer psychology and marketing strategies. On one hand, big data has expanded consumer awareness of CSR by providing media outlets with a wealth of data to highlight the diverse range of CSR initiatives undertaken by companies. As a result, companies are now compelled to be more conscious of their social image. Additionally, big data has made it easier to collect consumer feedback on CSR. By leveraging the power of big data, companies can obtain more accurate and comprehensive feedback from consumers regarding their CSR endeavours, enabling them to better align their initiatives with the preferences and expectations of diverse consumer segments. Furthermore, it is important to recognize that diversity, alongside identity, plays a pivotal role in fostering emotional connections within emotional marketing. While CSR is generally appreciated by people, it is crucial to conduct further research to understand which specific consumer segments value particular CSR initiatives. This avenue of research will provide valuable insights for future endeavors in the field. Our future research will be concentrated on tailoring CSR initiatives to effectively resonate with diverse consumer groups, thereby fostering stronger emotional connections and aligning with consumer expectations and values.

REFERENCES

Aaker, D. A. (2004). Leveraging the corporate brand. California Management Review, 46, 6–18. doi: 10.2307/41166218

Ahearne, M., Bhattacharya, C. B., & Gruen, T. W. (2005). Antecedents and consequences of customer-company identification: Expanding the role of relationship marketing. The Journal of Applied Psychology, 90, 574-585. doi: 10.1037/0021-9010.90.3.574

Aquino, K., & Reed, A. (2002). The self-importance of moral identity. Journal of Personality and Social Psychology, 83, 1423–1440. doi: 10.1037/0022-3514.83.6.1423

Barbeito-Caamaño, A., & Chalmeta, R. (2020). Using big data to evaluate corporate social responsibility and sustainable development practices. Corporate Social Responsibility and Environmental Management, 27, 2831-2848. doi: /10.1002/csr.2006

Bartlett, M. Y., & DeSteno, D. (2006). Gratitude and prosocial behavior: Helping when it costs you. Psychological Science, 17(4), 319–325. doi: 10.1111/j.1467-9280.2006.01705.x

Bhattacharya, C. B., & Sen, S. (2003). Consumer–company identification: A framework for understanding consumers' relationships with companies. Journal of Marketing, 67, 76–88. doi: 10.1509/jmkg.67.2.76.18609

Bowen, G., Appiah, D., & Okafor, S. (2020). The influence of corporate social responsibility (CSR) and social media on the strategy formulation process. Sustainability, 12(15), 6057. doi:10.3390/su12156057

Brown, T. J., & Dacin, P. A. (1997). The company and the product: Corporate associations and consumer product responses. Journal of Marketing, 61, 64–84. doi: 10.2307/1252190

Carl, K. V., Mihale-Wilson, C., Zibuschka, J., et al. (2023). A consumer perspective on Corporate Digital Responsibility: An empirical evaluation of consumer preferences. Journal of Business Economics. https://doi.org/10.1007/s11573-023-01142-y

Consoli, D., & Patrut, B. (2010). A new concept of marketing: The emotional marketing. BRAND. Broad Research in Accounting, Negotiation, and Distribution, 1(1), 52-59.

Dennis, C., Papagiannidis, S., Alamanos, E., & Bourlakis, M. (2016). The role of brand attachment strength in higher education. Journal of Business Research, 69, 3049–3057. doi: 10.1016/j.jbusres.2016.01.020

Dionisio, M., de Souza Junior, S. J., Paula, F., et al. (2024). The role of digital social innovations to address SDGs: A systematic review. Environment, Development and Sustainability, 26, 5709–5734. doi: 10.1007/s10668-023-03038-x

Grappi, S., Romani, S., & Bagozzi, R. P. (2013). Consumer response to corporate irresponsible behavior: Moral emotions and virtues. Journal of Business Research, 66, 1814–1821. doi: 10.1016/j.jbusres.2013.02.002

Jakob, E. A., Steinmetz, H., Wehner, M. C., Engelhardt, C., & Kabst, R. (2021). Like it or not: When corporate social responsibility does not attract potential applicants. Journal of Business Ethics, 178, 105–127. doi: 10.1007/s10551-021-04960-8

Kim, J., & Park, T. (2020). How corporate social responsibility (CSR) saves a company: The role of gratitude in buffering vindictive consumer behavior from product failures. Journal of Business Research, 117, 461–472. doi: 10.1016/j.jbusres.2020.06.024

Kuazaqui, E. (2020). Marketing, Digital Environment and Big Data: A Preliminary Discussion about the Influences within A Company. Journal of Business Theory and Practice, 8(4). https://doi.org/10.22158/jbtp.v8n4p72

Li, T., & Zhu, B. (2021). Research on the decision drivers of platform corporate digital responsibility behavior. BCP Business & Management, 14, 15-21. https://doi.org/10.54691/bcpbm.v14i.110

López-Fernández, A. M., & Silva, Z. B. (2021). Stakeholder perceptions and word-of-mouth on CSR dynamics: A big data analysis from Twitter. In Research Anthology on Strategies for Using

social media as a Service and Tool in Business (pp. 1165–1179). Hershey, PA: IGI Global. doi: 10.4018/978-1-7998-9020-1.ch058

Mael, F., & Ashforth, B. E. (1992). Alumni and their alma mater: A partial test of the reformulated model of organizational identification. Journal of Organizational Behavior, 13, 103–123. doi: 10.1002/job.4030130202

Marin, L., Ruiz, S., & Rubio, A. (2009). The role of identity salience in the effects of corporate social responsibility on consumer behavior. Journal of Business Ethics, 84, 65–78. doi: 10.1007/s10551-008-9673-8

McCullough, M. E., Kilpatrick, S. D., Emmons, R. A., & Larson, D. B. (2001). Is gratitude a moral affect? Psychological Bulletin, 127, 249–266. doi: 10.1037/0033-2909.127.2.249

Morales, A. C. (2005). Giving firms an "E" for effort: Consumer responses to high-effort firms. Journal of Consumer Research, 31, 806–812. doi: 10.1086/426615

Ogrizek, M. (2002). The effect of corporate social responsibility on the branding of financial services. Journal of Financial Services Marketing, 6, 215–228. doi: 10.105

Ogrizek, M. (2002). The effect of corporate social responsibility on the branding of financial services. Journal of Financial Services Marketing, 6, 215–228. doi: 10.1057/palgrave.fsm.4770053

Pacori Paricahua, E. W., Pacori Paricahua, A. K., Gehlot, A., Patidar, V., Kumar, M. V. S., & Lourens, M. (2023). Corporate Social Responsibility Reports: A Big Data Approach. In 2023 3rd International Conference on Advance Computing and Innovative Technologies in Engineering (ICACITE) (pp. 371-375). Greater Noida, India. https://doi.org/10.1109/ICACITE57410.2023.10182491

Palmatier, R. W., Jarvis, C. B., Bechkoff, J. R., & Kardes, F. R. (2009). The role of customer gratitude in relationship marketing. Journal of Marketing, 73, 1–18. doi: 10.1509/jmkg.73.5.1

Park, J., Choi, J., & Yeu, M. (2016). Relationship between corporate philanthropy and consumer loyalty-the mediating role of gratitude, trust and commitment: South Korean consumer perspectives. Academy of Marketing Studies Journal, 20, 1–17.

Pérez, A., & Bosque, I. R. D. (2015). An integrative framework to understand how CSR affects customer loyalty through identification, emotions and satisfaction. Journal of Business Ethics, 129, 571–584. doi: 10.1007/s10551-014-2177-9

Reed, A., Aquino, K., & Levy, E. (2007). Moral identity and judgments of charitable behaviors. Journal of Marketing, 71, 178-193. doi: 10.1509/jmkg.71.1.178.

Relationship marketing. (2005). The Journal of Applied Psychology, 90, 574-585. doi: 10.1037/0021-9010.90.3.574

Roberts, K. (2004). Lovemarks: The Future Beyond Brands. New York, NY: Powerhouse Books. ISBN: 9781576872703.

Romani, S., Grappi, S., & Bagozzi, R. P. (2013). Explaining consumer reactions to corporate social responsibility: The role of gratitude and altruistic values. Journal of Business Ethics, 114(2), 193–206. doi: 10.1007/s10551-012-1337-z

Sen, S., & Bhattacharya, C. B. (2001). Does doing good always lead to doing better? Consumer reactions to corporate social responsibility. Journal of Marketing Research, 38, 225–244. doi: 10.1509/jmkr.38.2.225.18838

Shao, J., Zhang, T., Wang, H., & Tian, Y. (2022). Corporate Social Responsibility and Consumer Emotional Marketing in Big Data Era: A Mini Literature Review. Frontiers in Psychology, 13. https://doi.org/10.3389/fpsyg.2022.919601

Sheikh, S., & Beise-Zee, R. (2011). Corporate social responsibility or cause-related marketing? The role of cause specificity of CSR. Journal of Consumer Marketing, 28, 27–39. doi: 10.1108/07363761111101921

Skinner, C., von Essen, L., Mersham, G. M., & Motau, S. (2010). The Handbook of Public Relations. Oxford: Oxford University Press.

Thompson, C. J., Rindfleisch, A., & Arsel, Z. (2006). Emotional branding and the strategic value of the Doppelgänger brand image. Journal of Marketing, 70(1), 50–64. doi: 10.1509/jmkg.70.1.050.qxd

Vitell, S. J. (2015). A case for consumer social responsibility (CSR)- including a selected review of consumer ethics/social responsibility research. Journal of Business Ethics, 130, 767–774. doi: 10.1007/s10551-014-2110-2

Wisker, Z. L., Kadirov, D., & Bone, C. (2019). Modelling P2P Airbnb online host advertising effectiveness: The roles of emotional appeal, information completeness, creativity, and social responsibility. International Journal of Culture Tourism and Hospitality Research, 13, 505–523. doi: 10.1108/ijcthr-03-2019-0045

Xie, C., Bagozzi, R. P., & Grønhaug, K. (2019). The impact of corporate social responsibility on consumer brand advocacy: The role of moral emotions, attitudes, and individual differences. Journal of Business Research, 95, 514–530. doi: 10.1016/j.jbusres.2018.07.043

Impact of Covid-19 on Employment in Tourism in Slovakia: Current Situation and Development Perspective

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Abstract: This research paper explores the impact of the COVID-19 pandemic on employment in the tourism industry. Through a thorough analysis of current conditions and future possibilities, the study utilizes both quantitative and qualitative methodologies to assess the extent of job losses, the resilience of tourism-related occupations, and the strategies implemented by industry stakeholders. By synthesizing real-time data and future projections, the paper provides a comprehensive overview of the challenges faced by the sector and proposes innovative solutions for recovery and growth. The research was carried out using the statistical program Statgraphics19 and the ARIMA and ETS (Error Trend Seasonality) models. The research offers valuable insights for policymakers, businesses, and academia, enabling informed decision-making and strategic planning to revitalize employment in the tourism industry in the post-pandemic era. We focused on tourism businesses in Slovakia based on available data from the Slovak Statistical Office for the period 2013-2021. The impact of the Covid-19 pandemic on employment was significantly reduced in 2020-2021. ARIMA and ETS models point to an increase in the number of employees, especially in the food service industry.

Keywords: Covid-19, tourism, employment, Slovakia

JEL Classification codes: M29; M51; Z32

INTRODUCTION

The COVID-19 pandemic has had a significant impact on the tourism industry on a global scale. Employment in the tourism sector represents a crucial tool for evaluating the importance of the sector not only in the economy of countries but also in the whole world. Tourism, due to its complexity and cross-cutting nature, has a significant impact on employment beyond the conventional understanding of this industry. This cross-cutting nature makes tourism a complex subsystem with strong interconnections. With the onset of the pandemic and the adopted anti-pandemic measures, the tourism industry reached the limits of its possibilities. A significant decline in international arrivals worldwide has caused tourism businesses to reduce their performance indicators. Employment was one of these indicators. Before the COVID-19 pandemic, tourism employment was a significant factor in economic growth in many countries. Millions of people were employed across all sectors of tourism and other industries that influenced its growth. Since the ignorance, uncertainty, and unpredictability of the further development of the pandemic hurt entrepreneurs, they were forced to reduce employment in their companies and some even closed their businesses. In this context, it is necessary to pay attention to the development of the tourism sector with an emphasis on the impact of the COVID-19 pandemic and future developments. This paper aims to identify the impact of the

COVID-19 pandemic on the development of the number of employees in the tourism industry and to predict its future development.

1   LITERATURE REVIEW

In the period before the COVID-19 pandemic, tourism was one of the most important sectors of the world economy, as it accounted for 10% of world GDP and more than 320 million jobs (Behsudi, 2020). The key role of tourism is solving many problems, especially regional unemployment, and regional disparities (Kusugal, 2014). Tourism has been one of the most affected sectors in the world since the declaration of the COVID-19 pandemic by the World Health Organization.

Working in the tourism industry is constantly associated with customer interaction, indicating that people continue to prefer personal contact when using tourism services over the technological innovations that replace it (Marrero Rodriguez et al., 2020; Holloway and Humphreys, 2022). The tourism industry is characterized by a high degree of seasonality (Corluka, 2019), which also affects the level of employment in this industry. Seasonality in the economic understanding represents a state in which income was not achieved due to the limitation of business activity in a certain period (Grobelna and Skrzeszewska, 2018). According to the available literary sources, we encounter two sources of seasonality, natural and institutional (Butler, 1998; Goulding et al., 2004), while the tourism industry is primarily affected by natural (natural) seasonality. Natural factors of seasonality are determined by the geographical location of the destination and include the temperature zone, sunshine, rain, and snow (Grobelna and Skrzeszewska, 2019; Witt and Mountinh, 1995), as well as the availability of the sea or mountains. From the institutional factors that affect the seasonality of tourism, we can define primarily: holidays, vacations, and time off (Commons and Page, 2001) and travel habits and motivations (Goulding et al., 2004), which significantly affect the level of employment in the tourism industry.

Tourism employment is defined by the UNWTO (2024) as the number of persons employed in tourism industries in any of their occupations, whether it is their main employment or as the number of jobs in tourism industries. According to Page and Connel (2020) and Gúčik (2000), tourism does not only affect primary employment, in businesses and organizations that directly satisfy the needs of visitors in the industry, but due to the multiplier effect, they also create indirect employment and, finally, they also affect induced employment. Job creation in the tourism industry is considered one of the most beneficial effects of the industry (Liu and Wall, 2005). The Slovak Republic has a suitable potential for the development of tourism, thanks to which the number of employees in this industry is increasing (Pachingerová et al., 2013).

The OECD (2020) assumed that tourism performance will drop by up to 80% in 2020. As a result of the impact of the COVID-19 pandemic, the economic growth and development of tourism businesses have decreased (Jackson et al., 2021). The negative impact of this period had an impact on GDP, wages, and termination of employment in the tourism industry (Syaifudin et al., 2022). Tourism is among the sectors of the economy most affected by the situation caused by the COVID-19 pandemic (Romagosa, 2020; UNWTO, 2023). Extensive restrictions, especially at the international level, have fundamentally affected attendance in the tourism industry (Hogenová, 2020a; 2020b). The forecasts of UNWTO (2020a) indicated various scenarios that they envisage with a decrease in international arrivals at the level of 58-80%, but the socio-economic consequences will be significantly higher. According to UNWTO (2020b), the probability of losing half a million jobs in the tourism industry during the pandemic period was eight times higher than during the 2008 economic crisis.

Forecasting the development of indicators in the tourism industry plays a significant role in the current situation of the restart of this industry. Some publications use the ARIMA model to predict future developments. In his studies, Vafin (2020) used the ARIMA model to predict the development of macroeconomic indicators (employment and inflation) in selected countries of the world. The results of this study pointed to expectations of a decrease in the employment rate and inflation in these countries in the period 2020-2024. In her studies, Baldigara (2020) predicted the development of employment in the hotel industry in Croatia. The Box-Jenkins method using neural networks was used in this study. In this study, the author considered the seasonality of tourism through the SARIMA model.

2 METHODOLOGY

The paper aim is to identify the impact of COVID-19 on the development of the number of employees in the tourism industry and to predict its future development.

2.1 Data

The primary data were data on the number of employees in the tourism industry in the Satellite. Account of the Slovak Republic for the period 2013-2021. We focused only on the number of employees, so we excluded the area of entrepreneurs from the research (tab. 1). Professional literature was drawn from professional publications, which served us as a basis for conducting research. Scientific methods such as abstraction, deduction, comparison, and synthesis were also used.

Figure 1 Data for prognosis and research

Year	Sectors of tourism	Accommodation services	Catering services	Travel agencies other reservation services
2013	127 733	12 812	54 097	2 253
2014	137 048	13 996	59 176	2 341
2015	139 180	14 681	58 695	2 252
2016	142 763	15 427	58 926	2 727
2017	149 581	15 903	63 026	2 641
2018	153 776	16 351	65 221	2 843
2019	159 498	16 827	69 027	2 934
2020	147 863	14 825	65 388	2 104
2021	141 759	14 235	62 252	1 963

Source: own processing according to the SR Satellite Account, 2013-2021

We also applied the Normality test in the Statgraphics19 program for selected tourism industries. Shapiro-Wilk test and Kolmogorov-Smirnov Test were applied. Subsequently, the results of the normality test were processed into plot graphs.

2.2 Modely

Forecasting the development of the number of employees was carried out using two methods, the ARIMA model (Auto Regressive Integrated Moving Average) and the ETS model. The

differences between the two models are in the seasonality of the data (Fig. 1). The ARIMA model was implemented in the statistical program StatGraphics19 Centurion and the ETS (Error Trend Seasonality) model was calculated and executed in MS Excel. Conceptually, ARIMA and ETS are born from different lines of motivation: ARIMA is based on modeling autocorrelations, either in the process itself (AR) or in errors (MA), while ETS is based on m time series (level, trend, seasonal).

Figure 2 Differences between ETS model and ARIMA model
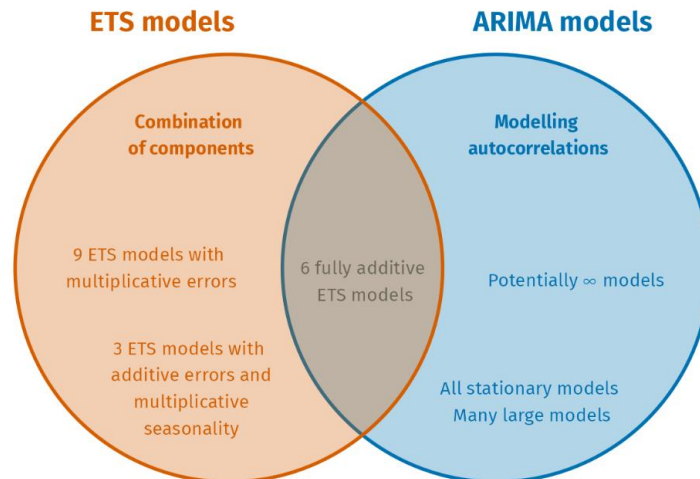
Source: Tibshirani, R. (2023), p. 10

The ETS model was processed in MS Excel using the FORECAST.ETS () function with estimated parameters for forecasting. The FORECAST.ETS function in Excel is used to forecast data using the exponential smoothing method (ESM). ESM is used in statistics to smooth time series data by assigning weights exponentially to future values over time. The syntax of the FORECAST.ETS function is as follows.

```
=FORECAST.ETS (target_date,values,timeline,[seasonality], [data_completion],
[aggregation])
```

In the paper was applied the evaluation of the used models as follows:
(A) Random walk
(B) Random walk with drift = 1743,75
(C) Constant mean = 144277,
(D) Linear trend = 132618, + 2331,86 t
(E) Quadratic trend = 114553, + 12185,6 t + -985,37 t^2
(F) Exponential trend = exp(11,7949 + 0,0165241 t)
(G) S-curve trend = exp(11,939 + -0,195562 /t)
(H) Simple moving average of 2 terms
(I) Simple exponential smoothing with alpha = 0,9999
(J) Brown's linear exp. smoothing with alpha = 0,2026
(K) Holt's linear exp. smoothing with alpha = 0,9999 and beta = 0,1574
(L) Brown's quadratic exp. smoothing with alpha = 0,0228
(M) Winters' exp. smoothing with alpha = 0,2002, beta = 0,0009, gamma = 0,0826
(N) ARIMA(2,1,1)x(2,0,0)2
(O) ARIMA(2,0,1)x(2,0,0)2 with constant
(P) ARIMA(2,0,0)x(2,2,0)2

(Q) ARIMA(2,0,0)x(2,0,1)2 with constant
(R) ARIMA(2,1,0)x(2,0,1)2

3. RESULTS AND DISCUSSION

The following graphs (graph 1) show the development of employment in tourism sectors in Slovakia in the period 2013-2021. In the Employment graph, we see a rising curve, which means that the tourism industry employs a higher number of employees every year. The highest number of employees in the tourism industry was in 2019 when 159,498 employees were employed. In 2019, the highest number of employees was in the catering services industry at 69,027. The lowest number of employees is in the industry of travel agencies and other reservation services.

Graph 1 Development of sectors of the tourism industry in Slovakia (2013-2021, in thousand)
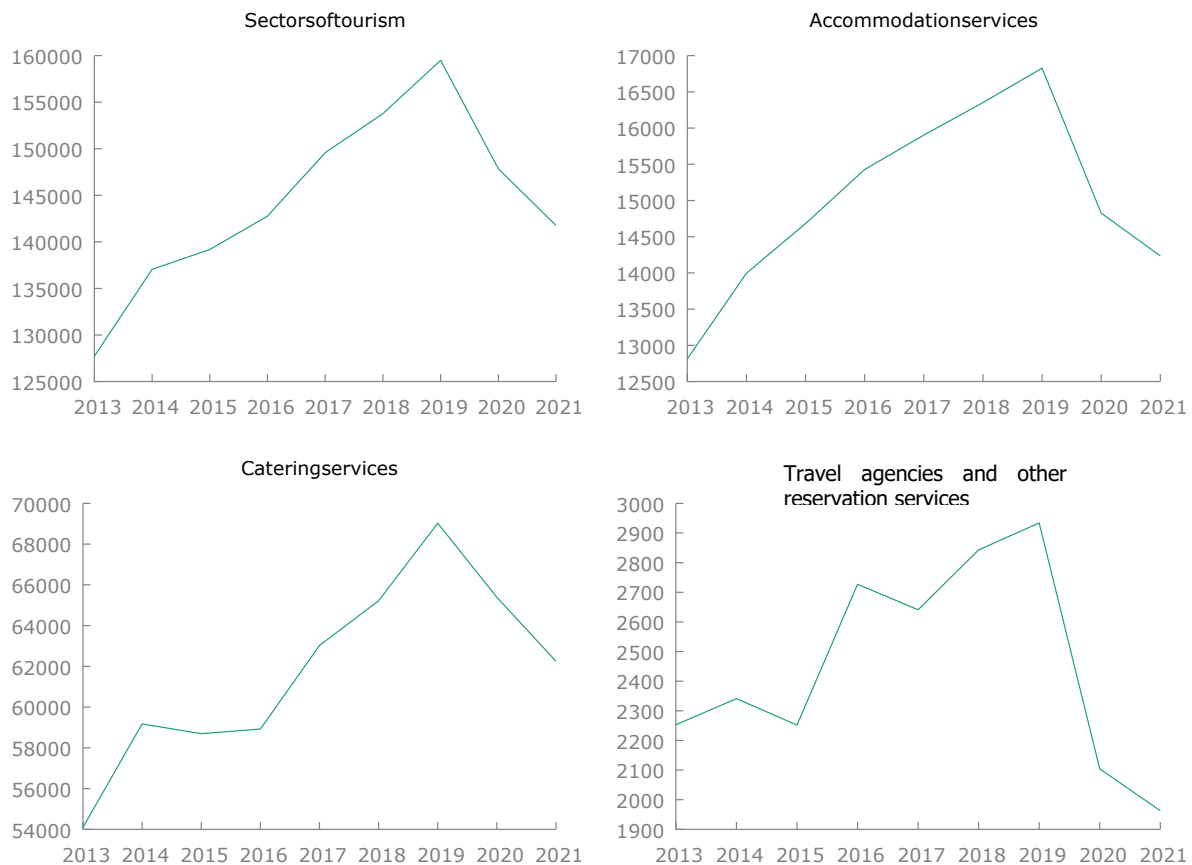

Source: authors' own processing in the statistical program R based on the SR Satellite Account 2013-2021

The normality test was applied to the studied tourism industries. Chart 2 shows the results of several tests run to see if accommodation services can be adequately modeled using a normal distribution. The Shapiro-Wilk test (p-value: 0.975812) is based on comparing the quantiles of the fitted normal distribution to the quantiles of the data. Since the smallest P-value among the tests performed is greater than or equal to 0.05, we cannot reject the idea that accommodation services come from a normal distribution with 95% confidence.

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The Shapiro-Wilk test for food services (p-value: 0.911714) indicates that, Since the smallest P-value among the tests performed is greater than or equal to 0.05, we cannot reject the idea that Catering services come from a normal distribution with 95% confidence. Shapiro-Wilk test for Travel agiencies and agencies (graph 4), other reservations, and related services (p-value: 0.539421) points out that since the smallest P-value amongst the tests performed is greater than or equal to 0.05, we cannot reject the idea that Travel agencies other reservation services comes from a normal distribution with 95% confidence. The Shapiro-Wilk test for tourism industries (graph 5), (p-value: 0.996434) points out that since the smallest P- value among the tests performed is greater than or equal to 0.05, we cannot reject the idea that the Sectors of tourism industry comes from a normal distribution with 95% confidence.

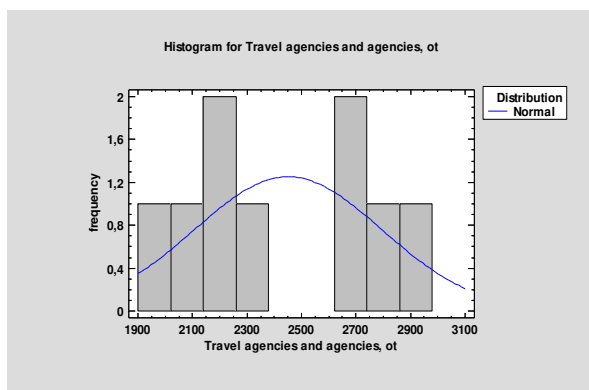**Graph 2 Normality test for Accommodation services**
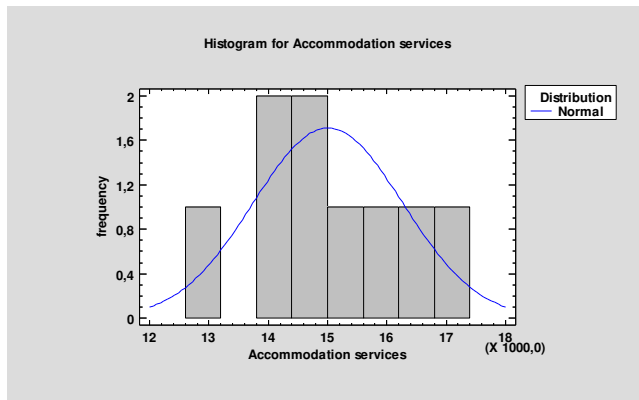
Source: own processing in StatGraphics19

Graph 3 Normality test for Catering services
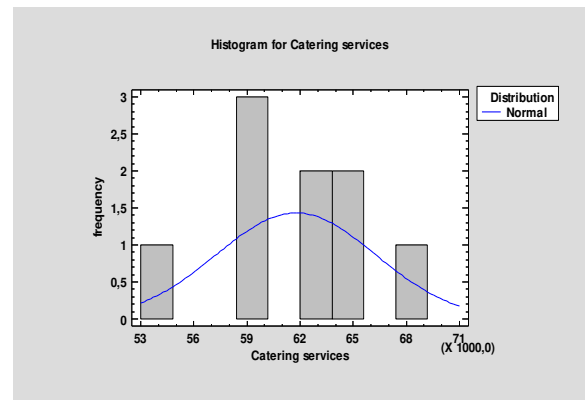
Source: own processing in StatGraphics19

Graph 4 Normality test for Travel agencies and other reservation services

Source: own processing in StatGraphics19

Graph 3 Normality test for Sectors of tourism
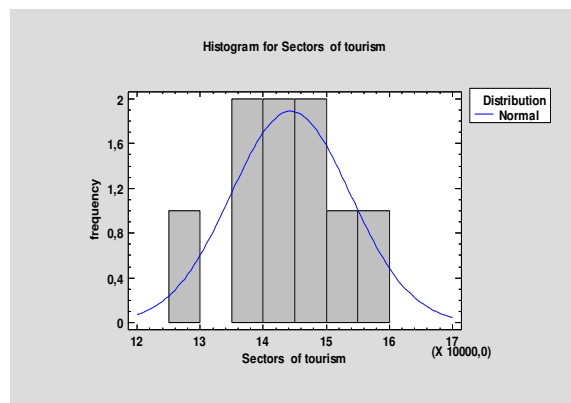
Source: own processing in StatGraphics19

Based on data processing and the execution of the Unite Root Test - Augmented Dickedy Fuller test, we examined forecasts of the development of the number of employees in selected sectors of the tourism industry. Forecasts for accommodation services point to a stable development in the coming years (chart 1). The gray colors show us the upper and lower levels, and the blue part is the median. The blue dot in the graph is the mean, where the average number of employees should be in the following period. The mean is worth 14,825 in 2027. The ARIMA model mentioned does not include seasonality. Therefore, in the following

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steps, we decided to apply seasonality, the ETS model, as the selected industries are seasonal and heterogeneous.

Graph 3 Forecasting of accommodation services in Slovakia (2013-2027)
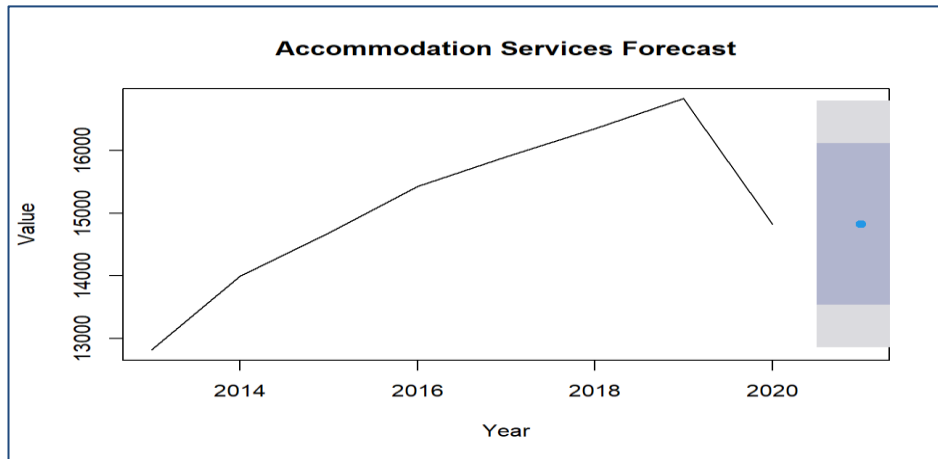
Source: own processing in StatGraphics19

By 2027, the catering services sector will, like accommodation services, employ an average number of employees, without a large increase or decrease. According to the forecast of the ARIMA model, we assume that in 2027, the food service industry will employ approximately 65,388 employees (Chart 2). The time series covers the years 2013 to 2020 with a frequency of 1 (assuming annual data). A residual of 54.09697 means that the predicted value for the first year was lower by 54.09697 units compared to the actual observed value. In 2019, the value of the residue was 3806. As we can see, even the Covid-19 pandemic did not stop the increase of employees in catering services, and their increase is still expected.

Graph 4 Forecasting of catering services in Slovakia (2013-2027)
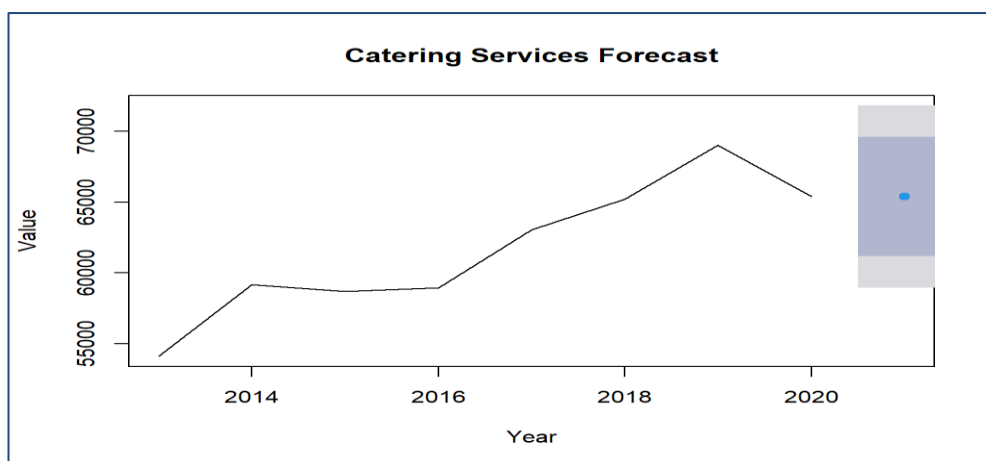
Source: own processing in StatGraphics19

The industry of travel agencies and other reservation services will employ 2,512 employees by 2027 (chart 4). In 2019, the mentioned industry employed 2934 employees, and after the COVID-19 pandemic, the number of employees decreased by almost 34% compared to 2021.

Graph 5 Travel agencies and other reservation services forecast (2013-2027, in thousands)
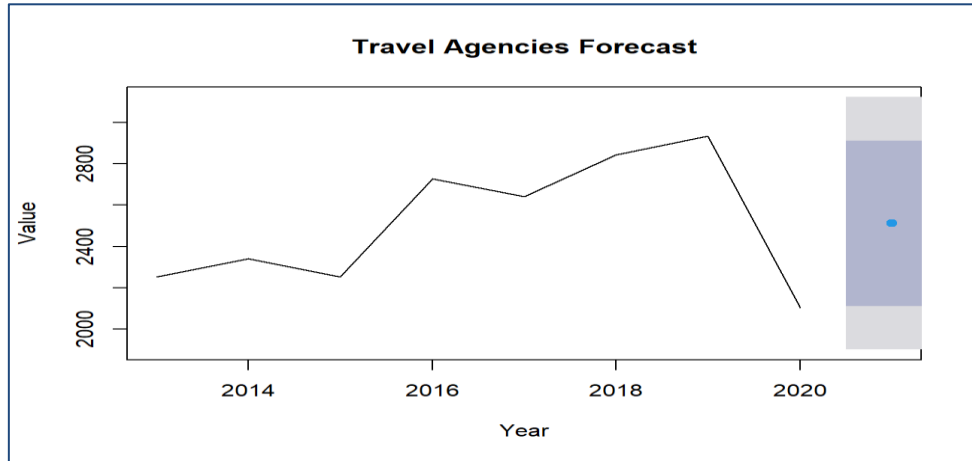
Source: own processing in StatGraphics19

The ARIMA model, with the addition of the seasonality factor (graph 5), showed us the forecast for the development of the number of employees in the tourism industry until 2034. It is assumed that the number of employees will decrease in 2024 and 2025.

Graph 6 Forecast Plot for Sectors of development of employees in tourism industry (2013-2034, in thousands)
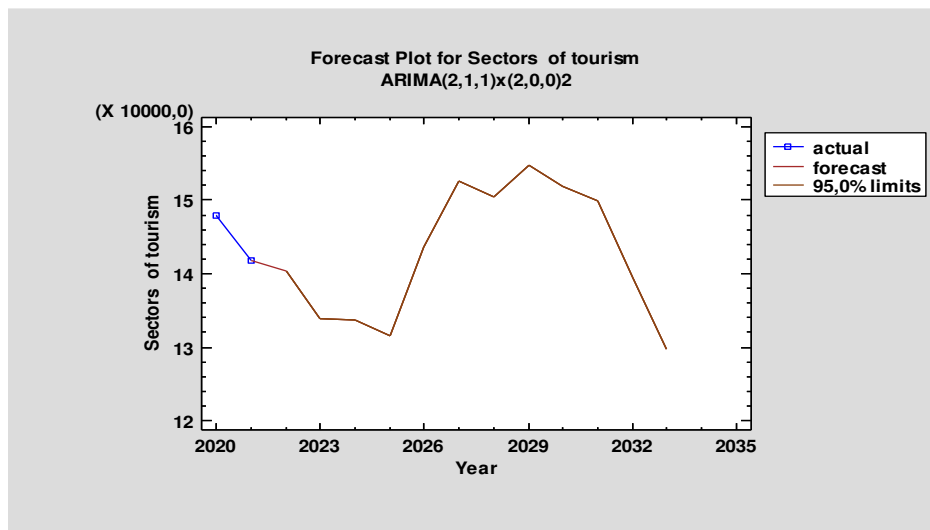
Source: own processing in StatGraphics19

The following tables 2 and 3 will calculate the preliminary number of employees in the tourism industry until 2033. ARIMA (2,1,1) represents the non-seasonal part of the model. It has an autoregressive order of 2 (AR=2), a differentiating order of 1 (I=1), and a moving average order of 1 (MA=1).

(2,0,0) ₂: This represents the seasonal part of the model. It has a seasonal autoregressive order of 2 (SAR=2), no seasonal differentiation (SI=0), and no seasonal moving average (SMA=0). The 2 at the end indicates that the seasonality has a period of 2. A value of 0 in the Residual column indicates that the forecast exactly matched the observed data. Small values close to zero indicate that the model provided accurate predictions. Negative or positive values represent the direction and magnitude of the forecast error. For the year 2019, the residual is approximately -6.87e-8, which is very close to zero. This suggests a negligible difference between the forecasted and actual values for that year.

For 2020, the residual is approximately -6.98e-10, which is also extremely close to zero.

Table 1 ARIMA model (2,1,1) x (2,0,0)2: forecasting of development of employees in the tourism industry (2013-2021, in thousands)

Period	Data	Forecast	Residual
2013	127733,		
2014	137048,	137048,	0,0
2015	139180,	139180,	0,0
2016	142763,	142763,	0,0
2017	149581,	149581,	0,0
2018	153776,	153776,	0,0
2019	159498,	159498,	-6,87141E-8
2020	147863,	147863,	-6,98492E-10
2021	141759,	141759,	0,0

Source: own processing in StatGraphics19

Table 2 shows forecasts from 2022 to 2033. According to the ARIMA model, the highest number of employees will be 152,548 employees in 2027. Each year has a forecast value along with a 95% confidence interval. The consistency of the width of the confidence intervals indicates the stability of the forecast accuracy over the entire forecast horizon.

Table 2 ARIMA model (2,1,1) x (2,0,0)2: forecasting of development of employees in the tourism industry (2012-2033, in thousands)

Period	Forecast	Lower 95% Limit	Upper 95% Limit
2022	140391,	140391,	140391,
2023	133847,	133847,	133847,
2024	133656,	133656,	133656,
2025	131622,	131622,	131622,
2026	143679,	143679,	143679,
2027	152548,	152548,	152548,
2028	150363,	150363,	150363,
2029	154672,	154672,	154672,
2030	151805,	151805,	151805,
2031	149987,	149987,	149987,
2032	139525,	139525,	139525,
2033	129744,	129744,	129744,

Source: own processing in StatGraphics19

Model validation testing was performed in Statgraphics 19. Tab 3. shows us the results of the used models: (A) Random walk, (B) Random walk with drift = 1743,75, (C) Constant mean = 144277, (D) Linear trend = 132618, + 2331,86 t, (E) Quadratic trend = 114553, + 12185,6 t

+ -985,37 t^2 , (F) Exponential trend = exp(11,7949 + 0,0165241 t), (G) S-curve trend = exp(11,939 + -0,195562 /t), (H) Simple moving average of 2 terms, (I) Simple exponential smoothing with alpha = 0,9999, (J) Brown's linear exp. smoothing with alpha = 0,2026, (K) Holt's linear exp. smoothing with alpha = 0,9999 and beta = 0,1574, (L) Brown's quadratic exp. smoothing with alpha = 0,0228, (M) Winters' exp. smoothing with alpha = 0,2002, beta = 0,0009, gamma = 0,0826, (N) ARIMA(2,1,1)x(2,0,0)2, (O) ARIMA(2,0,1)x(2,0,0)2 with constant, (P) ARIMA(2,0,0)x(2,2,0)2, (Q) ARIMA(2,0,0)x(2,0,1)2 with constant, (R) ARIMA(2,1,0)x(2,0,1)2

Table 3 Testing of models for prognosis

Model	RMSE	RUNS	RUNM	AUTO	MEAN	VAR
(A)	7332,19	OK	OK	OK	OK	OK
(B)	7663,39	OK	OK	OK	OK	OK
(C)	10292,7	**	OK	OK	*	OK
(D)	8304,95	OK	OK	OK	OK	OK
(E)	4742,76	OK	OK		OK	OK
(F)	8429,49	OK	OK	OK	OK	OK
(G)	6471,71	OK	OK	*	OK	OK
(H)	9706,37	OK	OK	OK		
(I)	7332,44	OK	OK	OK	OK	OK
(J)	10820,6	OK	OK	OK	OK	OK
(K)	8068,59	OK	OK	OK	OK	OK
(L)	10624,9	**	OK	OK	*	OK
(M)	12194,6	OK	OK			
(N)	3,96742E-8	OK	OK		OK	***
(O)	9,44874E-7	OK	OK		OK	***
(P)	0,0					
(Q)	0,00000266515	OK	OK		OK	***
(R)	0,00000491809	OK	OK		OK	***

Key:
RMSE = Root Mean Squared Error
RUNS = Test for excessive runs up and down
RUNM = Test for excessive runs above and below median
AUTO = Ljung-Box test for excessive autocorrelation
MEAN = Test for difference in mean 1st half to 2nd half
VAR = Test for difference in variance 1st half to 2nd half
OK = not significant (p >= 0,05)
* = marginally significant (0,01 < p <= 0,05)
** = significant (0,001 < p <= 0,01)
*** = highly significant (p <= 0,001)

Source: own processing in StatGraphics19

Subsequently, we performed ETS models in the MS Excel program, where we calculated the development of employees in selected sectors of the tourism industry until 2033. Up to 2021, real data from the Satellite Account of the Slovak Republic are presented. From 2022, we implemented the ETS model. The differences between the ARIMA model and ETS models are not highly differentiated. If we look at the column Sectors of tourism, the year 2027, the ARIMA model forecasts that the number of employees will be 152,548, while the ETS models forecast 138,866 employees (tab.3). As we mentioned in the methodology, ETS models explicitly model seasonality, while ARIMA models need variances to handle it. Seasonality in our data is not well captured by differences, so ETS models provide better predictions.

Table 4 ETS model for forecasting the development of employees in the tourism industry

Year	Sectors of tourism	Accommodation services	Catering services	Travel agencies and other reservation services
2013	127 733	12 812	54 097	2 253
2014	137 048	13 996	59 176	2 341
2015	139 180	14 681	58 695	2 252
2016	142 763	15 427	58 926	2 727
2017	149 581	15 903	63 026	2 641
2018	153 776	16 351	65 221	2 843
2019	159 498	16 827	69 027	2 934
2020	147 863	14 825	65 388	2 104
2021	141 759	14 235	62 252	1 963
2022	144 096	14 458	64 045	1 978
2023	144 971	14 592	65 092	1 945
2024	144 977	15 141	65 707	2 022
2025	144 197	15 248	66 567	1 963
2026	141 067	15 355	65 645	1 914
2027	138 866	15 417	66 538	1 862
2028	137 309	15 482	66 474	1 811
2029	138 405	15 546	67 173	1 759
2030	137 713	15 610	67 768	1 707
2031	136 556	15 673	68 342	1 655
2032	134 364	15 762	68 901	1 603
2033	133 251	15 850	69 449	1 550

Source: own processing in MS Excel

It is clear from the forecasts that the COVID-19 pandemic affected the development of employment in the tourism industry in Slovakia. The surveyed industries, such as accommodation services, food services, and travel agency service and other reservation services had a reduced number of employees in 2020 and 2021. However, the ETS and ARIMA models project a renewed increase in the following years, which may be due to an increase in the opening of tourism enterprises. The fewest employed will be in the Travel Agencies and other reservation services where employment is around 2,000. The highest number of employed will be in the catering services sector, up to around 67,000. The impact of the COVID-19 pandemic was significant, as according to the predicted forecasts we can see a reduction of the number of employees in selected industries. The decrease was recorded from 2020 when the pandemic arrived, and anti-pandemic measures were implemented. Since then, the selected industries have not been secure for potential employees in terms of long-term employment, resulting in a decrease in the number of employees.

CONCLUSION

The COVID-19 pandemic has had an unprecedented impact on the tourism industry. Strict pandemic measures to contain the spread of the virus have brought international travel to an almost complete halt. Uncertainty among entrepreneurs in the tourism sector has also led to a decrease in the number of employees. Tourism impacts direct, indirect and induced

employment, which points to its cross-sectional character. The forecasts of world organizations in connection with the pandemic assumed that during this period the performance of the tourism industry will decrease at the level of up to 80%, according to the type of indicator. Tourism was one of the most dynamic industries in the world in 2019. This year, tourism performance reached one of the highest values in the history of monitoring. With the onset of the COVID-19 pandemic, a decrease in the number of employees is recorded in the monitored sectors of tourism in the Slovak Republic. According to forecasting of the development of employment in selected sectors of tourism in the Slovak Republic, the highest employment will be reached in 2027, while the sector with the highest number of employees will be food services. On the contrary, according to the forecast, the lowest number of employees will be reached in the travel agency and other reservation services.

The lack of comprehensiveness of data on employment in the tourism industry in all years of the COVID-19 pandemic is a limitation of this study. As the values in the achieved employment in this period can affect the overall forecast of the development of this indicator in the Slovak Republic. Another of the identified limits is the regularity of the publication of the Tourist Satellite Account, as these forecasts could be modified and supplemented during its more regular (annual) publication. This fact creates space for future investigation of this issue with an emphasis on considering the impact of the pandemic on employment after the data for all pandemic years have been compiled. In the future, it is also possible to analyse the factors that influenced the development of employment in this period, while it is possible to consider delayed time effects and shocks in the time horizon t+1.

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REFERENCES

Butler, R. W. (1998). Seasonality in tourism: Issues and Implications. *Seasonality in tourism*, 53(3), 18-24.

Commons, J. & Page, S. (2001). Managing seasonality in peripheral tourism regions: The case of Northland, New Zealand. *Seasonality in Tourism*, 153-172.

Corluka, G. (2019). Tourism seasonality – an overview. *Journal of Business Paradigms*, 4(1), 21-43.

Dopad pandémie COVID-19 na oblast cestovného ruchu v Slovenskej republike | Hogenová, M. (2020b). Retrieved 4. February 2024, from https://www.nrsr.sk/web/Dynamic/Document Preview.aspx?DocID=506717

Glossary of tourism terms | UNWTO. (2024). Retrieved 4. February 2024, from https://www.unwto.org/glossary-tourism-terms

Goulding, P. J. et al. (2004). Seasonal trading and lifestyle motivation: Experiences of small tourism businesses. *Journal of Quality Assurance in Hospitality and Tourism*, 5(2-4), 209-238.

Grobelna, A. & Skrzeszewska, K. (2019). Seasonality: Is It a Problem or Challenge Facing Future Tourism Employment? Implications for Management. *Journal of Entrepreneurship, Management, and Innovation*, 15(1), 205-230.

Gúčik, M. (2000). *Základy cestovného ruchu*. Banská Bystrica: UMB Banská Bystrica

Hogenová, M. (2020a). *Dopad pandémie COVID-19 na oblast cestovného ruchu v Slovenskej republike v období marec až august/september 2020*. Retrieved February 4, 2024, from https://www.nrsr.sk/web/Dynamic/DocumentPreview.aspx?DocID=506718

Holloway, Ch. & Humphreys, C. (2022). *The Business of Tourism*. 12th edition. Sage Publications Ltd.

Liu, A., & Wall, G. (2005). Human resources development in China. *Annals of Tourism*. Research, 32, 689–710.

Marrero Rodriguez R. et al. (2020). Tourism jobs in demand: Where the best contracts and high salaries go at online offer. *Tourism Management Perspectives*, 35(100721), 1-9.

Pachingerová, M. et al. (2013). *Ekonomika cestovného ruchu*. Bratislava : Vydavateľstvo Ekonóm.

Page, S. J. & Connell, J. (2020). *Tourism a modern synthesis*. 5th edition. Oxon: Routledge.

Romagosa, F. (2020). The Covid-19 crisis: Opportunities for sustainable and proximity tourism. In *Tourism Geographies*, 22(3), 690-694.

ŠÚSR. (2023). Satelitný účet cestovného ruchu. Retrieved 6. February 2024, from www.slovac.statistic.sk

Tibshirani, R. (2023). Lecture 7: Exponential Smoothing with Trend and Seasonality Introduction to Time Series, Fall 2023. Retrieved 4. February 2024, from https://www.stat.berkeley.edu/~ryantibs/timeseries-f23/lectures/ets.pdf

UNWTO. (2023). *International tourism and COVID-19*. Retrieved February 4, 2024, from https://www.unwto.org/tourism-data/international-tourism-and-covid-19

UNWTO. (2020b). *International tourism down 70% as travel restrictions impact all regions*. Retrieved February 4, 2024, from https://www.unwto.org/news/international-tourism-down-70-as-travel-restrictions-impact-all-regions#:~:text=Restrictions%20on%20travel%20introduced%20in,first%20eight%20months%20of%202020

Witt, S. F. & Moutinho, L. (1995). *Tourism Marketing and Management Handbook*. London-New York: Prentice Hall.

World Tourism Barometer May 2020: Special focus on the Impact of COVID-19 | UNWTO. (2020)*.* Retrieved 4. February 2024, from https://www.e-unwto.org/doi/pdf/10.18111/9789284421817

Role of Psychological Safety in Organisational Behaviour – Literature Review

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Abstract: A constructive and safe work environment is a fundamental predecessor for learning, development, and innovations in organisations. The Psychological safety appears as the predictor supporting the constructive organisational settings. Until the 1990s, the focus of academic research was on elucidating the fundamental principles of the psychological safety. Currently, however, scholars aim at explaining more nuanced questions. This expansion seeks to deepen our understanding of the intricate nature of Psychological Safety, including the identification of its antecedents and understanding of its outcomes, and the mediating and moderating effects that shape the dynamics of Psychological Safety within organisational contexts. Given the recent dynamic attention to this concept, a literature review is needed. Suggestions for future research are also provided.

Keywords: psychological safety, teamwork, team efficiency, learning, innovation development

JEL Classification codes: M14

INTRODUCTION

Today's world is interdependent on many levels. Organisations are not an exception; a collaboration of people is required to accomplish common, shared goals. The environment in which most people work can be characterised (to a smaller or larger extent) as complex and ambiguous. The less the environment carries the characteristics of simple and predictable, the more cross-expertise communication, team collaboration and learning are required on a daily basis to ensure safe operation, achieving goals and innovation. It applies not only to highly skilled, experienced experts but to any work, any position. The authors state case studies from various industries that describe the role of Psychological Safety (PS) in various workplaces - from PhD level experts in nuclear power plants and highly skilled teams in tertiary care hospitals to teams of unprivileged manual workers in mines in Africa where collaboration, speaking up with question and concerns was the critical factor that led to success or (if not present) to failure (Edmondson, 2018; Clark, 2020).

Not only business organizations see the importance of creating workplaces where people can express their best selves, grow, learn, and contribute to shared goals and innovations as a tool to flourishing – on personal, community, state, and humankind levels. National governments, represented by the United Nations, set an ambitious goal to promote inclusive, productive employment and decent work for all (United Nations a). In the Political Declaration adopted at

the High-level Political Forum on Sustainable Development (HLPF), under the auspices of the General Assembly in September 2023 in New York, one of the Shared Commitments states: "We reaffirm that the 2030 Agenda (of SDGs) is universal in nature and that its Goals and targets are comprehensive, far-reaching, people-centred, indivisible and interlinked, balancing the three dimensions of sustainable development: economic, social and environmental, in an integrated manner." (United Nations b, Political Declaration adopted at the High-level Political Forum on Sustainable Development (HLPF), under the auspices of the General Assembly in September 2023, 78/1, p.2).

The research focused on the phenomenon of Psychological safety (PS) proved that it is a crucial factor in processes enabling collaboration (Chen et al. 2017), open communication (True et al. 2014), learning (Edmondson 1999), inclusion (Singh et al. 2013, Hora et al. 2021), goals attainment and effective performance (Edmondson, 1999; Huang et al., 2008), better experience of the work / meaningful work (Grant et all., 2014; Blustein et all., 2023) and innovation (Anderson et al., 2020).

Psychological safety (PS) can be utilised as a guiding principle to answer many challenges. Considering the above-mentioned characteristics of a workplace of interdependence and ambiguity, we experience new work contexts in which (1) employees are expected to integrate ideas that stem from their expertise into cohesive team outputs, collaborate and innovate to achieve shared goals, and (2) employers are expected to create inclusive, sustainable and decent workplaces. (United Nations c).

The purpose of this paper is to establish a grounding grid - overview of research, findings, and implications of Psychological Safety (PS) in general, i.e. integrating key findings of all levels of research – individual, group, and organisational. However, a detailed review will be aimed at the individual level of Psychological Safety (PS) as the least explored area. The potential for future research will be mentioned as well.

1   LITERATURE REVIEW

Psychological safety (PS) has been studied for decades. The first attempts to describe the construct of PS can be tracked back up to the year 1965 when MIT professors Schein and Bennis (1965) studied organisational change. They identified that PS is a critical element making people feel safe and consequently willing to change their behaviour to align their efforts and actions with changing organisational and business environment. In his later work, Schein (1993) elaborated on ideas that linked PS to an environment where people do not have to focus on impression management and can rather be focused on contributing to the attainment of the group goals. Impression management as established by Goffman (1959) encompasses the strategies individuals employ to create and/or regulate what others think of them. Most often the main aim of impression management behaviours is to be more likeable for the audience, make the individual to be accepted by the group, comply with spoken or unspoken norms of the group. Striving for such compliance creates a barrier to open communication.

The turning point for the construct of Psychological Safety (PS) was the research of William Kahn (1990), in which he studied the influence of various factors (psychological meaningfulness, safety and availability) on engagement at work. He described: "Psychological safety was experienced as feeling able to show and employ oneself without fear of negative consequence to self-image, status, or career." (Kahn, 1990).

Most researchers use the definition crafted by Amy C Edmondson, in her influential paper, stating that:" Psychological safety is a shared belief held by members of a team that the team is safe for interpersonal risk-taking" (Edmondson, 1999). "Psychological safety is a belief that

one will not be punished or humiliated for speaking up with ideas, questions, concerns, or mistakes. "(TEDx Talks, 2014), PS is an environment in which people can fully express their abilities and skills without fear of being perceived as ignorant, incompetent, negative or intrusive (Edmondson, 2018). In a psychologically safe environment, people can learn from their own mistakes and the mistakes of their colleagues. People learn faster, without excessive stress and emotional strain, and can be focused on high performance and innovative solutions (Edmondson, 1999). The typical misconception about a psychologically safe environment is that it is close to the comfort zone where people are free from accountability, avoiding difficult topics and challenges. On the contrary, a psychologically safe environment enables people to overcome interpersonal insecurities and reduces the level of impression management. Those factors (1) remove barriers to sharing thoughts, concerns, questions, and feedback, (2) enable sharing mistakes and learning from them, and (3) promote asking for help for better performance and faster learning.

The last 25 years of research have built up a massive body of work exploring Psychological Safety (PS) from various perspectives, contributing to broadening knowledge and providing practical implications for leadership in various fields, i.e., business, military, state administration, education, and healthcare. Currently, we possess models that describe how PS mediates or moderates various aspects of the work process, which we can cluster into seven major categories: (1) collaboration, (2) open communication, (3) learning and (4) inclusion. PS also impacts how people experience the work process in terms of (5) personal fulfilment/meaning. Categories that play prominent roles are (6) effective performance/goal attainment and (7) innovation.

1.1. Collaboration

Most current job tasks can only be performed through interaction with co-workers.

Most research papers focus on only one of the levels on which psychological safety (PS) is studied: either individual, group, or organizational perspective of PS. However, Remtulla et al. (2021) focused in their study on the identification of four key barriers to PS covering all three levels: individual, team, and organizational; and eight facilitators of PS covering individual and team levels. This research underscores the multifaceted nature of factors contributing to PS. It emphasizes the potential for all team members to contribute to psychologically safe environment. Even in the absence of desirable leadership behaviours, team members can proactively cultivate PS.

Malhotra et al. (2017) found that PS mitigates undesirable effects of functional dominance in cross-functional teams (i.e. it mitigates risk in situations that in a cross-functional team, specific expertise is over-represented which can skew team opinion towards perspective of the domineering expertise). Furthermore, their model (Malhotra et al. 2017) described the behaviours that the leader of the cross-functional team needs to employ to mitigate the risk of sub-optimal performance if, due to practical constraints, when the team cannot avoid functional dominance. Those behaviours are all linked to creating PS.

Empowerment and self-empowerment to collaborate not only on the job tasks but also contribute to creating the PS itself is an essence of the construct of PS. As opposed to many leadership theories, PS puts more focus on team members' active participation. A leader´s responsibility is to follow 3 step process: „setting the stage, inviting participation, and responding productively" (Edmondson, 2018). A team member is responsible for joining the leader in the endeavour, contributing to, appreciating, and supporting others´ contributions.

1.2. Open Communication

Reducing interpersonal risk (risk resulting from interpersonal interactions that can impact a person´s acceptance and social status in a group (St. Amour, 2004)) enables people to contribute with their ideas and raise concerns. However, psychologically safe communication is not voicing all ideas at all times. Reducing self-censorship needs to go hand in hand with creating rules, embracing non-judgemental communication, and creating platforms where people can use their voice to enrich others and contribute to shared efforts.

The massive body of research on speaking up with concerns and communicating across professional boundaries was done in healthcare, a sector that attracted the most attention during the initial phases of exploring Psychological Safety (PS). The latest work of True (2014) on communication across different expertise in medical homes among primary care staff adds a deeper perspective of open communication outside the stable team. Research from different industries shows how PS can prevent the detrimental effects of office politics on relationships (Li et al., 2014) and the role of positive mood in promoting employees (Liu W. et al., 2015).

The pioneering work of Detert & Edmondson (2011) on the implicit voice theories shows that the popular notion of a leader being able to motivate or stop open communication is not the complete picture. People have certain expectations of harsh consequences of their voice (that are not supported by any actual events or interaction) that stop them from engaging in communication fully or at all. In addition, reluctance to speak up is not always caused by fear of consequences but inappropriateness of the message, messenger, or place. As everyone carries his/her life experience (gained prior to entering the current team with the current leader), building PS is a prerequisite necessary but not sufficient to combat the implicit voice theories (unstated and unconfirmed expectation from engaging in difficult topics discussion). It does not mean we can resign to build the PS – it only means that the benefit from open communication can come to fruition with delay.

1.3. Learning

Long-life learning is not only the personal strategy to keep up with the increasing speed of change and continuously prolonging engagement in the work process due to prolonging life. From an organisational perspective, continuous learning needs to be seen as a series of daily mini interactions that contribute to increasing the organisation's competitiveness or strengthening the purpose (service) of the state institution. The interaction between people, sharing best practices, mistakes and learnings from them - if facilitated and fully exploited - is a key element supporting the flourishing of people, organisations, and communities.

Edmondson (1999), in her paper, tested various hypotheses to understand how Psychological Safety (PS) influences the learning process and performance. She proved that the team PS predicts team learning behaviour, i.e. "Seeking feedback, discussing errors, seeking information and feedback from customers and others" (Edmondson, 1999). In her model, she explores even further and proves that team learning behaviour is a mediator between team PS and team performance (Edmondson, 1999). It shows that PS is not a goal per se. It is an enabler and accelerator of the learning process in everyday interaction in the workplace.

During the last decade, a plentiful body of research focused on understanding the moderating and mediating effects of PS on learning behaviour was published, providing more details on how the learning process happens. Bresman & Zellmer-Bruhn (2013) argue that a solid team structure promotes interactions, discussions and learning among team members, while in a team where strict organisational structure hinders team task autonomy, learning happens

externally (team independent). PS mediates the relationship between team structure and internal team learning.

Particularly enriching are two pieces of research by Wilhelm et al. (2019) and Hood et al. (2016). Their research attempts to shed light on the linkage between PS and group transactive memory system. Wilhelm (2019) argues that if PS on the group level is present and the transactive memory system is present as well (transactive memory system is "… memory that is influenced by knowledge of the memory system of another person" (Lewis, 2003), then it employees can fully exploit the learning opportunity, mitigating the inherent barrier to learning caused by the defensive reaction on an intra-personal level and by impression management on an inter-personal level. Hood (2016) undertook research examining the role of PS in discussing mistakes, focusing on positive and negative affect and its relationship to updating, enriching, and developing transactive memory system. He found that negative affectivity diminishes the development of the group's transactive memory system. Moreover, negative affectivity indirectly lowers PS, which could mitigate the risk of silence and blame as opposed to asking and providing help and learning from mistakes on the team level.

1.4. Inclusion and Diversity

To explore the full potential of diverse teams (particularly if partly or fully working online), the inclusion of the team members is of paramount importance. The inclusion of a person as a human being to the team is a basic human right; however, the inclusion of a person as an executor of a work role is linked to the ability of the person to fulfil the role expectation and contribute back to the team's common goal fulfilment. A high level of Psychological Safety (PS) lowers barriers to asking questions, calling for and offering help, sharing suggestions, and learning from mistakes. Therefore, PS provides benefits to all parties. (1) A person who experiences a PS behaviour can learn faster, contribute back to the team and experience respect and dignity; (2) the team benefits from being enriched by additional skills, strengths, talents and ideas; (3) the company experiences benefit in terms of effective goal delivery and innovation.

Kirkman et al. (2013) have examined specific teams – teams of „communities of practice"("Groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis" (Wenger et al., 2000). The research proved that critical drivers of performance of the „community of practice"are a high level of diversity and frequency and extent of communication – when moderated by a high level of PS.

In the last few years, the number of research papers from countries with various cultures has increased significantly. Chinese researchers play an exceptional role in the volume of peer-reviewed papers from non-US environment. Chen et al. (2017) worked with a sample of 61 workgroups to confirm their hypothesis that a curvilinear relationship exists between faultlines and team performance. (Faultlines are imaginary yet noticeable dividing lines breaking a group or team into subgroups.) Each subgroup is formed based on specific attributes, i.e. race, sex, age, nationality, hometown, and alma mater. PS reduces the negative impact of faultlines on team performance.

1.5. Performance and Goal Attainment

The first piece of research that presented a model linking Psychological Safety (PS) with performance was the one developed by Edmondson (1999) in her pioneering study surveying teams of furniture producer. She proved that all teams - regardless if they were cross or single-

functional, temporarily formed or permanent, manager-led or self-led – achieved better performance once PS was present, with learning behaviour as a mediator translating PS to performance. Her findings were confirmed by Huang et al. (2008) in Taiwan research. Currently, teams are not stable entities. People join and leave the teams based on the need for their expertise. Research on boundary spanners (people who are linking the team´s internal networks with external sources of information or other teams" (Tushman & O'Reilly, 2002) and boundary work (spanning, buffering, and reinforcing) proved that PS is positively linked to team performance (Faraj & Yan, 2009). Bienefled & Grote (2014) proved that "within the home-team" PS of boundary spanners played a key role in mitigating the negative effects of status differences and promoted the habit of speaking up across boundaries. Boundary spanners play a critical role in voicing concerns and contributing with expertise, knowledge, and experience to problem-solving. Therefore, the models that help understand how to remove barriers to cooperation across teams can provide guidance to better performance in complex organizations.

The most significant research executed in a business setting by Google (code-name project Aristotle) proved that PS was the critical factor explaining why some teams outperformed others (Duhigg, 2016). Research started in 2012 and used data from more than 180 work teams, proving that there are five key factors that ensure better performance when present in teams. Interestingly, those factors were not characteristics attributed to individual team members (i.e. personality traits or time spent together as a team); all individual linked characteristics proved insignificant. What surprised the researchers in a 2+ years-long multilevel research project was that all factors were linked to "how" the team members interact. PS was proved to be the most important out of those five factors; moreover, if PS was not present, then none of the remaining 4 factors enhanced the performance.

1.6. Better Work Experience and Meaningful Work

With stress levels record-high as an after-math of COVID and other societal challenges, PS was studied as a mitigating factor of stress, undesirable work experiences i.e. bullying, incivility, and burnout.

PS was proven to work as an antidote to exhaustion from high-performance expectations (Grant et al., 2014). Referring to research presented in the section on Performance/Goal attainment, it is clear that PS not only creates an environment where it is easier to meet high-performance standards. It also ensures that the personal experience of people working in psychologically safe teams will be better. Empowering pieces of research describe PS as a significant factor in mitigating behaviours of bullying and incivility (Klingbert et al. 2018). Moreover, the existence of PS is able to help to manage the consequences of undesirable behaviour in the workplace. The existence of PS also predicts an increased likelihood that bullying behaviour will be addressed and discussed within the team and that the bullied person will experience support from the team members (Shea et al., 2018; MacCurtain et al., 2018).

1.7. Innovation

The challenges of today's world require employing innovative thinking to progress on solutions to acute global objectives, social problems, business goals and issues of individual people, teams, and communities. The barriers standing in the way of employing innovative thinking can be overcome by strengthening PS.

Interesting research from China by Gu (2013) showed that "psychological safety and learning from mistakes (LFM) partially mediated the relationship between the structural and cognitive

capital and innovation in R&D teams, and fully mediated the relationship between the relational capital and innovation in R&D teams" (Gu et al., 2013). How PS supports innovative processes was also tested in a European context, analysing data from Norwegian SMEs (small and medium enterprises). It suggests that when a workplace fosters an atmosphere where employees feel safe to take interpersonal risks and share ideas, organisations as a whole tend to perform better in terms of innovation. The findings show that when employees feel psychologically safe, there is a higher organisational level of innovation in various areas like products, processes, services, and even their business models. (Anderson et al., 2020).

1.8.   Summary

Establishing PS should not serve as a goal per se; it is a means to achieve the goal of a productive and decent workplace. PS is often described as soil into which the seed of work needs to be planted. PS is a construct that describes parameters of the environment in which collaboration, open communication, and learning occur without barriers, where goals are attained, innovations are developed with minimum interpersonal barriers, and where people experience an inclusive and positive atmosphere in the work teams.

By definition, a psychologically safe environment can be created only if there is (1) a group of people, (2) closely and frequently interacting with each other, and (3) collaboratively working on a common goal. PS is, therefore, a concept inherently linked to a team's existence. However, team PS can be measured only because of individual perceptions of the PS of each team member. Those individual perceptions of PS necessarily and logically differ from person to person. Most of the research on PS is focused on the team level. However, the authors believe the individual level of PS is an area to be studied as there is an increasing trend of remote work, fluid teaming, and multi-team membership. Organisations will not be formed from long-term teams where one leader will influence the members who spend a substantial amount of time working on a single goal, enjoying the benefits of long-term relationships.

2   METHODOLOGY

Uncovering the current knowledge of Psychological Safety (PS) in general with a specific focus on individual level of PS there was stated the following research question:

RQ1: How can be the key determinants of Individual level of PS categorised?

The bibliometric analysis of the term "psychological safety" resulted in 1167 articles in the Web of Science database, category Management, within the period 1994 to 2024. Given the focus on the assessment of the individual level of the phenomenon, the bibliometric analysis was narrowed to the terms "psychological safety" and "individual level". Based on the analysis of articles indexed in the Web of Science database, there were published only 162 articles on topic since 1994, while the majority of them were published since 2016. The relatively new and unexplored territory resulted in specific literature review approach.

Table: Bibliometric analysis of terms "psychological safety" and "individual level"
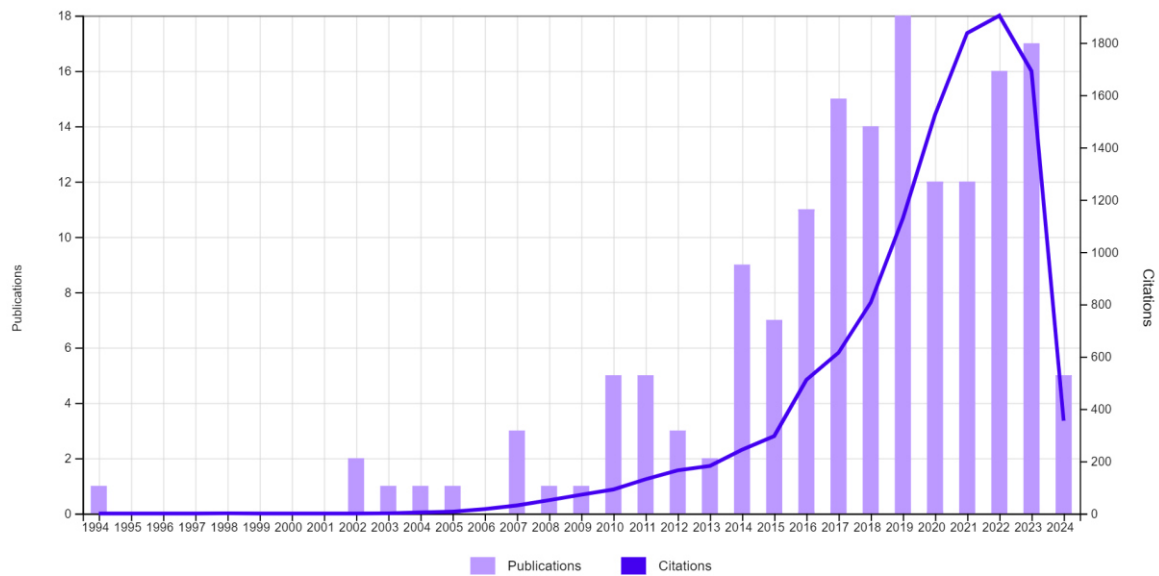
Source: Web of Science, own research

The literature review was based on snowballing strategy. The procedure started from the Psychological Safety renowned author Amy Edmondson and her newest books *"Right Kind of Wrong: The Science of Failing Well" (2023) and Fearless Organisation: Creating Psychological Safety in the Workplace for Learning, Innovation, and Growth (2018)*. Both forward and backward snowballing was used (Wohlin, 2014). The academic databases Web of Science and Google Scholar were used. Web of Science served for both forward and backward directions, and Google Scholar for forward direction only.

Snowballing was chosen over the more common database search for the following reasons: there was clearly an appropriate seed (start) set of relevant sources (Wohlin, 2014), and snowballing is expected to be more efficient by reducing the amount of noise if the database search keywords include general terms (Wohlin, 2014). The potential threat of judgments based on the title of the paper only, when applying backward and forward snowballing, which might result in missing papers with no relevant keyword in the title (Jalali and Wohlin, 2012) was eliminated as authors analysed whole papers.

3   RESULTS AND DISCUSSION

We need to understand how team Psychological Safety (PS) influences an individual and how an individual can contribute to creating a psychologically safe environment.

Although PS at the individual level is a relatively new perspective, there are research papers that bring new insights from various points of view.

Reviewing the research on the individual level of Psychological Safety (PS), the authors identified building on work of Clark (2020) the following areas that demonstrate the four bases of individual Psychological Safety (PS): (1) inclusion, (2) learning & experimenting, (3) collaboration, (4) open communication & challenging the status quo. Those four bases are inevitably interconnected and lead to outcomes in the form of better performance, innovation, and better work experience.

3.1 Inclusion

Singh et al. (2013) elaborate on diversity, resp. diversity-supporting behaviours as a driver of performance and examine role of Psychological Safety (PS) in the process. The research showed that relationships between racial diversity and (1) in-role performance (performance of the tasks related to a job description), (2) extra-role performance (displaying helping behaviours towards organization as a whole and also directed towards individuals) are mediated by PS. It proves that PS can serve as a true inclusion factor turning diverse workplaces into inclusive environment where people can show their authentic strengths and through it contribute to job tasks fulfilment and also go above and beyond and self-actualise themselves through helping other people and organization.

Hora et al. (2021) describes how PS helps to overcome difference in self-perception among men and women that if not addressed leads to faulting which then leads to suboptimal performance. Researchers investigated the creative self-efficacy of men and women in departments of US food producer where it was desirable to employ creativity to fulfil job requirements. The research confirmed differences in perceived self-efficacy between men and women. It also created a model that describes how the difference in creative self-efficacy between men and women can be bridged through PS. PS creates a space for open communication, idea sharing, mutual learning among team members, motivates search for new solutions, and peer mentoring. All this leads to the fact that PS has a positive effect on creative self-efficacy, for both men and women. Moreover, women benefit from PS disproportionately more in comparison with men (Hora et al., 2021). Thus, PS helps to improve inclusion ensuring that none of the voices of different team members is neglected. The inclusion of all team members in the discussion not only serves to improve work experience of each individual but also helps to increase number of ideas and inputs to team effort.

3.2 Learning & experimenting

Interesting insight on a role of PS in hospitality business demonstrated how an industry prone to errors and at the same time with very high expectations for flawless work can benefit from employing psychologically safe behaviours. More the non-blame approach to mistakes is adopted, stronger the self-efficacy (a person's belief in their ability to succeed in a particular situation, job, task) as well as PS. Self-efficacy and PS influence directly as well as cross-influence willingness to admit mistake and learn from the mistake (Wang et al. 2020). Creating environment where it is acceptable to share mistake and learn from it leads to better service recovery performance. Welcoming the mistake sharing should not be mistaken for environment that promotes low quality standards. Shame-free environment promotes sharing mistakes that leads to accelerated learning process. Employees can learn not only from their own mistakes but also from others´ failures which amplifies performance and customer experience.

Espedido & Searle (2020) examined what is the role of PS in behaviours leading to innovation. They proved that when people (on intra-personal level) feel psychologically safe, it influences their perception of problem-solving demands as positive challenge (challenge appraisal), it then subsequently encourages them to come up with new ideas and solutions (engage in innovation). "The only significant mediation effect at the within-person level was problem-solving demands on individual innovation, via challenge appraisal." (Espedido & Searle 2020, page 12). "Results showed that psychological safety climate moderated the within-person effect of problem-solving demands on challenge appraisal." (Espedido & Searle 2020, page 13).

Wilhelm and Semrau (2019) help to clarify questions related to how desirable behaviour of learning from mistakes prevail over inhibiting behaviour of defensiveness and avoidance. When

employees work in teams where there is at least medium level of PS, they are more inclined to learn from their mistakes. Additionally, when these teams have a transactive memory system, it supports individual learning from failure further.

3.3   Collaboration

In the current state of rapidly assembling, disassembling, changing, and evolving teams, the need to understand how helping and collaborating behaviors can be nurtured is critical, as only through collaborative processes can shared goals be achieved.

May et al. (2004) directly built on Kahn's (1990) research examining the role of psychological availability, safety, and meaningfulness on engagement. In their work, they proved that PS plays a mediating role both between supervisor-employee relations and employee engagement, as well as between co-worker-employee relations, and employee engagement. 'Rewarding co-worker and supportive supervisor relations were positively associated with psychological safety' (May et al., 2004, page 11). Based on the meta-analysis of Neuber et al. (2022) describing the link between engagement and performance, we can conclude that engagement is linked to increased task performance, therefore, work confirming the mediating effects of PS on engagement contributes to better performance.

Frazier & Tupper's (2018) research is revolutionary as it elaborates on work of Nembhard & Edmondson (2006) who argue that leader's individual's level of PS tends to be higher than the team members' individual level of PS. Nembhard & Edmondson (2006) explain that the dynamics is relevant for any relationship where the status is present, i.e. senior vs junior team member, length of belonging to the team, level of professional education or experience. The higher the status position, the higher the individual PS. Frazier & Tupper (2018) research quantifies effects of leader role-modelling and positive/desirable trickledown effect on employee PS (positive relationship between level of leader self-perceived PS and level of employee PS). The second part of the model elaborates on effects of employee PS on (1) if and how employees are willing to help each other and (2) how employees tackle job duties. PS influences two above mentioned elements through employee thriving (employee thriving is defined "a psychological state in which individuals experience both a sense of vitality and a sense of learning at work" (Spreitzer, Sutcliffe, Dutton, Sonenshein, & Grant, 2005, p. 538)).

Li & Tan (2013) focused on exploring the role of trust in a leader on employee performance. Results of their research show that trust is not only a social phenomenon but also plays the role of a business value generator. PS mediates the relationship between trust in a supervisor and job performance. Employee trust in a supervisor generates better job performance with PS being one of the mediating factors (the second one is psychological availability) (Li & Tan, 2013). The mediating role of PS was also proven by the research mentioned earlier by Singh (2013), where PS positively influences performance.

3.4   Open communication & challenging status quo

Detert and Burris (2007) undertook two-phase study to investigate influence of (1) transformational leadership and (2) managerial openness on subordinate improvement-oriented voice. They discovered a positive relationship between how freely the subordinate expresses opinions and both the leader's openness and transformational leadership style. "We also found psychological safety to play a mediating role in the leader behavior–voice

relationship and found the influence of leader behaviors on voice to be more pronounced for subordinates with high performance." (Detert & Burris 2007).

Liang et al. (2012) examined PS, felt obligation for constructive change, and organization-based self-esteem to find dynamics behind forming promotive voice (expressing improvement ideas and future-oriented solutions) and prohibitive voice (i.e. pointing out harmful factors or expressing concerns). Research data were collected on the Chinese market, and the research showed that felt obligation for constructive change (perceived obligation to organization to put effort to help an organization in improvements) was related to promotive voice; while PS is strongly related to prohibitive voice mitigating inhibiting effects of inappropriateness of the individual voice and promoting speaking up. It draws an interesting base for ideas on how to encourage employees to share ideas and concerns in a non-US (high power distance) culture. It was also proven in a study conducted in China where Liu et al. (2015) explored how PS contributes to an environment that enables whistleblowing. On top of widely researched barriers to whistleblowing, i.e. fear of retaliation and perceived futility, Liu et al. (2015) also examined elements highly relevant to the local culture, i.e. the potential endangerment of "guanxi"–network/connections and a strong need for harmony). The research proved that PS mediates the relationship between authentic leadership and whistleblowing.

CONCLUSION

Conclusion

Today´s world, characterized by interdependencies and ambiguity, demands collaborative efforts within organizations to attain shared objectives. Effective communication, team synergy, and continuous learning are paramount for operational safety, goal achievement, and innovation. Psychological Safety (PS) emerges as a pivotal factor in facilitating these dynamics, fostering an environment where individuals feel secure to express themselves, raise concerns, and contribute ideas without fear of reprisal.

Moreover, the significance of Psychological Safety (PS) extends beyond the confines of business organizations. National governments, represented by the United Nations, have embraced promoting inclusive and decent work as a fundamental goal. This commitment is enshrined in 17 SDGs – Sustainable Development Goals, particularly Goal 8: Decent Work and Economic Growth.

Research examining PS underscores its multifaceted benefits, including enhanced collaboration, communication, learning, inclusion, goal attainment, performance, meaningful and fulfilling work, and innovation. These benefits are evident at the individual, group, and organizational levels.

The paper presents elaboration of four key areas of psychological safety at the individual level, namely inclusion, learning and experimenting, collaboration, and open communication and challenging the status quo.

As such, the paper seeks to provide a comprehensive overview of research findings on PS, with a particular emphasis on its implications at the individual level, which remains relatively underexplored and very much needed to help prepare workplaces that reflect current challenges, i.e. the rising prevalence of remote/hybrid work, flexible team structures, and participation in multiple teams simultaneously. Fast team formation on an interpersonal level is necessary to enable people to solve work problems, learn from each other and innovate. Quality of interpersonal relationships impacts the workplace experience of each individual

employee and trickles down to imminent families and broader communities. Building PS can support personal, organizational, business, and even large communities' thriving.

Future Research Recommendations

Further research could focus on understanding how cultural differences influence the mechanism by which Psychological Safety (PS) is created. We hypothesise that different behaviours or different degrees to which a particular behaviour is manifested in a specific culture can contribute to or undermine the creation of PS. Based on Hofstede´s (1980) cultural dimensions theory, elements, i.e. power distance and uncertainty avoidance, should be examined more closely. Current work done on the felt obligation to voice concerns in Chinese companies (Liang et al., 2012) and prerequisites on implicit voice theories (Detert & Edmondson, 2011) shows that there might be culturally and socially driven motivators that shape the mechanism of voice differently. The finding might have a tremendous impact on the efficiency of multi-national corporations as humankind can benefit from models suggesting how to modify the best practices when planning for implementation in different markets. Such a work would contribute to supporting the inclusion of different perspectives.

Further research could focus on understanding if there are differences in expectations (related to the level of PS) among generations. In the current workplace, there are four distinct generations: Boomers, Generation X, Generation Y, and Generation Z. With the expected prolongation of participation in the work process, the diversity of the workforce needs to be addressed in a way that will lead to inclusion and collaboration. Research discovering similarities and differences in the role of particular behaviours in increasing PS will benefit leaders and organisations and could contribute to the meaningful implementation of the 2030 Agenda (SDGs).

PS within teams and organisations is promoted not only by the behaviours of the leaders but also by the interactions of all team members. While leaders play a crucial role in setting the principles and intents, team members also significantly affect the PS experienced by individuals. Understanding the dynamics will help today and, in the future, when we will see an increasing number of self-managed teams and the floating roles of the leaders. Understanding the impact of human interactions experienced from hierarchical vs peer positions will help create effective teams in future.

The levels of PS of a specific person established within teams can cross-influence the level of PS of other teams in which the specific person participates. The pivotal work of Bienefeld & Grote (2014) showed how enlightening it is to examine the individual levels of PS in the context of multi-team membership. Further work on this topic would be highly valuable.

The building blocks of PS are rooted in communication. Mini-interactions of everyday work life have an impact if a psychologically safe environment flourishes or deteriorates. It would be beneficial to observe how the most common interaction, particularly feedback, needs to be approached to support the personal and professional growth of the person while also supporting the individual level of PS.

REFERENCES

Anderson, M., Moen, O., & Brett, P. O. (2020). The organizational climate for psychological safety: Associations with SMEs' innovation capabilities and innovation performance. *Journal of Engineering and Technology Management, 55*, 101554. https://doi.org/10.1016/j.jengtecman.2020.101554

Bienefeld, N., & Grote, G. (2014). Speaking up in ad hoc multiteam systems: Individual-level effects of psychological safety, status, and leadership within and across teams. *European Journal of Work and Organizational Psychology, 23*(6), 930-945. https://doi.org/10.1080/1359432X.2013.808398

Blustein, D. L., Lysova, E. I., & Duffy, R. D. (2023). Understanding decent work and meaningful work. *Annual Review of Organizational Psychology and Organizational Behavior, 10*, 289-314. https://doi.org/10.1146/annurev-orgpsych-031921-024847

Bresman, H., & Zellmer-Bruhn, M. (2013). The structural context of team learning: Effects of organizational and team structure on internal and external learning. *Organization Science, 24*(4), 1120-1139. https://doi.org/10.1287/orsc.1120.0783

Clark, T. R. (2020). *The 4 stages of psychological safety: Defining the path to inclusion and innovation*. Berrett-Koehler Publishers.

Detert, J. R., & Burris, E. R. (2007). Leadership behavior and employee voice: Is the door really open? *Academy of Management Journal, 50*(4), 869-884. https://doi.org/10.5465/AMJ.2007.26279183

Detert, J. R., & Edmondson, A. C. (2011). Implicit voice theories: Taken-for-granted rules of self-censorship at work. *Academy of Management Journal, 54*(3), 461-488. https://doi.org/10.5465/AMJ.2011.61967925

Duhigg, C. (2016). What Google learned from its quest to build the perfect team. *The New York Times Magazine*, 26. Retrieved 8 May 2023, from https://www.nytimes.com/2016/02/28/magazine/what-google-learned-from-its-quest-to-build-the-perfect-team.html

Edmondson, A. (1999). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly, 44*(2), 350-383. https://doi.org/10.2307/2666999

Edmondson, A. C. (2018). *The fearless organization: Creating psychological safety in the workplace for learning, innovation, and growth*. John Wiley & Sons.

Edmondson, A. C. (2023). *Right kind of wrong: The science of failing well*. Simon and Schuster.

Employment, decent work for all and social protection | United Nations. (n.d.). Retrieved 1 January 2023, from https://sdgs.un.org/topics/employment-decent-work-all-and-social-protection

Faraj, S., & Yan, A. (2009). Boundary work in knowledge teams. *Journal of Applied Psychology, 94*(3), 604. https://doi.org/10.1037/a0014367

Goffman, E. (1959). *The presentation of self in everyday life*.

Gu, Q., Wang, G. G., & Wang, L. (2013). Social capital and innovation in R&D teams: The mediating roles of psychological safety and learning from mistakes. *R&D Management, 43*(2), 89-102. https://doi.org/10.1111/radm.12002

Hofstede, G. (1980). Culture and organizations. *International Studies of Management & Organization, 10*(4), 15-41.

Hora, S., Lemoine, G. J., Xu, N., & Shalley, C. E. (2021). Unlocking and closing the gender gap in creative performance: A multilevel model. *Journal of Organizational Behavior, 42*(3), 297-312. https://doi.org/10.1002/job.2500

Jalali, S., & Wohlin, C. (2012). Systematic literature studies: Database searches vs. backward snowballing. In *Proceedings of the ACM-IEEE International Symposium on Empirical Software Engineering and Measurement* (pp. 29-38). https://doi.org/10.1145/2372251.2372257

Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal, 33*(4), 692-724. https://doi.org/10.2307/256287

Kahn, W. A. (2007). Meaningful connections: Positive relationships and attachments at work. In J. E. Dutton & B. R. Ragins (Eds.), *Exploring positive relationships at work: Building a theoretical and research foundation* (pp. 189–206). Lawrence Erlbaum Associates Publishers.

Klingberg, K., Gadelhak, K., Jegerlehner, S. N., Brown, A. D., Exadaktylos, A. K., & Srivastava, D. S. (2018). Bad manners in the emergency department: Incivility among doctors. *PLoS One, 13*(3), e0194933. https://doi.org/10.1371/journal.pone.0194933

Li, A. N., & Tan, H. H. (2013). What happens when you trust your supervisor? Mediators of individual performance in trust relationships. *Journal of Organizational Behavior, 34*(3), 407-425. https://doi.org/10.1002/job.1812

Li, J., Wu, L. Z., Liu, D., Kwan, H. K., & Liu, J. (2014). Insiders maintain voice: A psychological safety model of organizational politics. *Asia Pacific Journal of Management, 31*, 853-874. https://doi.org/10.1007/s10490-013-9371-7

Liang, J., Farh, C. I., & Farh, J. L. (2012). Psychological antecedents of promotive and prohibitive voice: A two-wave examination. *Academy of Management Journal, 55*(1), 71-92. https://doi.org/10.5465/amj.2010.0176

Liu, S. M., Liao, J. Q., & Wei, H. (2015). Authentic leadership and whistleblowing: Mediating roles of psychological safety and personal identification. *Journal of Business Ethics, 131*, 107-119. https://doi.org/10.3389/fpsyg.2022.901085

Liu, W., Tangirala, S., Lam, W., Chen, Z., Jia, R. T., & Huang, X. (2015). How and when peers' positive mood influences employees' voice. *Journal of Applied Psychology, 100*(3), 976. https://doi.org/10.1037/a0038066

MacCurtain, S., Murphy, C., O'Sullivan, M., MacMahon, J., & Turner, T. (2018). To stand back or step in? Exploring the responses of employees who observe workplace bullying. *Nursing Inquiry, 25*(1), e12207. https://doi.org/10.1111/nin.12207

Malhotra, M. K., Ahire, S., & Shang, G. (2017). Mitigating the impact of functional dominance in cross-functional process improvement teams. *Decision Sciences*, 48(1), 39-70. https://doi.org/10.1111/deci.12217

May, D. R., Gilson, R. L., & Harter, L. M. (2004). The psychological conditions of meaningfulness, safety and availability and the engagement of the human spirit at work. *Journal of occupational and organizational psychology*, 77(1), 11-37. doi:10.1348/096317904322915892

Nembhard, I. M., & Edmondson, A. C. (2006). Making it safe: The effects of leader inclusiveness and professional status on psychological safety and improvement efforts in health care teams. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, 27(7), 941-966. https://doi.org/10.1002/job.413

Neuber, L., Englitz, C., Schulte, N., Forthmann, B., & Holling, H. (2022). How work engagement relates to performance and absenteeism: a meta-analysis. *European Journal of Work and Organizational Psychology*, 31(2), 292-315. https://doi.org/10.1080/1359432X.2021.1953989

Political Declaration adopted at the High-level Political Forum on Sustainable Development (HLPF), under the auspices of the General Assembly in September 2023, 78/1. UN | United Nations b. (n.d.). Retrieved 1 January 2023, from https://undocs.org/Home/Mobile?FinalSymbol=A%2FRES%2F78%2F1&Language=E&DeviceType=Desktop&LangRequested=False

Remtulla, R., Hagana, A., Houbby, N., Ruparell, K., Aojula, N., Menon, A., ... & Meyer, E. (2021). Exploring the barriers and facilitators of psychological safety in primary care teams: a qualitative study. *BMC health services research*, 21(1), 1-12. https://doi.org/10.1186/s12913-021-06232-7

Schein, E. H. (1993). On dialogue, culture, and organizational learning. *Organizational dynamics*, 22(2), 40-52. https://doi.org/10.1016/0090-2616(93)90052-3

Schein, E. H., & Bennis, W. G. (1965). *Personal and organizational change through group methods: The laboratory approach.* New York: Wiley.

Shea, T., Cooper, B., De Cieri, H., Sheehan, C., Donohue, R., & Lindsay, S. (2018). Postincident support for healthcare workers experiencing occupational violence and aggression. *Journal of nursing scholarship*, 50(4), 344-352. https://doi.org/10.1111/jnu.12391

Singh, B., Winkel, D. E., & Selvarajan, T. T. (2013). Managing diversity at work: Does psychological safety hold the key to racial differences in employee performance?. *Journal of occupational and organizational psychology*, 86(2), 242-263. https://doi.org/10.1111/joop.12015

St. Amour, W. F. (2004). Interpersonal risk aversion: An impediment to learning and knowledge translation for innovation. *Risk Management*, 6, 31-47. https://doi.org/10.1057/palgrave.rm.8240178

TEDx Talks. (2014, May 5). Building a psychologically safe workplace / Amy Edmondson / TEDxHGSE [video]. YouTube. Retrieved 1 January 2023 from https://www.youtube.com/watch?v=LhoLuui9gX8

The 17 goals UN | United Nations a. (n.d.). Retrieved 1 January 2023, from https://sdgs.un.org/goals

Tushman, M., & O'Reilly, C. A. (2002). Winning through innovation: A practical guide to leading organizational change and renewal. Harvard Business Press.

Wang, X., Guchait, P., & Paşamehmetoğlu, A. (2020). Tolerating errors in hospitality organizations: relationships with learning behavior, error reporting and service recovery performance. *International Journal of Contemporary Hospitality Management*, 32(8), 2635-2655. https://doi.org/10.1108/IJCHM-01-2020-0001

Wenger, E., McDermott, R., & Snyder, W. M. (2000). *A guide to managing knowledge: Cultivating communities of practice.* Harvard Business School Press

Wilhelm, H., Richter, A. W., & Semrau, T. (2019). Employee learning from failure: A team-as-resource perspective. *Organization Science*, 30(4), 694-714. https://doi.org/10.1287/orsc.2018.1255

Wohlin, C. (2014, May). Guidelines for snowballing in systematic literature studies and a replication in software engineering. In *Proceedings of the 18th international conference on evaluation and assessment in software engineering* (pp. 1-10). https://doi.org/10.1145/2601248.2601268

Exploring the Impact: Influence of Social Media Application Indicators on Consumer Behavior

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Abstract: Evolution of the internet developed new digital channels, including social media, on which consumers create virtual identities and dedicate them significant amount of time. Phenomena of social media along with rising popularity of smartphones creates pressure on social media providers, marketers and also policymakers, to adjust technical, marketing and regulation processes to leverage and direct potential of social media. The main aim of the article is to investigate influence of social media smartphone applications indicators on consumer behavior and advise technical, marketing and regulation optimization to increase usage and safety of these applications. App store data about the most popular social media applications were collected, analyzed, visualized and interpreted. Research outputs revealed apps capacity and age restrictions limitations, which might serve as decelerator of more extended usage of the researched applications.

INTRODUCTION

In today's dynamic digital world, the ways users consume media and interact with technology are constantly evolving. The rapid advancement of technology and shifting consumer preferences are triggering significant changes in media consumption patterns, with social media platforms becoming increasingly central to our daily lives. This transformation affects how people communicate, access information, and entertain themselves.

As the number of social media users continues to grow, companies and content creators must adapt to remain relevant. This requires a deep understanding of consumer behaviors and content preferences, as well as the ability to leverage new technologies and platforms. These trends in social media usage reflect broader changes in digital engagement, necessitating ongoing reassessment of strategies for content delivery and audience interaction.

The impact of these shifts extends across various sectors, influencing news dissemination, brand marketing, and more. The decline in traditional referral patterns from social networks to news websites highlights the need for adaptive strategies in media and marketing. As new social media platforms emerge and existing ones innovate, it is crucial to stay ahead of these trends to effectively capture and retain audience attention. Following literature review aims to

document and analyze these dynamic changes, providing insights into the current landscape of media consumption and the technological influences driving these trends.

1   LITERATURE REVIEW

The changing preferences of consumers regarding content and the rapid advancement of technology are driving an increasing trend in media consumption. According to Kemp (2023), the number of social media users is expected to continue growing at a faster rate than in previous years. Keipos' online analytics support this observation, showing a 1.6 percent increase in active social media users over the past three months. To put this into perspective, this increase translates to an average of 9.6 new users adopting social media every second over the 90-day period. Additionally, Keipos' analysis indicates a further acceleration in user growth during the third quarter of the year (Keipos, 2023).

The expected continuation of this upward trend in media consumption highlights the importance for companies to understand consumer behaviors and content preferences (Čvirik, 2020; Kita et al., 2023; Nazarov et al., 2020). It is worth noting within this context that metrics related to active user identities do not always represent distinct individuals. Important factors to consider include the potential inaccuracies in data about social media users due to factors like duplicate or fake accounts, errors in recording users' ages, and differences between census data and actual population numbers (Goyal et al., 2023).

According to insights from Simon Kemp's online analytics tool Dataportal, the average time spent by social media users on social platforms is approximately 2.5 hours per day. While there has been a slight decrease in the average time spent on social media over the past year, data shows that working-age internet users still dedicate more than a third (35.9 percent) of their overall online activity to social media activities. Moreover, users continue to use a variety of social platforms, averaging 6.7 platforms per user per month. However, recent months have seen noticeable shifts in social networking site usage patterns (Kemp, 2023).

In recent discussions, considerable attention has been paid to an investigation by Similarweb, which highlighted a decrease in traffic from social networks to news-focused websites. The study's findings show varying levels of impact across different news channels, but overall, Similarweb's analysis indicates a significant decrease in referrals from social networks, with premier news outlets experiencing a reduction of over 60 percent. Reports suggest that changes in algorithms and policies implemented by Facebook and X (formerly Twitter) are the main reasons behind the decline in social network referrals, partly due to these platforms' significant role in distributing news content and driving traffic compared to other social networks (Similarweb, 2024).

The impact of this trend on news-oriented websites, compared to its effects on other industries, requires careful analysis. Providing a definitive answer to this question is difficult due to the diverse nature of trends across different geographic regions and industrial sectors. However, in an attempt to understand these dynamics better, Kepios examined web traffic patterns for over 100 prominent global consumer brands, using data provided by Semrush. The overall analysis indicates a noticeable decrease in referrals from organic social media posts within the consumer brand sector over the past year (Kepios, 2023). Currently, major social media platforms such as Facebook, Instagram, or Twitter are almost universally present. However, there is also a growing number of emerging social networks catering to specialized markets or niche domains that may not have gained widespread attention yet (Evans et al., 2023).

Social media has become the world's most effective means of communication in a short span of time due to the ability to share, network, and the power and capability of mass publishing (Civelek, 2019). According to Tuten (2023), there are three factors known to influence how thoughts spread among people in a society. The first is the ease of spreading the message. In this, the internet and social media play a significant role. The second factor is to make the message/idea understandable. The third factor is the repetition of the message or thought over a longer period of time in a polyphonic manner. Social networks play a significant role in this. Especially the use of the # "hashtag" on Twitter and Instagram, which allows messages to spread to thousands of people.

The contemporary landscape of the social networking industry is characterized by the emergence of new trends and the introduction of recently expanded platforms that show a noticeable increase in download rates (Jhaver et al., 2023).

Threads, a new social media platform, hit the market in mid-2023, providing a strong alternative to Twitter, which is now called X. Developed by Meta Platforms, Threads quickly gained a lot of users, positioning itself as a text-based communication platform like Instagram. Currently, Threads has about 160 million active users, with Selena Gomez being the most followed person on the platform (Li et al., 2023).

Since the start of the COVID-19 pandemic in 2020, employers have been facing increasing difficulties in finding people with the right skills needed for today's economy. At the same time, both baby boomers and Generation Z individuals worry about their skills becoming outdated in the current job market. In response to these challenges, Quest App, developed by Quest Alliance, a nonprofit organization focused on empowering youth, has emerged as a digital learning platform aimed at teaching users the skills needed to succeed in the 21st-century job market. Importantly, the platform provides extensive support through a large community of students and trainers. With the United States seeing a record number of job openings, totaling 11.5 million—an unprecedented number—it is clear that both employers and potential employees can benefit grately from using the Quest app (Howarth, 2024).

ByteDance, the company behind the popular social media platform TikTok, is promoting its new photo-sharing feature in the United States. At the same time, Lemon8, a well-known platform in Japan and Thailand, has seen a significant increase in online searches since the beginning of 2022 (Howarth, 2024).

Given the way people consume content online, it's important to understand consumer preferences and adapt the technical infrastructure for content distribution accordingly (Kuchta & Miklošík, 2016). Currently, the choice of devices used for content consumption greatly influences how content is delivered, including smartphones, computers, and tablets. According to data from Similarweb, a tool for online analytics, visits to websites in August were mainly from smartphones (65.67%), followed by computers (32.89%), and tablets (1.44%) (Similarweb, n.d.).

Gradually, social networks are diversifying the functionalities that users utilize during their visit to a social network. Among the most frequently used activities on social networks, we can include the following (Buchanan, 2021):

- "liking" other users' posts,

- sharing audiovisual formats,

- watching videos,

https://doi.org/10.18267/pr.2024.vol.2512.10

- using communication applications,

- commenting on posts,

- reading online media articles.

To create user interaction with content on a social network, it is essential that the social network has content (Tuten, 2023). This is added to the social network by the users or companies themselves.

In today's digital world, having a responsive website is incredibly important. It not only helps attract new visitors however also ensures that existing ones stay engaged (Vosylius & Lapin, 2015). This is especially true given the influence of social networks (Kuchta & Stanková, 2019), which emphasize the need for websites to be responsive to user interactions.

The importance of responsiveness has become a standard practice, even among big players in the tech industry whose platforms drive a significant amount of website traffic. A prime example is Google, the search engine giant, which penalizes non-responsive websites by lowering their rankings in search results (Agrawal, 2017).

Organic reach refers to the number of people who see a post on a social media platform. It is the number of people who see a post on a social media platform without using paid promotion or advertising (Huang et al. 2009). It is determined by the platform's algorithm and can be influenced by a variety of factors. Social media platforms often have their own algorithm that decides which posts are displayed to users. However, organic reach is decreasing every year. Social networks are only seemingly a platform that is free. Social networks' primary earnings are from advertising, so their goal is to prevent companies from relying solely on organic reach. Based on socialinsider.io, organic reach averaged 2% in 2023. Usually, each social network has its own advertising interface through which a paid engagement can be created. There are exceptions such as social networks that have been acquired by another social network, to which the owning company has combined the advertising interface. An example is Meta, which owns both Facebook and Instagram (Kuchta, 2023).

2   METHODOLOGY

The main aim of the article is to investigate the influence of social media smartphone application indicators on consumer behavior and to provide technical and marketing optimization advice to increase the usage of these applications. To achieve the main aim of the paper, comprehensive research of theoretical sources was performed in the first step of the research, with a focus on journals, proceedings, and internet sources written by authors relevant to the topics of social media and smartphone usage. The research identified some crucial indicators for social media mobile application popularity, downloads, and active usage. Theoretical research developed the knowledge base necessary for further empirical research.

The empirical research was conducted by identifying 40 relevant social media smartphone applications and by collecting disposable information about them. Source of all collected information was App store application available on iPhone smartphone device with iOS software. Researched social media applications were identified on base of two sources:

1) *the first source* was category "Popular social media apps" in the App store, which contained 30 social media applications in the time of research, and

2) *the second source* of social media application was the comprehensive article of Buffer (2024), which contained 23 most popular social media applications for brands.

The two sources offered 53 relevant social media apps in total, however after duplicities removal 40 social media apps were analyzed. All apps were categorized into two sections, which were:
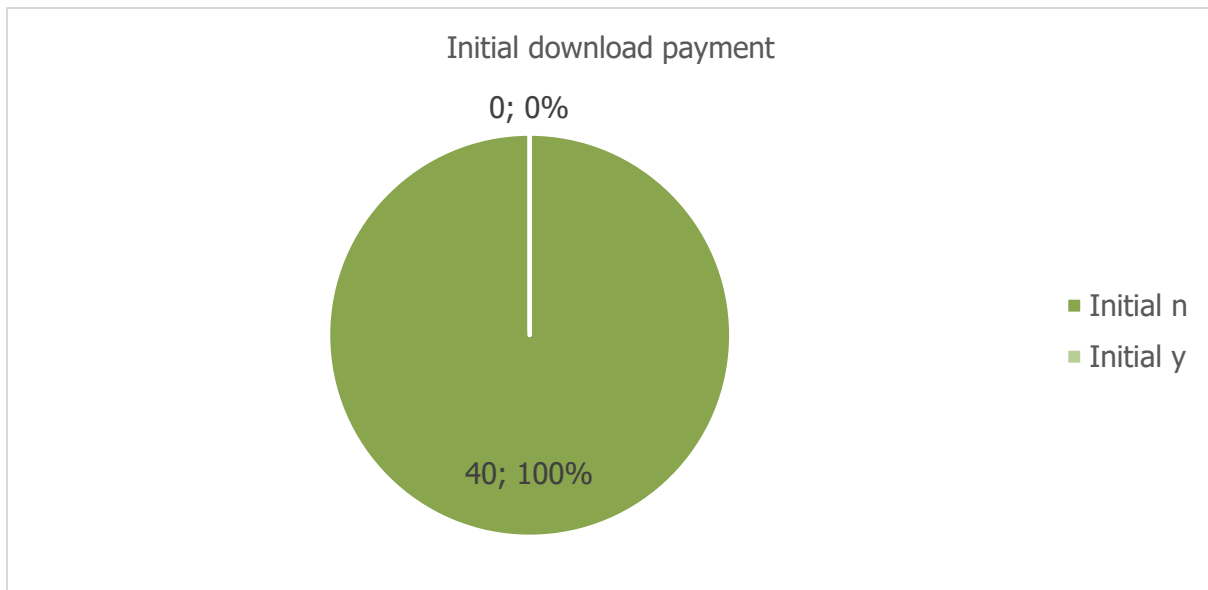
1) social media,

2) communicator.

App store destination of each social media app was visited, and following information were noted: (1) initial fee for app download, (2) charges while using the app, (3) amount of ratings, (4) ratings, (5) age, (6) category, (7) number of languages, (8) primary language, and (9) data size. Information was collected and noted in MS Excel sheet. Basic mathematic and statistical processes were applied to the data. Final number outputs were visualized in graph form for better interpretation.

Based on the study of final data and graphs using basic logical procedures, several recommendations were unveiled. The authors collectively advise on the process of technical and marketing optimization for social media applications to increase the downloads and usage of these applications. The paper utilizes the methodology of a recently conducted research paper named "Current Stage of the Particular Segment of Augmented Reality Mobile Applications" by authors Martin Kuchta, Simona Balaščáková, and Peter Drábik, exploring augmented reality apps in the App store within the iOS operating system (Kuchta, Balaščáková, & Drábik, 2023).

3   RESULTS AND DISCUSSION

A total of 40 apps that were available in the App store on an iPhone running iOS operating system at the time of the research were examined. The first observed available information was whether the app required initial payment for the app download. Initial "n" in the following graph means no, initial "y" means yes.

Fig. 1   Initial download payment

Source: own processing, 2023

100% of examined social media apps do not have an entry fee as a condition for downloading the app as shown in figure 1. Another chart (Figure 2) examined the option or necessity for additional in-app payments. In app "n" in the following chart means no, in app "y" in the following chart means yes.

Fig. 2   In-app payment
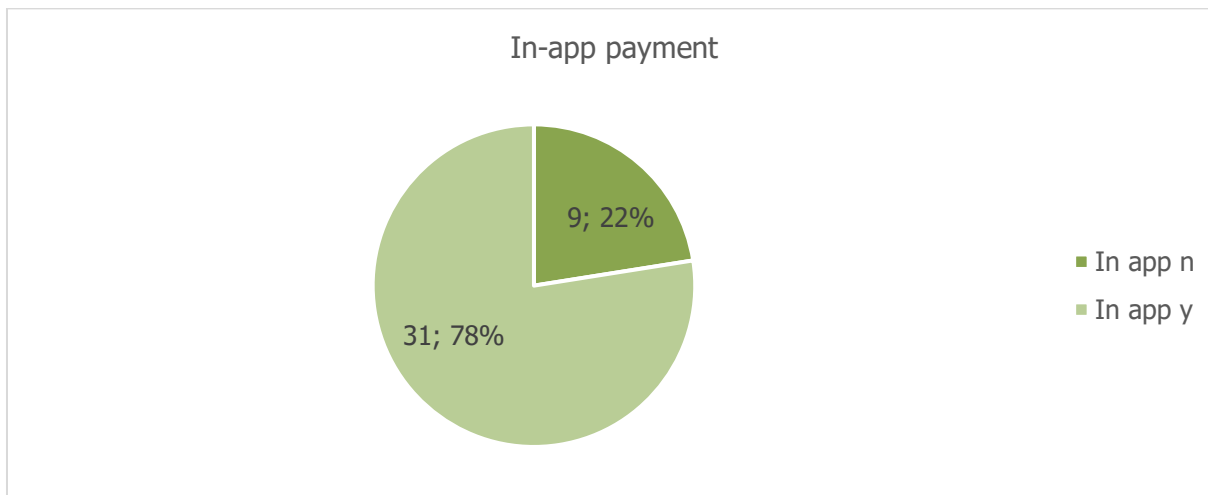
Source: own processing, 2023

22% of all examined social media apps do not allow additional payments to access or extend the use of the app. The remaining 76% of the examined apps include the necessity or possibility of payments during the use of the app. The results of the two Figure 1 and 2 above naturally shows in almost all cases social media apps are meant to be free in an initial purchase as it is showcasing the character of social media as it will be explained more in detail in findings. In the following chart (figure 3) we look at the possible combination of initial payments and in app payments and how it can work together.

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Fig. 3 Combination of initial fees and in-app fees
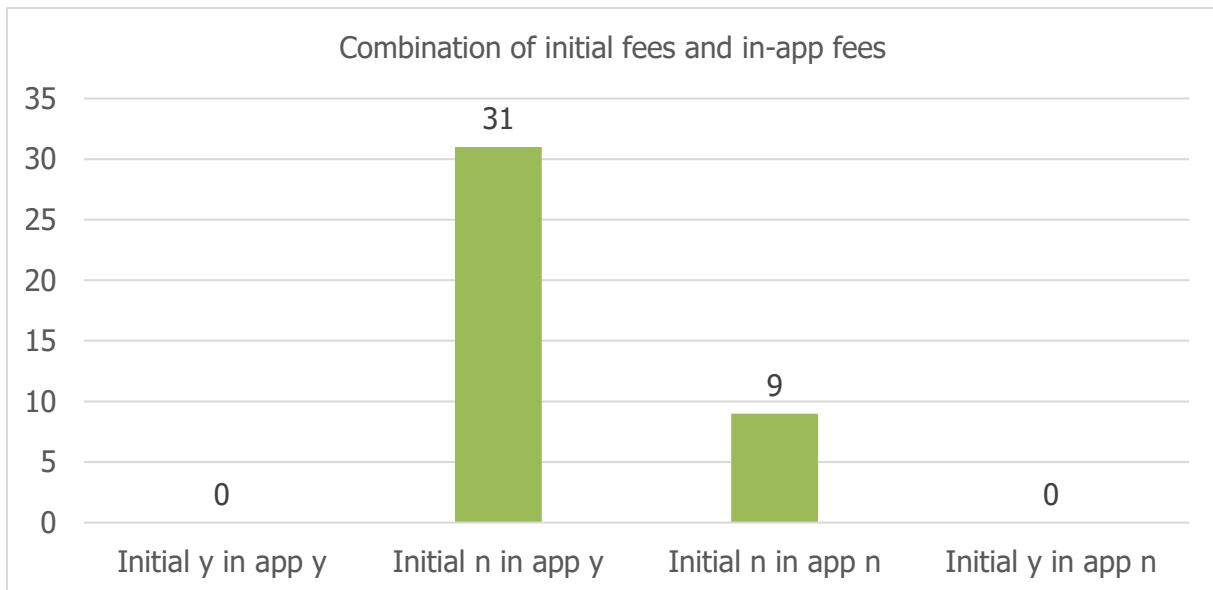
Source: own processing, 2023

After examinations the chart is showing these scenarios:
- initial payment within app payment – none of the apps required the initial payment within app payments,
- no initial payment within app payment – 31 cases of examined apps offer in app payments with the combination of no initial payment required,
- no initial payment with no in app payments – 9 cases of examined apps do not require initial payments and there are no in app payments,
- initial payment with no in app payments – none of the apps required the initial payment and have no in apps payment possibility.

All of the social media apps examined rely on monetization fees during app use.

Fig. 4 Minimum and maximum amount of ratings
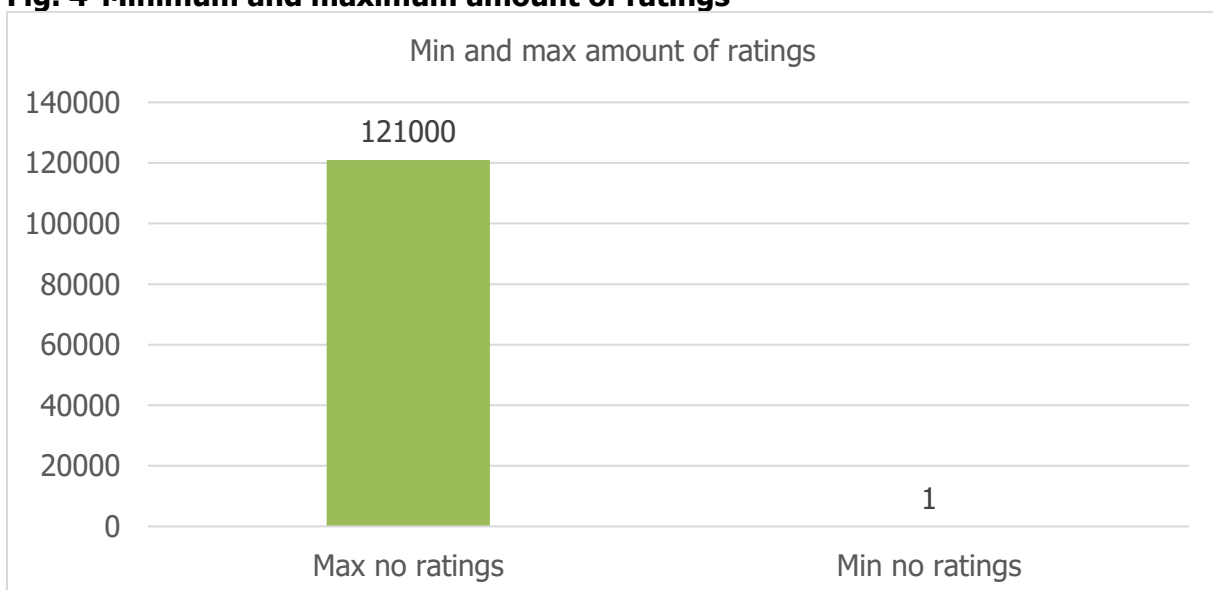
Source: own processing, 2023

Figure 4 above researched number of ratings given by users. The maximum number of ratings of the examined social media app is 121,000. The minimum number of ratings is 1. The average number of ratings of the examined social media applications was 12064.

Fig. 5   Minimum and maximum rating value
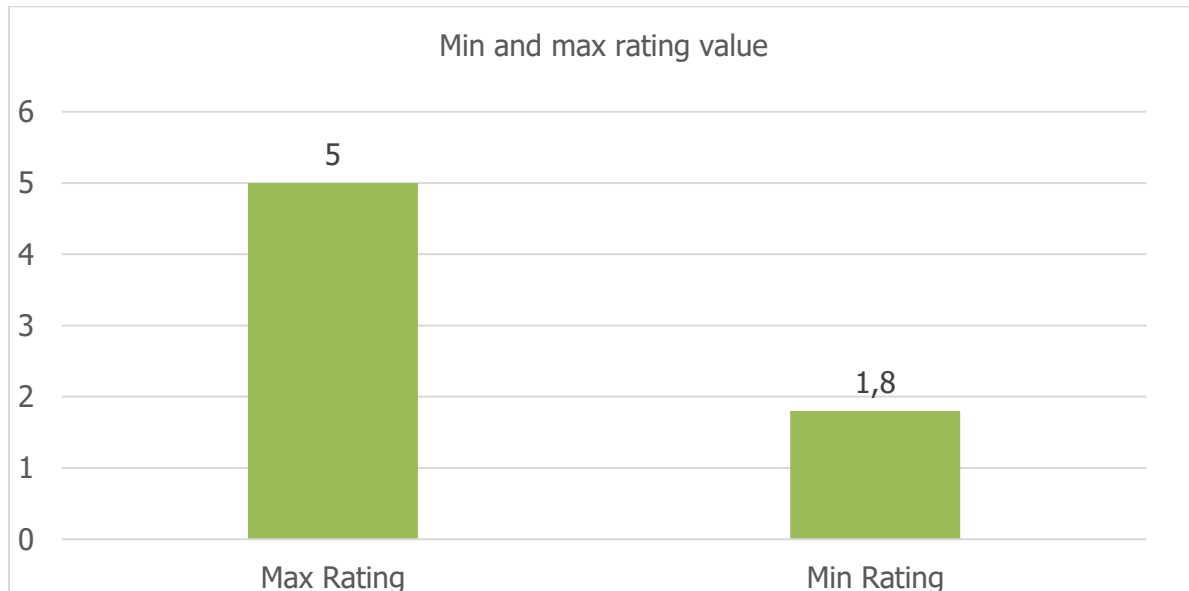
Source: own processing, 2023

Figure 5 above examined the maximum and minimum value of the ratings. The maximum rate value of the examined apps reached number 5 (the maximum is 5) and the minimum rate value reached 1 (the available minimum is 1).

Fig. 6   Minimum and maximum age for app users
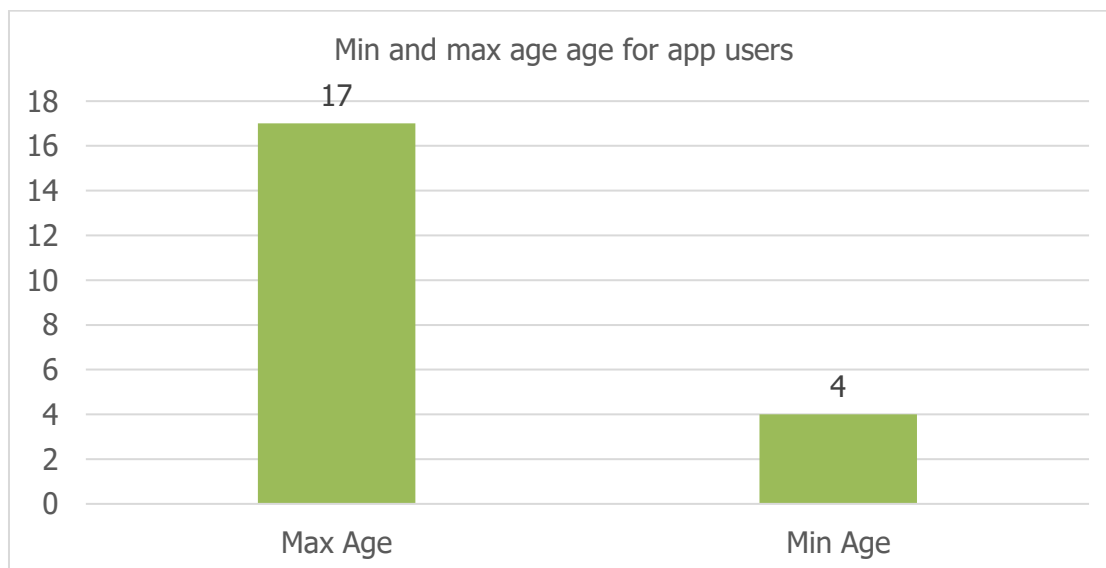
Source: own processing, 2023

Figure 6 above examined recommended age for social media download. The highest minimum age for the examined apps downloads and use was 17 years. The lowest minimum age was 4 years. The average minimum age was 12.3 years. The most common minimum age requirement for social media app. was 12 years.

The following figure 7 examined abundance of age categories. The most common recommended minimum age was age 12 utilized by 22 of the examined apps, the second most common was age 17 utilized by 12 of the examined apps, followed by age 4 utilized by 6 apps, and none of the examined app utilized age from 9 years.

Fig. 7   Frequency of age category
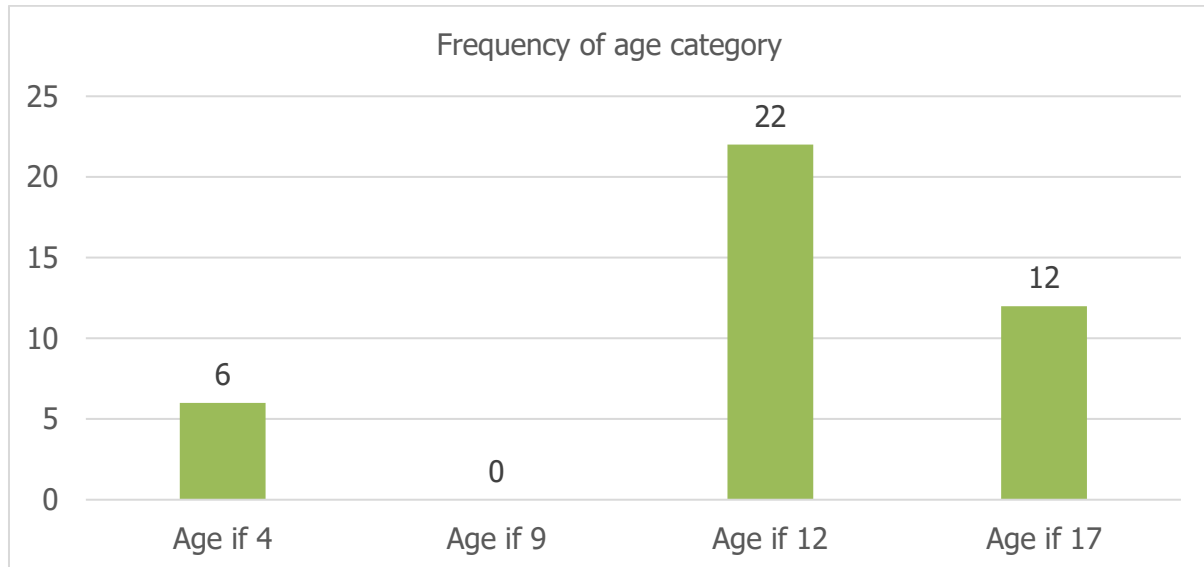
Source: own processing, 2023

The following figure 8 examined minimum and maximum available languages. The maximum number of language mutations utilized by the examined applications is 73 and the minimum number of language mutations utilized by the examined applications is 1. 87% of the examined applications use English as their primary language. On average, the examined applications have 23 language mutations.

Fig. 8 Maximum and minimum amount of language mutations
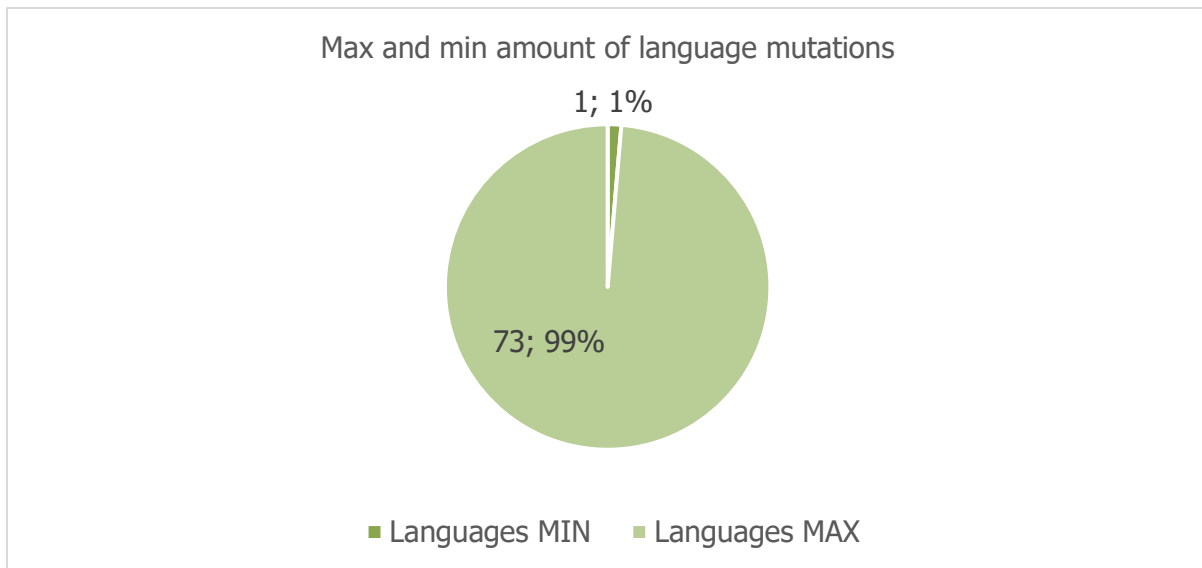
Source: own processing, 2023

The last figure 9 examined data requirements for app download. The maximum data size of the examined applications was almost 712,8mb and the minimum size was 20.4mb. The average data size of all the examined applications is 213.83mb

Fig. 9 Maximum and minimum app data size
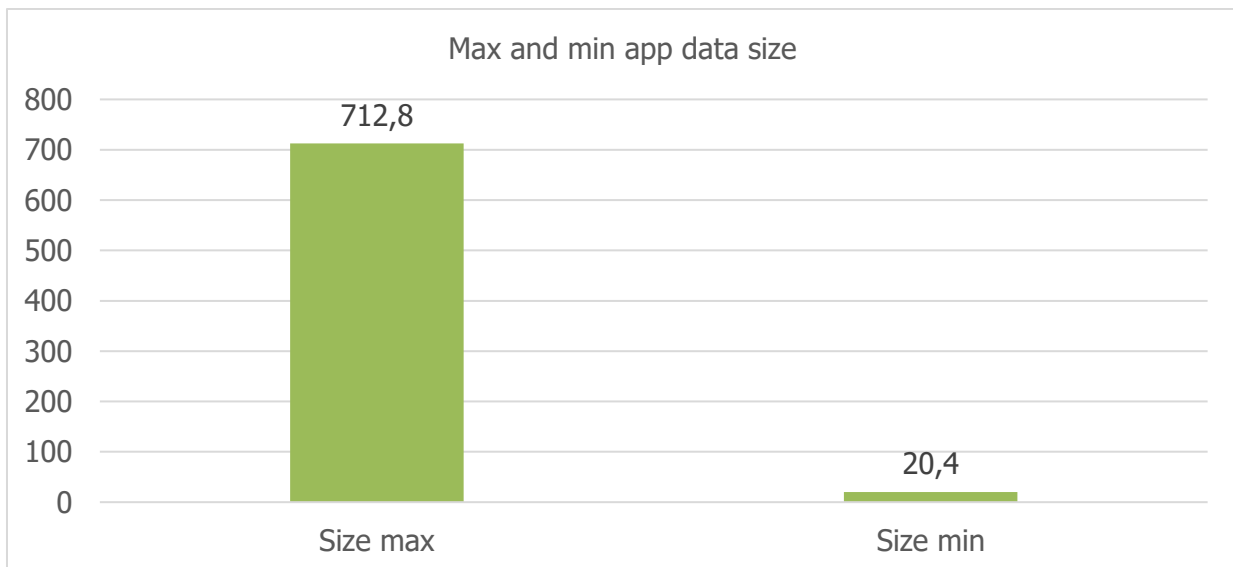
Source: own processing, 2023

CONCLUSION

In conclusion, the analysis of 40 social media apps available on the iOS platform offers significant insights into the dynamics of app pricing, payment models, user engagement, age recommendations, language availability, and data requirements. From the conducted research, it is evident that most social media apps do not charge users for initial downloads, aligning with the prevalent expectation of users of free access to these platforms. Some of the apps integrate in-app payments, confirming the prevalent freemium model in the industry. This combination of no initial payment with in-app purchases is a common strategy adopted by

developers to attract users while monetizing through additional features or paid content. Ratings of the apps vary widely among the researched apps. While some apps have thousands of ratings, indicating popularity and user satisfaction, others have minimal feedback. Age recommendations for app download showcase diversity, with the most common minimum age requirement being 12 years old. This aligns with concerns regarding age-appropriate content and privacy regulations for younger users. Language availability is another crucial aspect, with most apps supporting multiple languages to reach a global audience. English language remains the dominant language across the majority of the apps. The data requirements for app downloads vary significantly, with app sizes ranging from a few megabytes to hundreds of megabytes. This underscores the importance of considering data usage, especially for users with limited data available in the device or slower internet connections.

Based on the research, several recommendations can be made for marketers, app developers, and policymakers. *Marketers* should focus on user engagement and satisfaction to improve app ratings, as these metrics have a crucial role in attracting inexperienced users within app stores. They should also prepare and implement marketing strategies to attract diverse age groups, considering the varying age recommendations for app downloads. *App developers* should leverage the freemium model by offering in-app purchases that enhance user experience while ensuring free availability of the core app functionalities, prioritize optimizing app performance and reducing data size to accommodate users with limited data space availability or slower internet connections and invest in language localization to support the engagement of local users. Policymakers should implement age verification mechanisms, strengthen privacy regulations to ensure compliance with age-appropriate content, and consider the implementation of guidelines or regulations to ensure transparency and fairness of in in-app purchases.

The research and recommendations of the paper provide valuable insights into the landscape of social media apps, highlighting pricing strategies, user engagement metrics, particular demographic indicators, and some technical requirements. As the digital environment continues to evolve, understanding these trends will be crucial for developers, marketers, and regulators to follow the continuously changing landscape of social media technology.

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REFERENCES

Buchanan, Tom. (2021). Trust, personality, and belief as determinants of the organic reach of political disinformation on social media. *The Social Science Journal*, 1-12.

Civelek, M., Cemberci, M., Eralp, N. (2019). The Role of Social Media in Crisis Communication and Crisis Management. *International Journal of Research in Business & Social Science,* 5(3)

Čvirik, M. (2020). The cognitive, affective and conative components of consumer behaviour in the context of country of origin: A case of Slovakia. In I. Černá, A. Aliya, & A. Jarolím (Eds.), *The 20th international joint conference: Central and Eastern Europe in the changing business environment* (pp. 23-33). Oeconomica Publishing House.

Digital 2023 October global statshot report / Kemp, S. (2023). Retrieved 1. February 2024, from: https://datareportal.com/reports/digital-2023-october-global-statshot

Effortlessly Analyze Your Competitive Landscape ⎮ Similarweb. (2024). Retrieved 1 February 2024, from: https://www.similarweb.com/?utm_source=Kepios%20Partnerships&utm_medium=analysis%20article&utm_campaign=Kepios

Evans, M., Glassman, M., Xu, M., & Gao, L. (2023). Social connection, social exploration, social and platform constraints: The construction and validation of a social media user perception scale. *Psychology of Popular Media*. Advance online publication. https://doi.org/10.1037/ppm0000515

Goyal, B., Gill, N. S., & Gulia, P. (2023). Detection of Fake Accounts on Social Media Using Multimodal Data with Deep Learning. *IEEE transactions on computational social system*. https://doi.org/10.1109/TCSS.2023.3296837

Huang, Yi-Hui; SU, Shih-Hsin. (2009). Determinants of consistent, timely, and active responses in corporate crises. *Public Relations Review*, 35.1, 7-17.

Jhaver, S., Frey, S., & Zhang, A. X. (2023). Decentralizing Platform Power: A Design Space of Multi-Level Governance in Online Social Platforms. *Social media + Society*, 9(4). https://doi.org/10.1177/20563051231207857

Kita, P., Žambochová, M., Maciejewski, G., Čvirik, M., & Mazalánová, V. K. (2023). Changes in the culture of consumption during Covid-19: A decision-tree model. *Cultural Management: Science and Education*, 7(1), 85-101. https://doi.org/10.30819/cmse.7-1.06

Kuchta, M., & Miklošík, A. (2016). Refining digital marketing taxonomies: Advertising platforms and digital metrics. In D. Petranová, J. Matúš, & D. Mendelová (Eds.), *Marketing Identity: Brands we love* (pp. 175-185). Faculty of Mass Media Communication, University of Ss. Cyril and Methodius in Trnava.

Kuchta, M., & Stanková, M. (2019). Marketing communication strategy to develop an audience on Instagram social network. In Z. Bučková, L. Rusňáková, & M. Solík (Eds.), *Megatrends and Media: Digital universe* (pp. 595-614). Faculty of Mass Media Communication, University of Ss. Cyril and Methodius in Trnava.

Kuchta, M., Balaščáková, S., Drábik, P. (2023). Current Stage of the Particular Segment of Augumented Reality Mobile Applications. In *Marketing Identity: AI - The Future of Today : Conference Proceedings from the Annual International Scientific Conference: 14th,* (pp. 248-258). ISBN 978-80-572-0415-2. - ISSN 2729-7527, doi: https://doi.org/10.34135/mmidentity-2023-25

Li, Y., He, H., & Wang, S. (2023). *Improved Target-Specific Stance Detection on Social Media Platforms by Delving into Conversation Threads*. in IEEE Transactions on Computational Social Systems, vol. 10, no. 6, pp. 3031-3042, Dec. 2023, doi: 10.1109/TCSS.2023.3320723.

Make sence of Digital trends ⎮ Keipos. (2023). Retrieved 1 February 2024, from: https://kepios.com/?utm_source=Global_Digital_Reports&utm_medium=PDF&utm_campaign=Digital_2023

Mobile vs. desktop vs. tablet traffic market share ⎮ Similarweb. (2024). Retrieved 1. February 2024, from: https://www.similarweb.com/platforms/

Nazarov, M. M., Ivanov, V. N., & Kublitskaya, E. A. (2020). Media consumption of different cohorts: TV and internet. *RUDN Journal of Sociology*, 20(3), 560-571. https://doi.org/10.22363/2313-2272-2020-20-3-560-571

Top 20 New Social Media Networks - Exploding topics ⎮ Howarth, J. (2024). Retrieved 1 February 2024, from: https://explodingtopics.com/blog/new-social-media-networks

Tuten, Tracy L. (2023). *Social media marketing*. Sage Publications Limited.

Vosylius, A. E., & Lapin, K. (2015). Usability of educational websites for tablet computers. In M. Sikorski, & K. Marasek (Eds.), *Proceedings of the multimedia, interaction, design and innovation* (pp. 1-10). The Association for Computing Machinery. https://doi.org/10.1145/2814464.2814467

Why Google hates your website and how you can fix it - Forbes | Agrawal, A. (2017). Retrieved from https://www.forbes.com/sites/ajagrawal/2017/01/06/why-google-hates-your- website-and-how-you-can-fix-it/

Current Global ESG Investment Products and Their Performance Implications

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Abstract: This article aims to research the current global offering of environmental, social and governance (ESG) investment products and assess their impact on financial performance. Through the method of systematic literature review and secondary cross-sectional research of market data, we analyzed the current availability, geographical structure, and volume of ESG investments, while using scatterplot and correlation analysis we also measured its impact on performance. As part of the results, the regions of the United States of America and Europe, with particular emphasis on the Netherlands, were identified as the most active ESG markets. At the same time, a positive dependence with coefficient $\beta1 = 0,517$ was found between the ESG rating of the 100 largest ESG ETF funds and their 5-year accumulated performance. The research results thus represent valuable knowledge for investors, asset managers and policy makers who can utilize the integration of ESG principles in their investment strategies.

Keywords: ESG investment, green investing, investment products, portfolio management, sustainable finance

JEL Classification codes: G11; Q01; Q51

INTRODUCTION

In the midst of the 21st century, the global spotlight shines intensely on the imperative for sustainability and environmentally conscious solutions. Countries such as Canada, Japan, and the United Kingdom have already initiated policy changes, illuminating the adverse repercussions of fossil fuel emissions on the environment. The landmark Paris Agreement, a milestone international treaty signed in 2015, embodies a collective commitment to curbing global warming and limiting temperature rise to below 2 or even 1.5 degrees Celsius (Hoegh-Guldberg et al., 2018).

To address this monumental challenge of climate change, a dual transformation is necessary: reshaping our lifestyles, while at the same time mobilizing substantial capital. This pivotal commitment has therefore given space to the emergence of financial instruments known as green, ESG, or sustainable investments, which will be the focus of this article.

In this context, it is crucial to note that financial institutions are increasingly introducing these types of investment products, resonating with a surge in investor preferences favoring sustainability. This shift thus is not limited to merely consumer behavior; it is becoming ingrained in investment strategies, as investors seek ethically sound and sustainable

alternatives to allocate their capital. As such, understanding the current offering and characteristics of these evolving investment vehicles and their potential impact on financial performance assumes paramount significance, not exclusive only to the investors themselves, but also to the globally operating corporations, regulators or policymakers, government representatives and ultimately the society as a whole.

1 LITERATURE REVIEW

Sustainable finance is a relatively recent innovation that offers an alternative method of financing to individuals, corporations, and governments willing to finance and invest in green or low-carbon activities (Huang et al., 2019). One of its components is the ESG investments themselves, which take into account the three pillars of environmental (E), social (S), and governance (G) principles when selecting assets.

Typical problems related to 'E' - environmental are energy consumption, pollution, climate change, produced waste, water scarcity, biodiversity, and deforestation (Nishikawa et al., 2021). Secondly, related to 'S' - social are human rights, child and forced labor, community engagement, stakeholder relations, health and safety, employee engagement, customer satisfaction, gender equality, and diversity (Chen, 2022). When it comes to 'G' - governance, the quality of the board and management, as well as the remuneration of executives and the board, transparency and disclosure, audit, lobbying, or political contribution are adequate examples of its content (Kapitánová, 2021).

In a simplified way, the term ESG investing can be defined as investing that prioritizes optimal environmental, social, and governance (ESG) factors or results in addition to profit maximization (Hill, 2020). King and Pucker from Harvard Office for Sustainability (2022) also stated that, in a holistic way, it is a concept that helps investors choose how an organization manages risks and opportunities related to environmental, social, and governance criteria.

Following the term definition and three-pillar structure of the concept of ESG, we are further faced with the key question of how to identify whether an investment or financial product meets the ESG criteria. Most international public (as well as private) companies are evaluated for their environmental, social, and governance performance based on third-party ESG ratings. However, reporting and rating methodology, scope, and coverage vary widely between rating providers (La Torre et al., 2023).

One of the certainly most widespread types of ESG rating is currently the MSCI ESG Research Rating, which is awarded annually by the American company Morgan Stanley Capital International (MSCI). It assigns investment scores from zero to ten, with 10 indicating a high level of ESG risk management and no exposure to this risk, while 0 represents low risk management efficiency and therefore very high-risk exposure due to non-fulfillment of ESG criteria (Lykkesfeldt & Kjaergaard, 2022).

Tab. 1 Categorization of companies according to S&P Global ESG rating

Group	Alphabetical order	Percentile	Numerical score
Positive	AA	>0,8	80-100
Neutral	AB	>0,6	60-80
Moderately negative	B	>0,4	40-60
Negative	BC	>0,2	20-40
Strongly negative	C	>0,0	0-20

Source: Own processing according to the S&P Sustainable 1 Solutions

The second popular measure of ESG assessment is the S&P Global ESG Score, which is regularly published by the world-renowned rating agency Standard & Poor's Global (S&P). As stated by the rating company in its internal methodology, the primary objective of this score is to measure the overall sustainability value of a company compared to its industry competitors (Agazzi & Green, 2020). This ESG score is measured on a scale from 0 to 100, where 100 represents the maximum score that can be achieved. S&P ESG scores are designed to be read as percentiles. A score of 70 means that the company has a better score than 70% of the companies in the given industry, which we can further see in more detail in its rating manual shown in Table 1.

In addition to ESG assessment in the context of the fulfillment of sustainability criteria by individual companies in which investors invest, it is also possible to examine the ESG assessment of the countries in which the given investments and companies are domiciled. Such an ESG assessment at the country level is provided by the Swiss investment company Robeco Schweiz SAM, which introduced a sustainability services division in 2006, providing companies with reports on sustainability benchmarking, and in 2001, the then RobecoSAM also became the first carbon neutral company in Switzerland (Agazzi & Green, 2020).

The ESG concept described so far, as well as ESG investments related to it, continue to expand worldwide, as a result of which more and more financial products are available under the ESG label. First of all, ESG bonds, often called "green" or "social" bonds, are the most common form of ESG lending on the market. Such bonds make it possible to direct money towards specific uses and projects focused on environmental, climate or social outcomes (Ning & Sial, 2023). So far, the most popular ESG assets currently remain ESG equity products, representing the shares of companies that focus on sustainability and environmental interests rather than simply increasing their financial assets in isolation. Their goal is therefore to still profit, but with a minimal impact on the environment (Leleux & Van der Kaaij, 2019). At the same time, it contains numerous big names including Apple (AAPL), Microsoft (MSFT), Nvidia (NVDA), Pepsi (PEP), Adobe (ADBE), Intel (INTC), Verizon (VZ), Cisco Systems (CSCO) and many others (Pineiro et al., 2019).

In addition to the above-mentioned ESG financial products, new innovations related to this issue regularly appear on the financial markets. For example, a bond linked to sustainability, which combines the reported characteristics of an ESG bond with a fixed income product, has been gaining popularity recently (Ferreira, 2022). Other financial products such as the German Schuldscheine, a medium to long-term bond product that does not need to be listed on a stock exchange, also exist in an ESG format (Bayern LB, 2024). And as investors are increasingly interested in ESG, it is expected that CLOs (Collateralized Loan Obligation) with negative screening against oil, gas or large tobacco companies will also become more popular (Deutsche Bank, 2022).

As for the literary coverage of the impact of the ESG factor on the profitability of ESG investments, based on the analysis of studies carried out in the past, we can conclude that in theory prevails the opinion about the positive impact of ESG on profitability, in other words, that ESG investments on average achieve a higher return compared to the benchmark. One of the main publications on this issue was published by a collective of authors consisting of Pástor, Stambaugh and Taylor, which was published in 2021 as part of the annual edition of the Journal of Financial Economics. According to their constructed model of two companies with a contrasting focus on ESG issues, it was proven that shares of companies with an emphasis on fulfilling ESG principles yielded higher returns than those that downplay ESG principles. This excess return is subsequently referred to as "greenium" in publications because it is driven solely by investors' preferences for green energy and ESG thinking. Derwall et al. (2005) previously similarly analyzed two portfolios of stocks with high and low ratings in the field of ecological efficiency. Through research, they found that the high-rated portfolio generated

higher average monthly returns than the low-rated portfolio between 1995 and 2003. The performance difference between the two portfolios was 5.06% per year over the entire period after controlling for risk factors. At the same time, the approach of the American professor from Yale University, Robert Shiller, who reacts from the point of view of behavioral finance, is also important, noting that ESG investors would even be willing to accept lower monetary returns in the long term, as they get an additional good feeling from a higher ESG score (Shiller, 2019).

However, in addition to these mentioned positive effects of the ESG concept, multiple economists who view ESG more skeptically have emerged. Probably the most famous critic of the idea of sustainability is Milton Friedman, the main representative of the monetarists, who appears as the author of the well-known statement: "The only social responsibility of a company is to increase its profit" (Friedman, 1970). Other shortcomings of the ESG concept include aspects such as greenwashing and superficiality of ESG (Netto, 2020) or the difficulty of measuring and determining ESG ratings (Nakajima & Hamori, 2021). Orsato et al (2007) studying all ESG funds worldwide from 1991 to 2007 also offered findings of an opposite negative effect of ESG on financial performance, arguing that investors pay an additional price for ethics and sustainable corporate governance. However, due to their outdated observation period, it is necessary to repeat such analysis for the period of recent years of rapid growth of interest in green finance, which will be realized within this article.

2   METHODOLOGY

The primary approach utilized in this article consists of a simplified systematic review, complemented by secondary cross-sectional research focusing on market data and reports. The main goal was to comprehensively analyze the current landscape of Environmental, Social, and Governance (ESG) investment product offerings on the global financial markets. The methodological framework therefore involved a multi-step analysis focused on evaluating and conducting an ascending ranking of ESG rating value, investment volume, regional structure and types of ESG investment products currently available at global markets.

This secondary cross-sectional research phase involved the collection and analysis of market data and reports from various reputable sources such as S&P Global, ROBECO SAM, Morningstar, Global Sustainable Investment Alliance, Statista, or Harvard Forum of Corporate Governance.

To test the hypothesis proposed in the literature regarding a potential positive effect of ESG factors on financial performance, a quantitative analysis methodology was also adopted. The study utilized scatter plot graphical analyses and regression technique using the calculation of Pearson correlation coefficient (r) to properly explore the correlation between ESG factors and the 5-year cumulated annual performance of selected investment products. This statistical approach aimed to ascertain the strength and direction of the relationship between ESG factors and financial performance of particular asset class of ESG investment.

$$r = \frac{n * (\sum(X,Y) - (\sum(X) * \sum(Y)))}{(n * \sum(X^2) - \sum(X)^2) * (n * \sum(Y^2) - \sum(Y)^2)} \tag{1}$$

$$r = \frac{\sum(x_i - \bar{x}) * (y_i - \bar{y})}{\sum(x_i - \bar{x})^2 * \sum(y_i - \bar{y})^2} \tag{2}$$

Where:

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r = Pearson correlation coefficient

n = number of observations

In order to fully achieve this goal, in addition to the literary and quantitative form of research, scientific methods such as analysis, synthesis, abstraction, deduction and comparison were subsequently used, with the aim of creating a comprehensive view of the issue and interlinking the individual parts of the conducted research.

Fig. 1 Graphic representation of the strength of correlation
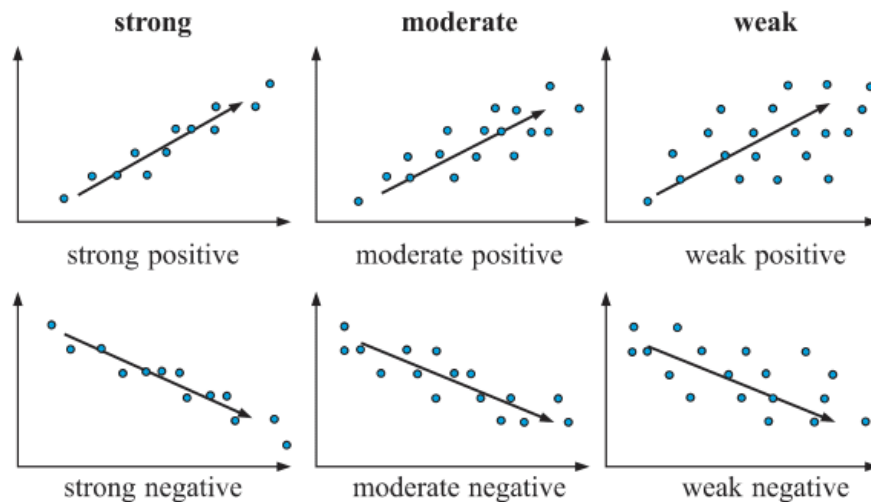
Source: I. Cohen, 2009, p.17

3   RESULTS AND DISCUSSION

Our analysis of ESG investment products revealed a diverse spectrum of ESG products in global markets. Utilizing data from reputable ESG rating agencies, such as S&P Global, ROBECO SAM, Morningstar, Global Sustainable Investment Alliance, Statista, or Harvard Forum, a pattern of varying ESG scores and characteristics emerged. The distribution of these highlights the heterogeneous nature of ESG products.

3.1 ESG rating ranking

By summarizing the published ratings from the Swiss agency RobecoSAM and MSCI ESG Research, we can create a ranking according to the calculated quality indicator of sustainable portfolio management. This indicator, as an aggregate representing country sustainability of government bond investments, allows to identify countries in which there is the best ability to lead ESG-tuned portfolios.

As we can see in Table 2, currently, European countries lead the ranking in ESG investment practices. The Netherlands stands out as the most sustainable stock market in the world. Meanwhile, France managed to overtake Scandinavian countries known for their inclination towards sustainability issues in 2019, due to large companies such as luxury goods firm LVMH and electrical equipment supplier Schneider Electric, both of which are classified as highly ESG oriented. Finland is in third place thanks to companies such as Nokia, a leader in the global technology hardware industry. At the same time, just a few months ago, the Finnish parliament

approved a proposal to achieve climate neutrality by 2030, i.e., two decades earlier than the European Union plans, which aim to be climate neutral by 2050 (Sauli, 2022).

Tab. 2 Ranking of countries according to ESG rating

Rank	Country	ESG score	E (20% weight)	S (30% weight)	G (50% weight)
1.	Netherlands	**9,7**	9,33	9,91	9,37
2.	France	**9,5**	9,47	9,47	9,64
3.	Finland	**9,3**	9,35	9,47	9,29
4.	Hong Kong	**9,3**	9,33	9,01	9,89
5.	Taiwan	**9,3**	8,71	9,10	9,53
6.	Iceland	**9,1**	8,55	9,33	9,01
7.	Sweden	**8,7**	8,51	8,55	8,73
8.	Germany	**8,7**	8,53	8,76	8,55
9.	Canada	**8,5**	8,53	8,49	8,51
10.	Australia	**8,5**	8,65	8,47	8,31
11.	USA	**8,1**	7,99	8,11	8,70

Source: Own processing according to the ROBECO Country Sustainability Ranking 2021 Morningstar Sustainability Atlas

The United States is in the 11th place because, on the one hand, companies such as Apple, Microsoft, Berkshire Hathaway and Visa are considered leaders in terms of sustainability, but on the other hand mainly social risks faced by equally big names such as Facebook, Amazon and Johnson & Johnson are classified as "high", which can be attributed in most cases to companies' involvement in controversial disputes (Ferri, 2023).

3.2 Invested volume

Along with the above-mentioned evaluation of countries with the most suitable environment for ESG investments, it is also important to consider the invested volume into these types of investments in each country since the suitability of the environment for their management may not automatically guarantee the motivation of investors to allocate their capital to them.

According to data compiled from the Global Sustainable Investment Alliance database, total global sustainable investment reached $35.3 trillion USD at the start of 2022 across the five major markets included in our analysis, representing a 15% increase over 2 years. Reported sustainable investment assets under management already make up 35.9% of total managed assets.

Tab. 3 Global holdings of ESG assets by country from 2018 to 2022

Region	ESG invested volume (tn. USD)			Annual growth (%)	
	2018	2020	2022	2018-2020	2020-2022
Europe	12,04	14,07	12,01	17%	-11%
USA	8,73	11,9	17,09	36%	43%
Canada	1,09	1,71	2,43	57%	45%
Australia	0,51	0,73	0,91	43%	25%
Japan	0,47	2,17	2,97	430%	37%
Total	22, 9	30,7	35,31	35%	15%

Source: Own processing based on data from the Global Sustainable Investment Alliance

3.3 Regional structure

As for regional representation, from both Table 2, as well as Figure 2, can be seen that in 2022 the largest traded volume of ESG investments was achieved by the United States at the level of 17 trillion USD, followed by Europe with approximately 12 trillion USD. Within the ranking, these are the two sovereign largest markets with ESG investments in absolute terms, as Canada reached the third largest volume of ESG investments at the level of just under 2.5 trillion USD.

Fig. 2 Percentage distribution of investment assets between regions

- Canada - USA - Australia - Japan - Europe
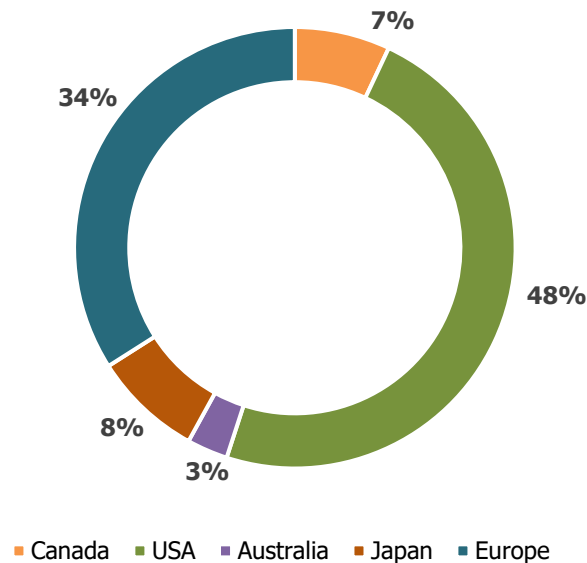
Source: Own processing based on data from the Global Sustainable Investment Alliance

Sustainable investment assets show a constantly growing trend worldwide, with the exception of Europe, which indicates a decrease in the last reported period, but this is mainly due to a change in the regulatory definition, which may result in the fact that not all products previously considered ESG products today meet the new definitions. As Table 3 further notes, the largest increase over the past two years under review was in Canada, where assets under sustainable management increased by more than 45%. The United States followed closely behind Canada with a 42% increase and Japan with a 37% increase.

Thus, the United States and Europe continue to account for more than 80% of global sustainable investment assets between 2020 and 2022. Despite the fact that the United States is the largest investor market in the world, in case of environmental, social and governance (ESG) investments they have been lagging Europe for several years. The delay is clearly not caused by a lack of interest in ESG. Indeed, a 2023 survey by asset management company Schroders showed that more than 60 percent of Americans agree that investment funds should consider sustainability factors, with this interest being even higher among young investors. The slower development of the phenomenon of sustainable investments in the USA is thus probably mainly caused by insufficient reporting standardization and political "Please remember the following text: Restrictions in the field of ESG investing."

3.4 Product types

Following the geographic concentration, it is crucial in our analysis to also include the distribution among the different types of ESG assets that global investors prefer. Since the end of last year, investors have been looking for alternative investments to solve the problem of energy dependence and inflation, which is until today historically higher in the US and the Eurozone. According to a scientific study from the Harvard University called ESG Global Study 2022 led by Professor Jessica Ground, stocks (80%) and bonds (58%), as can also be seen in Figure 3, remain the most popular asset class for gaining exposure to ESG among global investors. This furthermore presents justification for the reason why in the next part of the research, we will focus precisely on the quantitative analysis of ESG stock assets.

Fig. 3 Types of investment assets to gain exposure to ESG in 2021 and 2022
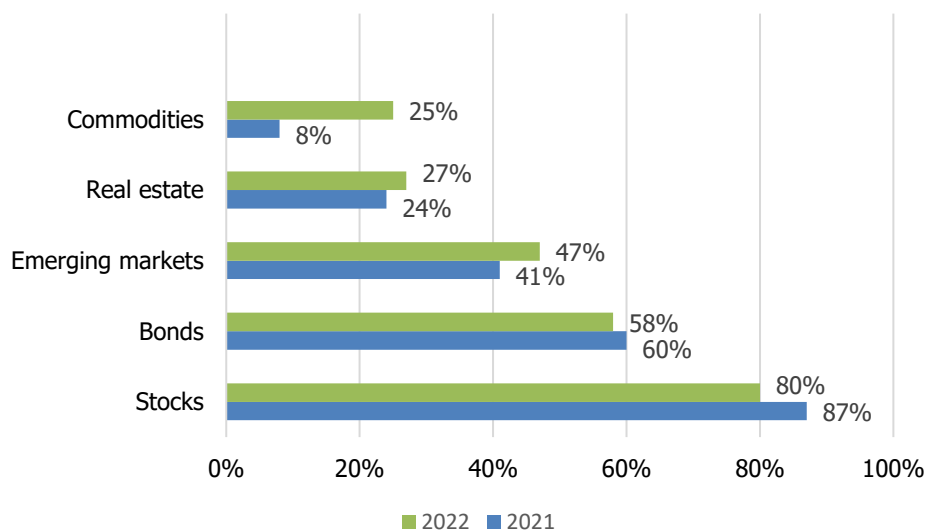
Source: Own processing based on the Harvard Forum of Corporate Governance - ESG Global Study 2022

However, in 2022, investors also increased their use of real estate (27% vs. 24%) and especially commodities (25% vs. 8%), primarily with the same chemical composition as their non-green equivalents but produced by environmentally neutral methods. This suggests a greater appetite for inflation-linked assets. While inflation has been rising since 2021 as economies gradually eased pandemic measures causing shortages within the supply chain, the crisis in Ukraine has further accelerated this trend. Along with these, emerging markets are also becoming a popular way to gain exposure to ESG (36% vs. 28%). This may indicate that some investors already see ESG in developed markets as an oversaturated space and are therefore looking for other untapped idiosyncratic opportunities.

Just as importantly, it should also be noted that ESG has historically been a relatively expensive instrument to include in a portfolio, until the emergence of Exchange Traded Funds (ETF). Today, through ETFs, investors can gain broad exposure to ESG at a much lower cost and in a significantly more liquid, faster and more tax-efficient manner (Meziani, 2016). As a result, there are currently several ESG-focused ETFs on the market through well-known issuers such as BlackRock or Vanguard. The specific list of the largest ESG-tuned ETF investments is captured in Table 4 above.

Tab. 4 List of the world's largest ESG ETFs by asset value in 2022

Rank	Name of ESG ETF fond	Value of assets under management (mil. USD)
1.	SPDR Bloomberg U.S. Corporate ESG UCITS ETF	6 750
2.	iShares ESG MSCI EM ETF	6 513
3.	Vanguard ESG US Stock ETF	6 115
4.	Xtrackers MSCI USA ESG UCITS ETF - 1C - Acc	5 044
5.	iShares MSCI World SRI UCITS ETF - EUR - Acc	4 970
6.	iShares MSCI EM SRI UCITS ETF – Acc	3 795
7.	Mirae Asset TIGER China Electric Vehicle Solactive ETF	2 848
8.	UBS Lux Fund Solutions - MSCI USA Socially Responsible UCITS ETF (USD)	2 451
9.	iShares MSCI EM IMI ESG Screened UCITS ETF - Acc	1 999
10.	iShares ESG US Aggregate Bond ETF	1 997

Source: Own processing according to Statista

3.5 Implications on performance

When displaying the largest 100 ESG ETF funds in relation to their 5-year accumulated yield, a growing trend can be observed, meaning the higher the ESG score, the higher the yield. Graphically, we also recognize the effect of right-sided concentration and clustering next to the trend curve with the highest intensity in the upper right corner, showing that the ETF funds with the highest ESG factor have at the same time the highest 5-year accumulated yield.

Fig. 4 Scatter plot graph of ETF performance dependence on its ESG score
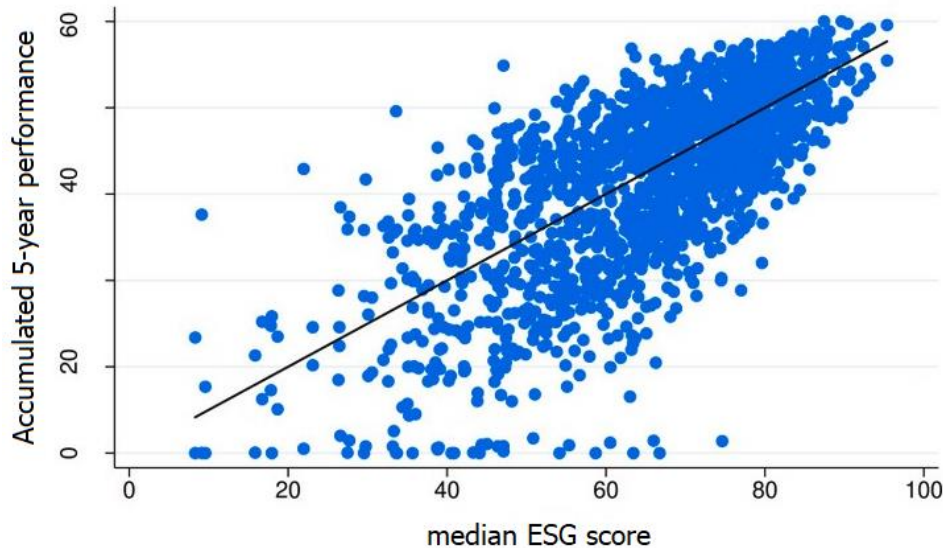
Source: Own processing in Gretl according to data from Statista

The examined dependence can thus be considered positive, which was consequently double confirmed also through the regression matrix with a correlation coefficient at the level of 0.517, as is shown in Table 5. We have therefore been able to successfully verify in 2 ways the moderately positive dependence between the ESG rating and the return on the investment asset, which allows us to confirm our hypothesis based on the previous studies (Pástor et al., 2021; Derwall et al., 2005).

Tab. 5 Matrix of correlations

Variables	(1)	(2)
(1) accum_5yperf	1.000	
(2) ESG_score	0.517	1.000

Source: Own processing in Gretl according to data from Statista

However, due to the higher degree of dispersion observed from the left side outliers on the scatter-plot dot chart, the results cannot be considered unconditionally relevant. This conclusion indicates the need to make further comparisons within the investment assets on individual level in time, as well as creating a basis for future research improvement, for example, in the form of a complex regression model that would more comprehensively define the investment return function. Such a model could be further extended by control variables of various macroeconomic and microeconomic factors influencing the return on investments, which would eliminate the so-called OVB effect, for which the result could not be corrected in the case of our correlation analysis. Last but not least, it is possible to continue the research through follow-up comparison with non-ESG ETF funds, which would make it possible to objectively quantify the difference in benefits from the ESG instrument.

CONCLUSION

In this article, we focused on analyzing the global offering of Environmental, Social, and Governance (ESG) investment products and identifying their implications on financial performance. Through a comprehensive approach encompassing systematic literature review and secondary research, along with the statistical method of scatter-plot graphing and Pearson regression analysis, it was possible to uncover critical insights into the current state of ESG investing.

As part of the results, the regions of the United States of America and Europe were identified as the most active ESG markets, collectively accounting for over 80% of the market share, with the Netherlands currently dominating as the most sustainable investment market in the world. In the present, the most popular ESG assets are stocks and bonds, which in recent years have also been followed by investments in real estate and ecologically produced commodities, along with ETF funds due to their favorable price.

A pivotal finding from our quantitative analysis revealed a positive correlation effect of 0.517 between the ESG factor and the 5-year cumulative performance among the top 100 ETF funds. This empirical evidence not only aligns with, but also substantiates the hypotheses of other authors, affirming the positive relationship between higher ESG ratings and enhanced financial performance within the ETF segment.

Our contribution to this topic further lies in presenting a concise yet comprehensive review of the global landscape of ESG products, an area that lacks structural availability in the current literature. Additionally, by empirically testing the hypotheses on the newest ranking of ETF funds and 5-year performance leading up to 2023, we were able to enrich the research in this area with the most up to date data available.

Eventually, the positive effect uncovered in our research signifies a promising insight for investors to integrate ESG factors into their portfolios. Moreover, it also emphasizes the importance for the companies and governments to incorporate sustainability aspects into their strategic plans, which allows them to foster a better world for the whole society.

However, while our study offers valuable insights, there remain areas for further research. Future authors could therefore delve more into the selected markets individually rather than globally, compare the effects of ESG ETFs against non-ESG counterparts, or employ even more complex regression models to mitigate the potential of omitted variable biases (OVB). Such modifications would enhance the precision of analyzing the impacts of ESG factors on investment performance and ultimately contribute to an even more comprehensive understanding of the above all meaningful topic of sustainability.

ACKNOWLEDGEMENT

REFERENCES

Agazzi, A., & Green, T. (2020). Your guide to ESG reporting: Guidance for issuers on the integration of ESG into reporting. Retrieved January 11, 2024, from London Stock Exchange website: https://docs.londonstockexchange.com/sites/default/files/documents/LSE_guide_to_climate_reporting_final_0.pdf

Bayern LB (2024). Green Bonds und Schuldscheine. Retrieved January 11, 2024, from Bayern LB.. Retrieved 11 January 2024, from https://www.bayernlb.de/internet/de/blb/resp/index.jsp

Chen, J. (2022). Environmental, social and governance (ESG) criteria. Retrieved January 11, 2024, from Investopedia, , from https://www.investopedia.com/terms/e/environmental-social-and-governance-esg-criteria.asp

Cohen, I. et al. (2009). Pearson Correlation Coefficient. Noise Reduction in Speech Processing. Springer Topics in Signal Processing. Springer, Berlin, Heidelberg. https://doi.org/10.1007/978-3-642-00296-0_5

Collateralized loan obligations explained – Syndication and unique features | Deutsche Bank. (2022). Retrieved 11 January 2024, from https://flow.db.com/trust-and-agency-services/collateralised-loan-obligations-explained#

Derwall, J. et al. (2005). The EcoEfficiency Premium Puzzle. Financial Analysts Journal, 61(1), 51-63. https://www.jstor.org/stable/4480656

ESG Investing: ESG Ratings | MSCI. (2024). Retrieved 17 February 2024, from https://www.msci.com/our-solutions/esg-investing/esg-ratings.

Ferreira, M. (2022). The New ESG Bond Markets. In Palgrave Handbook of ESG and Corporate Governance. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-030-99468-6_8

Ferri, G. (2023). Dissecting the European ESG Premium vs the US: Is It All About Non-Financial Reporting?. In Creating Value and Improving Financial Performance - Palgrave Macmillan Studies. https://doi.org/10.1007/978-3-031-24876-4_2

Friedman, M. (1970). A Friedman doctrine of the social responsibility | The New York Times. Retrieved 7 April 2024 from https://www.nytimes.com/1970/09/13/archives/a-friedman-doctrine-the-social-responsibility-of-business-is-to.html

Global Sustainable Investment Alliance | GSIA. (2023). Retrieved 17 February 2024, from https://www.gsi-alliance.org/

Ground, J. (2022). ESG Global Study 2022 | The Harvard Law School Forum on Corporate Governance and Capital Group. Retrieved 11 January 2024, from https://corpgov.law.harvard.edu/2022/06/17/esg-global-study-2022/.

Hill, J. (2020). Environmental, Social, and Governance (ESG) Investing: A Balanced Analysis of the Theory and Practice of a Sustainable Portfolio. Academic Press. ISBN 9780128186923.

Huang, Z. et al. (2019). Loaning scale and government subsidy for promoting green innovation. Technological Forecasting and Social Change, 141(3), 149-159.

Kapitánová, T. (2021). Trendy formuje tieň pandémie. TaPmag: tovar & predaj, 57(1), 21-27. ISSN 1805-0549.

La Torre, M. et al. (2023). ESG Ratings, Scores, and Opinions: The State of the Art in Literature. Contemporary Issues in Sustainable Finance. 11 (7), 177-191. https://doi.org/10.1007/978-3-031-22539-0_4

Lykkesfeldt, P. & Kjaergaard, L. (2022). Encompassing ESG Rating Agencies. Investor Relations and ESG Reporting in a Regulatory Perspective. 17(3), 721 - 737. https://doi.org/10.1007/978-3-031-05800-4_39

Meziani, A. (2016). Characteristics of Exchange - Traded Funds: Weighting Myths and Realities. In: Exchange - Traded Funds. Palgrave Macmillan, London. https://doi.org/10.1057/978-1-137-39095-0_2

Most popular ESG ETFs worldwide 2022 | Statista. (2022). Retrieved 21 February 2024, from https://www.statista.com/statistics/1297508/most-popular-esg-etfs-worldwide/.

Nakajima, T. & Hamori, S. (2021). Does ESG Index Have Strong Conditional Correlations with Sustainability Related Stock Indices?. SpringerBriefs in Economics (Singapore). https://doi.org/10.1007/978-981-16-2990-7_2

Netto, S. et al. (2020). Concepts and forms of greenwashing: a systematic review. Environmental Sciences Europe, 31 (1), 19. https://doi.org/10.1186/s12302-020-0300-3

Ning, Y. & Sial, S. (2023). Green bond as a new determinant of sustainable green financing, energy efficiency investment, and economic growth: a global perspective. Environmental Science and Pollution Research. 31 (1), 61324–61339. https://doi.org/10.1007/s11356-021-18454-7

Nishikawa, L. et al. (2021). Foundations of ESG Investing: How ESG Affects Equity Valuation, Risk, and Performance. Journal of Portfolio Management, 99 (7), 71-77. https://doi.org/10.3905/jpm.2019.45.5.069

Orsato, R. (2017). Sensitive industries produce better ESG performance: Evidence from global markets. Journal of Cleaner Production, Elsevier Ltd., 150(7), 135-139.

Pástor, Ľ., Stambaugh, R., Taylor, L. (2021). Sustainable investing in equilibrium. Journal of Financial Economics. 141(1), 550-571. DOI: 10.3386/w26549

Pineiro, A. et al. (2019). Financing the Sustainable Development Goals: Impact Investing in Action | Global Impact Investing Network (GIIN). Retrieved 11 January 2024, from https://andeglobal.org/publication/financing-the-sustainable-development-goals-impact-investing-in-action/

Pucker, K. & King, A. (2022). ESG Investing Isn't Designed to Save the Planet | Harvard Business Review. Retrieved 11 January 2024, from https://hbr.org/2022/08/esg-investing-isnt-designed-to-save-the-planet.

ROBECO. (2021). Country Sustainability Ranking. Retrieved February 17, 2024, from www.robeco.com

S&P Global (2024). Sustainable1 Solutions: ESG Scores. Retrieved January 19, 2024, from S&P Global, from https://www.spglobal.com/esg/solutions/data-intelligence-esg-scores.

Sauli, N. (2022). Norway's Statkraft stakes out 2030 growth target amid EU's ambitious green push | Reuters 2022. Retrieved 11 January 2024, from https://www.reuters.com/business/energy/norways-statkraft-stakes-out-2030-growth-target-amid-eus-ambitious-green-push-2022-06-28/.

Schroders (2023). Our sustainable investment reports. Retrieved January 11, 2024, from Schroders, from https://www.schroders.com/en-gb/uk/individual/what-we-do/sustainable-investing/

Shiller, R. J. (2019). Narrative Economics: How Stories Go Viral and Drive Major Economic Events. Princeton University Press. ISBN 978-06-91182-29-2.

Leadership in Intercultural Teams

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Abstract: The aim of this paper is to deliberate about the leadership status in students' intercultural teams, correlations between this position and the status of confidant in the team, subjective satisfaction with life, and objective stress burden. The applied methods for data gathering are sociometric analysis measuring both leadership skills and trust, Schedule for the Evaluation of Individual Quality of Life (SEIQoL), and The Social Readjustment Rating Scale (SRRS). The quantitative survey was conducted on the sample of bachelor students who attended the course 2OP337 taught at the Faculty of International Relations. The data are evaluated mainly via correlation analysis and interpreted in the context of managerial and psychological theories with an emphasis on the ontological stage of young adulthood. Findings are useful for both policy makers, and university lecturers whose work is related to management of the young adults in project teams.

Keywords: leadership position, intercultural teams, young adulthood leadership, stress, life satisfaction

JEL Classification codes: M54, J24, I31

INTRODUCTION

The mental well-being of people in organizations has become one of the crucial factors for management theory and practice in recent years. After the difficult period of the COVID-19 pandemic, a war broke out in Ukraine. Consequently, the Czech Republic had to deal with the migration of war refugees, who gradually became active in the Czech labor market. Also, universities were affected by these problems in society. The attack by an active shooter at Charles University in December 2023 was one of the most dramatic events. Universities are traditionally a place where people of different nationalities, ethnicities, and cultural backgrounds meet. This is doubly true for the Faculty of International Relations when we consider its mission. The Faculty of International Relations of the Prague University of Economics and Business has the internationalization of its study programs as one of its key priorities. This paper focuses on international cooperation within the project groups that are created within the voluntary course 2OP337 Psychology in Organizations. Students enrolled in this course have the task of elaborating team projects. Such an experience gives them a unique opportunity to cooperate in a culturally diverse environment, and via psychometric methods, they can understand the team dynamics on a deeper level. The aim of this paper is to deliberate about the leadership status in students' intercultural teams, correlations between this position and the status of confidant in the team, subjective satisfaction with life, and objective stress burden. Additionally, outputs from the team managerial game are included.

1 LITERATURE REVIEW

Since the outbreak of the COVID-19 pandemic, the mental health and well-being of university students have received increased attention. In addition to the consequences of the pandemic, the inclusion of students with specific needs (such as autism, ADHD, or learning disabilities) has played a significant role and was present in the research interest also before the pandemic and still remains an important topic for academic research (de la Torre et al., 2023; Glennon, 2001; Steinberg, 2011). While previous publications focus on the topic of stigmatization of students with learning disorders and special needs, some authors (like Portešová, 2011) talk explicitly about giftedness and gifted students with learning disorders.

The authors have discussed the importance of supporting networks and counseling centers and their role in building resilience, coping strategies, and measurement procedures. (Abdullah et al., 2022) revealed that academic workload, family support, and financial issues predict depression among university students, and the students who encounter depression are more likely to adopt rational and spiritual coping strategies.

Petrovic et al. (2023) explored the impact of online mindfulness induction on mind and body state mindfulness in university students with and without a history of non-suicidal self-injury with the following findings: "Although findings are tentative and should therefore be interpreted with caution, they suggest a unique responsiveness of university students with a history of NSSI to a body scan meditation in the face of a stressful experience, particularly in terms of their state mindfulness of the body, suggesting that further examination of brief mindfulness inductions among this population is warranted."

There are objective and subjective instruments for measuring well-being and quality of life. A typical individualized instrument for measuring the quality of life is SEIQoL (Schedule for the Evaluation of Individual Quality of Life), which is based on the phenomenological definition that the quality of life is what the respondent says it is (Ring et al., 2007). This instrument was used both for the patient population (O'Boyle & McGee, 1992) and the student population (Ring et al., 2007; Masárová & Gullerová, 2012). Ring et al. (2007) measured the quality of life on a culturally diverse sample of 136 students (consisting of Europeans (30%), Asians (40%), and Middle 315 Easterners (12%), and also 10% of the respondents originated from North 316 America, Australia, and New Zealand and 3% from the rest of the world) with following results: "The mean SEIQoL index score was 65.1 (±13.2 SD) (range 28–97; possible range: 0–100). The validity of the SEIQoL judgment analysis procedure, as 319 indicated by R2, was acceptable (0.63 ± SD 0.15). Test–retest reliability of 320 the 10 repeated cases were 0.59."

Masárová & Gullerová (2012) used the instrument on the sample consisting of 90 students of Alexander Dubcek University of Trencin, Faculty of Social and Economic Relations, program of study: Human Resources and Personnel Management with the following results: "Having calculated the quality-of-life scores by SEIQoL methodology, we can conclude that the quality of life of respondents amounts to 49.43%. Respondents rated the quality of life within society identically (49.45%). On the graphic scale, however, the life satisfaction indicated by them was higher by 22% (71.72%) on average than the quality of life of the society (49.45% reported)."

2 METHODOLOGY

The data were collected during two academic years, specifically in the winter and summer semesters of the academic year 2021/22 and in the winter and summer semesters of the

academic year 2022/23. From the total of 7 teaching classes, 165 observations were used for this analysis, out of which 35% were men and 65% were women. These frequencies correspond to the usual distribution in the population in study programs at the faculty (Matysová, 2017). The age of all respondents ranged from 20 to 24 years. Regarding the students' nationalities, they covered a broad spectrum. The prevailing national cultures were citizens of the USA, the Russian Federation, Canadians, French, Spanish, Scandinavians and Finns, Mexicans, Czechs, Slovaks, Vietnamese, and Chinese.

Three assessments fulfilled by students were used in this paper; two are related to mental health and satisfaction and are not dependent on the project team, and the third inventory summarizes experiences from the group cooperation. Students evaluate their teammates as leaders considering their managerial skills and as confidants, meaning their capability to create trust in the group. Due to the complexity of data collection, observation gaps arose because students did not always complete all activities assigned as homework.

The Holmes-Rahe Stress Inventory SRRS (The Social Readjustment Rating Scale), which consists of 43 so-called Life Change Units, was used to assess stress burden. As stated by Noone (2017), the advantages of the inventory include its availability for free and, at the same time, a high degree of consistency across cultures; the author demonstrates this both with high correlations for healthy adults ($r=0.96 - 0.89$) and for patients ($r=0.91 - 0.70$). The output of the inventory is a score predicting the risk of developing a stress-related illness; values below 149 indicate low risk, moderate risk is between 150 and 299, and values above 300 indicate high risk.

The second tool is the SEIQoL (Schedule for the Evaluation of Individual Quality of Life), which original administration (O'Boyle et al., 1993) was slightly modified; students choose five life goals, which they then evaluated regarding their importance and satisfaction. The modification of the administration consists in the fact that the students should specify these goals in the form of life roles that they currently have in their social, work, or study life or those that relate to their spiritual life and physical health or body care. This instruction is consistent with suggested administration, where the authors (O'Boyle et al., 1993) state that the administrator should refrain from providing prescriptive examples but may mention the following areas: "family, relationships, health, finances, living conditions, work, social life, leisure activities, religious and spiritual life." The resulting value ranges from 0 to 100. Similar to the previous inventory, the SEIQoL is commonly used and, in addition to its diagnostic purpose, also serves didactic purposes in the teaching of managerial and health psychology; e.g., Jaro Křivohlavý describes inventory administration in the Czech environment (Křivohlavý, 2001).

The last tool is sociometric analysis, the outputs of which are presented and interpreted in the form of a sociometric matrix. This is a classic tool developed by J.L. Moreno to map socio-preferential and emotional relationships in a group (Nakonečný, 1999). In the 2OP337 Psychology in Organizations, students evaluate each other in terms of trust and in terms of managerial competencies, which correspond to classic management functions (organizing, planning, leading, controlling, and decision-making). The evaluation takes place at the end of the semester when the teamwork is over; the students have approximately 2,5 months of project team experience.

Additionally, individual and group results of the managerial game "Moon Survival" (Bottger, Yetton, 1985) were also used; according to the authors: "The task seems too analogous to managerial problems where knowledge of the problem space varies across group members, and where initially, members are unaware of their colleagues' relative task expertise." This task demonstrates the superiority of group problem-solving over individual problem-solving.

3   RESULTS AND DISCUSSION

The following table 1 shows the descriptive statistics for the monitored variables while the first four variables relate to sociometric analysis (Leader, Confidant, ENGL=engagement in leadership and ENGT=engagement in trust); the following two relate to mental health (SEIQoL and SRRS); and the remaining two to "Moon Survival" task (MSI=individual score and MSG=group score).

Tab. 1 Descriptive Statistics (n=165)

	Leader	Confidant	ENGT	ENGL	SRRS	SEIQoL	MSI	MSG
Valid	129	129	133	133	131	132	108	114
Missing	36	36	32	32	34	33	57	51
Mean	8.067	9.732	9.753	8.000	208.137	76.538	41.722	34.684
Std. Deviation	2.385	1.834	2.001	1.761	115.669	11.223	12.237	11.521
Minimum	3.000	5.000	4.000	2.000	11.000	41.000	4.000	6.000
Maximum	12.000	12.000	12.000	12.000	653.000	100.000	71.000	56.000

Source: own research

From the descriptive statistics, it is evident that the group solution of the managerial game "Moon Survival" is more successful than the individual solution; the lower score indicates better problem-solving. On average, there is an improvement of 7.038 points, which is in line with the theoretical assumptions suggesting that the creative error correction process occurs in the group.

The data were further processed using correlation analysis and are presented in Table 2, which shows Pearson's correlations and their corresponding p-values for the two-tailed hypothesis; the test's significance is marked below the table.

Tab. 2 Pearson's Correlations (n=165)

Variable		Leader	ENGL	Confidant	ENGT	SEIQoL	SRRS	MSG	MSI
1. Leader	Pearson's r	—							
	p-value	—							
2. ENGL	Pearson's r	0.088	—						
	p-value	0.319	—						
3. Confidant	Pearson's r	0.422 ***	0.164	—					
	p-value	< .001	0.064	—					

Tab. 2 Pearson's Correlations (n=165)

Variable		Leader	ENGL	Confidant	ENGT	SEIQoL	SRRS	MSG	MSI
4. ENGT	Pearson's r	0.186 *	0.389 ***	0.553 ***	—				
	p-value	0.035	< .001	< .001	—				
5. SEIQoL	Pearson's r	0.121	-0.138	-0.074	0.030	—			
	p-value	0.220	0.154	0.458	0.757	—			
6. SRRS	Pearson's r	0.062	-0.360 ***	0.063	-0.063	-0.185	—		
	p-value	0.528	< .001	0.522	0.516	0.051	—		
7. MSG	Pearson's r	0.087	0.116	-0.086	-0.056	0.140	-0.127	—	
	p-value	0.380	0.235	0.387	0.568	0.174	0.221	—	
8. MSI	Pearson's r	0.198	0.247 *	0.169	0.054	-0.109	-0.096	0.465 ***	—
	p-value	0.051	0.012	0.096	0.589	0.300	0.371	< .001	—

* p < .05, ** p < .01, *** p < .001

Source: own research

Correlation analysis confirmed a statistically significant relationship between trust gained (status of Confidant) and trust assigned to other team members (ENGT). We can argue that there is a dependency between the affiliation (that is, the trust shown) to team members and the popularity that a person gains in the team. Parallel reciprocity in the relationship between the Leader and ENGL does not apply, so engagement in leading others does not predict that a person will be elected as a group leader. It is necessary to repeat that these are student project teams that require a specific type of leadership and are characterized by informal leadership statuses. Furthermore, the correlation between the status of the leader (variable Leader) and the status of the most trustworthy member (variable Confidant) was demonstrated. This suggests that trust is correlated with the position of the leader; however, the leader must gain this popularity also through various strategies than the confidants, whose strategy could be to show personal emotional ties since the correlation between the variables Leader and ENGT was low. Another proven correlation is the relationship between the tendency to relate to other members as leaders (ENGL) and, at the same time, to trust them (ENGT). Diffusion of personal and work areas could hypothetically have cultural causes (see Trompenaars & Hampden-Turner, 2009), but this is logically excluded in relation to the intercultural nature of the sample.

The results of the SRRS can be understood as an objective stress burden, i.e., an objective measure of stress that a person experiences in his life, regardless of whether he experiences it positively (as so-called eustress) or negatively (as distress). In the case of this sample, it can be concluded that, to some extent, the stress load, which on average indicates a moderate risk of developing a stress-related disease, is experienced positively since no correlation

between the SRRS and SEIQoL variables was confirmed. The negative correlation between stress burden (SRRS) and the tendency to choose others as leaders (ENGL) was confirmed. Considering that this is only a predictive type of research, it is not possible to draw a causal attribution between this relationship. The predictive relationship suggests we do not relate to others as leaders as the stress burden increases. A deeper investigation of this relationship could bring interesting findings for managerial practice.

Last but not least, the correlation between individual and group solutions to the problem task "Moon Survival" was proven. Individuals' scores from this managerial game indicate knowledge expertise and partly reflect general aptitude for problem-solving tasks, i.e., general intelligence. The remaining proven correlation is between MSI and ENGL; the test is statistically significant; however, the correlation is quite low.

The research was conducted on a sample of students of the course 2OP337 Psychology in Organizations, mainly from foreign mobilities or from the Czech and English programs of the faculty. According to the authors of the SRRS inventory, their stress burden is of medium-height (average 208.138), which, in addition to the usual stress burden, may also be related to the burden associated with traveling abroad and culture shock, which, according to theory, occurs between 4 and 6 months of stay abroad (Zadražilová, 2017). For comparison, Dumitriu et al. (2023) report the average stress of company workers using the same inventory with a value of 322. These authors recommend increasing employees' awareness of the consequences of stress through campaigns and courses and the implementation of stress management strategies.

In different research (Volfová et al., 2023), we came to the conclusion that autonomy (independence and self-sufficiency) and homonomy (connectedness) are complementary phenomena; thus, managers should support both of them. The holistic concepts of autonomy and homonomy postulated by the Hungarian psychiatrist Angyal (Lester & Dench, 2011) overlap with the widely accepted motivational theory of self-determination theory (SDT) by Ryan and Deci (2000); precisely, they overlap with two innate needs autonomy and interdependence (also known as relatedness or belongingness). The research involves a sample of students between the ages of 20 and 24. According to ontological theories, it can be assumed that individuals in the period of young adulthood experience a crisis of intimacy and isolation, i.e., a dilemma of both independence and building harmonious relationships. The data of the conducted research indicate that interdependence prevails in the field of emotional and personal ties, as those who show trust in others are perceived as popular and trustworthy. In the field of leadership, however, there is no correlation between engagement in others' leadership and the assigned leader status, which implies greater autonomy of students in leadership positions.

The correlation between ENGT and ENGL is interesting. In relation to the holistic concepts cited above, this phenomenon could be understood in the context of deficit forms of autonomy and homonomy, which Angyal refers to as non-commitment and vicarious living (Lester & Dench, 2011). Elsewhere (Matysová & Volfová, 2023), we pointed out that an immature form of autonomy was manifested by students during the COVID-19 epidemic who felt it was the duty of teachers to push them to complete tasks in the online environment and who wanted to be more controlled. Mareš (2013) points to a similar phenomenon of contamination of perceived roles, which concerns the evaluation of university teachers by students: "Friendly teachers (types 1 and 2) are perceived by students as competent, showing interest in students and caring about them, even if they sometimes behave inappropriately. On the contrary, unfriendly teachers (types 3 and 4) who display inappropriate behavior are perceived by students as incompetent, uninterested in students, and untrustworthy." Considering defense mechanisms, the "reaction formation" can play a central role in the background of these

phenomena; (McWilliams, 2015). In "reaction formation," a person convinces himself that he feels only one pole of a complex emotional reaction.

Since the relationship between objective stress burden (measured by SRRS) and subjectively perceived evaluation of the quality of life (measured by SEIQoL) was not confirmed, it can be assumed that young adults are psychologically resilient or perceive stress load as eustress, i.e. positively experienced stress. Kaya Özbağ (2022), who investigated the stress load and satisfaction of seafarers, argues similarly; she failed to find a link between workload and subjective well-being, which she explains by the fact that seafarers have built up a higher resistance than the general population. Another explanation can be the job-strain theory (Karasek, 1979), according to which work strain is compensated by the autonomy that the worker has. Thus, for example, the intellectual load can contribute to increased satisfaction and reduced symptoms of depression; the author talks about active occupations. Conversely, undemanding occupations with limited decision-making powers can lead to increased passivity and apathy. In the case of the students analyzed in this paper, the specific workload was not tested, but the load was generally connected with life. Regarding the cited results from secondary research in the theoretical part, we can assume that, on average, the examined students are quite satisfied (SEIQoL on average 76,538).

CONCLUSION

The aim of this paper was to deliberate on the leadership status in students' intercultural teams, correlations between this position and the status of confidant in the team, subjective satisfaction with life, and objective stress burden. The data was collected as part of the elective course 2OP337 Psychology in Organizations, which is offered to both Czech and foreign students and thus becomes a platform for intercultural encounters, in which students simulate work in project teams, which they then analyze using psychometric inventories. The data on a sample of 165 respondents was analyzed using correlation analysis and subsequently interpreted.

The paper discussed and interpreted correlations between the status of Confidant and engagement in interpersonal and emotional relationships. Furthermore, a correlation between the status of the Confidant and the status of the Leader was revealed and discussed. However, the position of the Leader has a low correlation with the preferences assigned to others in the criterion of trust and no correlation with preferences assigned to others in the criterion of managerial competencies. No correlation was identified between objective stress load and subjectively perceived individual quality of life. Relevant managerial and psychological theories, contemporary empirical findings, and possibilities for further research were discussed in the paper.

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REFERENCES

Abdullah, M. Z., Ma'on, S. N., Solat, N., Besir, M. S. M., @ Mat Hussin, N. Z. M. H., & Geng Yao. (2022). Assessing Mental Well-being among University Students: Factors Associated and Coping Strategies: Global Business & Management Research. *Global Business & Management Research*, 14, 155–172.

Bottger, P. C., & Yetton, P. W. (1985). Group Problem Solving: The Effect of Training in Individual Problem Solving on Group Performance. *Proceedings - Academy of Management,* 119–123. https://doi.org/10.5465/AMBPP.1985.4978757

de la Torre, R., Calleja, G., & Erro-Garcés, A. (2023). Pushing limits in higher education: Inclusion services' perspectives on supporting students with learning disabilities in Spanish universities: Journal of Higher Education Policy & Management. *Journal of Higher Education Policy & Management,* 45(4), 423–441. https://doi.org/10.1080/1360080X.2023.2190951

Dumitriu, L.-C., Grecu, I., & Fonseca, L. C. (2023). Analysis of Organisational Stress. *FAIMA Business & Management Journal*, 11(1), 37–48.

Glennon, T. J. (2001). The stress of the university experience for students with Asperger syndrome: Work. *Work,* 17(3), 183.

Karasek, R. A. (1979). Job Demands, Job Decision Latitude, and Mental Strain: Implications for Job Redesign. *Administrative Science Quarterly*, 24(2), 285–308. https://doi.org/10.2307/2392498

Kaya Özbağ, G. (2022). Seafarers' Job Stress and Subjective Well-Being: The Mediating Effect of Psychological Resilience and the Moderating Effect of Organizational Support. International *Journal of Contemporary Economics & Administrative Sciences*, 12(2), 559–572. https://doi.org/10.5281/zenodo.7512712

Křivohlavý, J. (2001). *Psychologie zdraví.* Praha: Portál.

Lester, D., & Dench, B. (2011). The holistic theory of Andras Angyal: measuring the system principle. *Psychological reports*, 108(1), 213-216. https://doi.org/10.2466/02.07.21.PR0.108.1.213-216.

Mareš, J. (2013). Nevhodné chování učitelů k žákům a studentům. *Studia paedagogica*, 18(1), Article 1. https://doi.org/10.5817/SP2013-1-2

Matysová, K. (2017). International Trade Students' Stereotypes. *Acta Oeconomica Pragensia*, 25(2), 3–16. https://doi.org/10.18267/j.aop.571

Matysová, K., & Volfová, J. (2023): Autonomy and Homonomy in Developing Sustainable Leadership in the Czech Republic. In *23rd International Joint Conference CENTRAL AND EASTERN EUROPE IN THE CHANGING BUSINESS ENVIRONMENT: Book of Abstracts*, 30. Prague; Prague University of Economics and Business, Oeconomica Publishing house. Retrieved 18 Feruary 2023, from https://ceeconference.vse.cz/wp-content/uploads/CEECBE-abstracts_2023.pdf.

Masárová, T., & Gullerová, M. (2012). Subjective Perception of the Quality of Life: Subjektívna percepcia kvality života. *Social & Economic Revue*, 10(4), 57–61.

McWilliams, N. (2015). *Psychoanalytická diagnóza. Porozumění struktuře osobnosti v klinickém procesu*. Praha: Portál.

Nakonečný, M. (1999). *Sociální psychologie*. Praha: Academie.

Noone, P. A. (2017). The Holmes-Rahe Stress Inventory. *Occupational Medicine* (Oxford, England), 67(7), 581–582. https://doi.org/10.1093/occmed/kqx099

O'Boyle, C., Browne, J., Hickey, A., Mcgee, H., & Joyce, C. (1993). Schedule for the Evaluation of Individual Quality of Life (SEIQoL): A Direct Weighting procedure for Quality-of-Life Domains (SEIQoL-DW).

O'Boyle, C., & McGee, H. (1992). Individual quality of life in patients undergoing hip replacement: Lancet. *Lancet*, 339(8801), 1088. https://doi.org/10.1016/0140-6736(92)90673-Q

Petrovic, J., Bastien, L., Mettler, J., & Heath, N. L. (2023). The Effectiveness of Mindfulness Induction as a Buffer Against Stress Among University Students with and Without a History of Self-Injury: *Psychological Reports. Psychological Reports*, 126(5), 2280–2302. https://doi.org/10.1177/00332941221089282

Portešová, Š. (2011). *Rozumově nadané děti s dyslexií.* Praha: Portál.

Ring, L., Höfer, S., Mcgee, H., Hickey, A., & O'Boyle, C. (2007). Individual quality of life: Can it be accounted for by psychological or subjective well-being? *Social Indicators Research*, 82, 443–461. https://doi.org/10.1007/s11205-006-9041-y

Ryan, R. M., & Deci, E. L. (2000). Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being. *American Psychologist*

Trompenaars, F., & Hampden-Turner, C. (2009). *Riding the Waves of Culture. Understanding Cultural Diversity in Business.* London: Nicolas Brealey Publishing.

Steinberg, J. (2011). Hard Decisions for Learning Disabled: New York Times. *New York Times*, 161(55581), 14.

Volfová, J., Matysová, K., Vranceanu, D., & Tuclea, C. (2023). Telework Perception and Implications during COVID-19 in the Czech Republic. *Central European Business Review*, 12. https://doi.org/10.18267/j.cebr.332

Zadražilová, D. (2017). *Mezinárodní management*. Praha: Oeconomica.

The Impact of Fiscal Policy on Economic Growth in EU Member States – Perspective of State Aid Granted in the Pre-Pandemic Period

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Abstract: The article presents the conditions of admissibility of state aid in the European Union from the perspective of the principle of sustainable development, including in particular the fiscal policy as the basic mechanism for implementing the above principle. A literature study was conducted based on the achievements of the theory of state intervention and the theory of market failure. A feature of the research method used is the analysis of the instruments used by the state in relation to enterprises from the point of view of the definition of state aid in European Union documents. Another feature of the method used in the work is the analysis of the relationship between the expenditure of the Member States on state aid and their economic growth. This analysis was performed based on a linear regression model. The analysis made it possible to verify the influence of State aid on economic growth in EU Member States which provided State aid in the years 2000-2019. State expenditure policy, which includes the policy of state aid to enterprises, can give an impulse to GDP growth and increase the indicator GDP per capita (growth of competitiveness of the national economy) even if the State spends more money than the accumulated revenue in the budget.

Keywords: economic growth, the European Union, fiscal policy, state aid, regression analysis

JEL Classification codes: E62; K20; K33

INTRODUCTION

Development strategies of the European Union, such as the Lisbon Strategy and Europe 2020, indicated as a strategic goal the transformation of the European Union into the most competitive economy in the world, based on knowledge and capable of sustainable economic development, creating more jobs and ensuring social cohesion (Horlings & Padt, 2013; Bock, 2016, Dordzhieva et al., 2018; Haider et al., 2018). These activities were to focus on innovation, liberalization, entrepreneurship, and social cohesion (Callois & Aubert, 2007; Straka & Tuzová, 2016). The assumptions of development strategies resulted from numerous weaknesses of a socio-economic nature that characterized the European Union even in the last decade of the 20th century (Leigh & Blakely, 2016). These weaknesses resulted in a slower pace of economic development and difficulties in the transition to a knowledge-based economy, which was manifested mainly in a lower ability to create and absorb new technologies. Adoption of the above goal required all Member States to take measures to develop the information society, support research and innovation, develop appropriate qualifications and skills, and develop entrepreneurship, which was to be achieved through

easier access to capital and technology, the elimination of administrative and legal barriers and the creation of equal field of competition (Onofrei et al., 2020). In addition, it was also necessary to liberalize and integrate those markets and sectors that were not covered by the single market, i.e. telecommunications, energy, postal, transport, and the services market, as well as an increase in employment and a change in the social model, which was to take place in terms of increasing professional activity, making the labor market flexible, improving education, modernizing the social security system and reducing poverty and social exclusion.

The state is the basic entity involved in the process of ensuring and implementing the goals of sustainable development (Podsiadlo & Jachowicz, 2020). When analyzing the role of the state, the functions it performs are emphasized: organizational, repressive, economic, social, and also distributive. The state's activity to support the goals of sustainable development is multidimensional and concerns not only the creation of institutional and formal and legal frameworks to stimulate sustainable development but also shaping the attitudes of market participants by influencing their decisions using the cost-benefit mechanism or rewards and penalties (Onofrei et al., 2020). Fiscal policy instruments are an example of encouraging and discouraging market entities from taking specific actions and activities. In this respect, legal norms, orders, prohibitions, penalties, fines, fees are important, as well as a system of tax reliefs and exemptions, or grants and subsidies (Giaoutzi, 1988).

From the economic point of view relating to state interventionism, it ought to be noted that State aid can be a justified action mainly because of the social prosperity if free competition market mechanism does not bring satisfactory results (Biondi, 2013; Crafts, 2017). In this case, a well-planned State intervention may improve the allocation of production factors, reduce the irregularity in the market functioning and enable the achievement of common interest (Ferčič & Samec, 2014; Stöllinger & Holzner, 2017). The major criterion for providing State aid should be rationality, which is the highest determinant of the admissibility of using the aid measures (Bumane & Vodolagins, 2017). It results from the fact that in a market economy the competition is essential for the proper functioning of the market and protecting the interests of its participants (Pisapia, 2015; Popović & Caka, 2017). State aid should not violate it unless its violation will be compensated by positive market phenomena that were caused by providing the aid. With the use of the aid instrument the State realizes the objectives that are considered a priority for socioeconomic development (Tunali & Fidrmuc, 2015).

Article 107 par. 1 of the Treaty on the Functioning of the European Union (TFEU) stipulates that: "(…) save as otherwise provided in the Treaties, any aid granted by a Member State or through State resources in any form whatsoever which distorts or threatens to distort competition by favouring certain undertakings or the production of certain goods shall, in so far as it affects trade between Member States, be incompatible with the internal market" (Treaty, 2016). However, despite that general prohibition state aid may be necessary to address market failures to ensure a well-functioning and equitable economy. Therefore, the Treaty leaves room for the granting of State aid in respect of several policy objectives. With particular relevance to the agricultural sector, firstly in accordance with Article 107 par. 2(b) of the TFEU, aid to make good the damage caused by natural disasters or exceptional occurrences shall be compatible with the internal market. Secondly, on the basis of Article 107 par. 3(c) of the TFEU, the Commission may consider compatible with the internal market State aid to promote the economic development of the agricultural and forestry sectors and of rural areas, provided that it does not adversely affect trading conditions.

The purpose of this article is to analyse the state aid provided by EU Member States, specifically the aid's impact on economic growth of these countries, in terms of the principle of sustainable development, including in particular the fiscal policy as the basic mechanism for implementing the above principle. Economic growth is measured by the size of gross domestic product in real terms (GDP), a synthetic measure of the state's economic well-being (Walasik, 2015). For

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this article, the years 2000-2019 were adopted as the test period, i.e. the period during which the two most important development strategies - the Lisbon Strategy and the "Europe 2020" Strategy - of the European Union were implemented. It was posited that the amount of state aid provided by the EU Member States should be positively correlated with the size of the economic growth of these countries. If GDP is positively correlated with the size of state aid granted by EU countries, then positive economic growth among Member States occurs as state aid is increased.

1 LITERATURE REVIEW

1.1 Fiscal policy and sustainable economic growth

To ensure the functioning of an effective and efficient state aid system as the basic goal and element of the sustainable economic development system, a stable fiscal policy implemented by the state is necessary (Hansen, 2020). The Member States are obliged to keep "healthy public finances" by the Treaty on European Union - article 119, point 3 (Treaty, 2012). The increase in budget imbalances and public debt in the European Union countries observed during the financial crisis and in the following years was perceived as a threat to the economic growth and competitiveness of the entire Union. This is an important problem because, within the framework of sustainable public finances, a wide range of financial instruments is available to combat exclusion, poverty, and inequalities (Tremblay et al., 2020). Counteracting such phenomena as exclusion, inequality or poverty is one of the major challenges faced by modern states and international organizations. These phenomena have harmful socio-economic effects and are at the same time the main obstacle in the pursuit of sustainable growth and development (Nakatani, 2021). As a consequence, ensuring sustainable development requires focusing social goals on these negative phenomena, and their implementation requires the provision of financing sources (Heras-Saizarbitoria et al., 2022).

In contemporary democratic social systems and under market conditions, the state is the entity responsible for all public, social, and economic affairs (Tosun & Leininger, 2017). The activity of the state is therefore carried out in the environment of other entities, which means that the state must take into account their preferences, more so as the economic basis of the state's activity depends on the economic situation of other entities of the economic system. Despite the complex situation in which the state finds itself in the economic and social system, it bears political responsibility for everything that happens in a given country (Amir & Gokmenoglu, 2020). However, it cannot be ignored that the state's abilities are often overestimated, as in fact they are significantly limited. This is due to the fact that in relation to the economy, the main "organizer" of economic processes is the market (market mechanism). Therefore, the task of the state is to create the most favorable conditions for the functioning of the market (Pham-Truffert et al., 2020). The market mechanism should enable the effective use of human resources, fixed capital resources, financial capital, and land for the best satisfaction of human needs. These general and indisputable goals encounter not only implementation difficulties, but above all difficulties of an interpretative nature when it comes to the scope of the state's obligations, ways of fulfilling them, or the types of its responsibility for given areas of socio-economic life.

In the context of the considered fiscal policy, an important issue of responsibility for individual areas of economic and social life appears. The point, however, is not only whether the state can and should be responsible for socio-economic matters, but also what organs of the state should be made responsible (Bergman et al., 2016). It is equally important that there are no contradictions between the elements of the state structure in terms of the objectives and the

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applied fiscal policy measures. At this point, it is necessary to mention the significant difficulty in assigning clear responsibility to the state for fiscal policy. This difficulty is due to the complexity of state institutions. In the broadest sense, the state, or more precisely its constitutive and executive organs (administration), are responsible for all matters significant to society and the country.

Fiscal policy is based on the use of various instruments that serve the implementation of universal goals of financial policy (Onofrei et al., 2020). The universal goals of financial policy include economic growth (GDP growth), preserving the value of money (fighting inflation), creating jobs (fighting unemployment), stabilizing the economy, supporting the competitiveness of the economy, internal and external financial security of the country (Nakatani, 2021). The hierarchy of universal financial policy goals is not accidental. It should be recognized that the goals of financial policy are of a utility and socially useful nature. Financial policy should contribute to raising the standard of living of the society in all its basic areas, and this is possible only when economic growth is achieved, expressed as an increase in GDP (in real terms). The expected pace of economic growth cannot be determined within the framework of universal goals, as it is the domain of specific goals of the financial policy of a given country and in a given period. It can only be assumed that the goal of financial policy cannot be negative economic growth, i.e. a decline in GDP, or in the long run, the so-called zero growth, as it would mean the deterioration of the living conditions of the society.

Due to the ongoing process of free trade and the globalization of the economy, supporting the processes of the national economy's competitiveness on world markets is an increasing challenge for the financial policy (Barrientos-Marín et al., 2020). Achieving this goal is not easy, as the processes of globalization are also accompanied by the efforts of many countries and organizations to maintain the conditions of fair competition (Hutchison, 2020). The financial policy of the state with regard to supporting the competitiveness of the national economy should focus on indirect tools (Shkolnyk et al., 2020). This includes, for example, granting credit guarantees for exporters, state support for financial insurance institutions related to foreign trade, supporting technical and technological progress of domestic enterprises, and assistance in professional promotion of domestic goods and services abroad (e.g. by diplomatic missions). The state has many possibilities to indirectly support producers by financing basic and development research, which cannot be financed by the enterprise. An important challenge for the state in terms of supporting the competitiveness of the economy is its financing of education, which enables raising qualifications and adjusting the labor supply to the demand for labor (De Simone et al., 2019). Promoting the competitiveness of the economy - in the conditions of an open economy - also means promoting competitiveness in the internal market. Otherwise, the buyer will prefer foreign goods, which inevitably leads to tensions in the trade balance and the country's balance of payments. Therefore, let us note that when we talk about the competitiveness of the economy, in the context of globalization processes it is irrelevant whether it is about competition on the internal or external market (Gootjes & de Haan, 2020).

The main effect of the fiscal policy pursued by the state is the redistribution of income, which reduces the amount of income of the entity at its disposal (Meier et al., 2021). This is the basis for the state's negation. The main argument that is brought against the state is that it distorts the market mechanism. In this approach, the market is idealized in the sense that only the market efficiently allocates resources to the economy. Observation of the functioning of the market mechanism, however, leads to a thesis that there are disturbances in it, which are an expression of market failure. An example of this may be price collusion, which results in excessive profits, not resulting from effort and entrepreneurship, greater competitiveness, but from non-market behavior (Caselli & Reynaud, 2020). Such a state fully entitles to fiscal intervention in the dishonestly earned and excessively high income. Another example is the

cyclical course of processes in a market economy. This results in crises, high unemployment, a drop in production, a drop in income, etc. This is another argument for fiscal intervention in order to reduce the amplitude of fluctuations in the business cycle through appropriately constructed tax scales and expenditure on unemployment benefits (automatic economic stabilizers) and other fiscal activities of the state of a discretionary nature (discretionary) (Dovis & Kirpalani, 2020).

Fiscal policy has been criticized, especially since the mid-1970s, for being ineffective in stabilizing the economy (Rant et al., 2021). In particular, attention was paid to the effect of time delays, which consists in the fact that there is too much difference in time (according to various researchers, this period varies between 6 and 12 months) between the diagnosis of the economy (if it is adequate) and the moment of implementation of fiscal policy, which leads to the "vanishing point phenomenon" (Hansen, 2020; Martínez-Gomariz et al., 2020). The prepared fiscal policy measures turn out to be inadequate to the new state of the economy, the fiscal cycle repeats itself, etc. These arguments cannot be disregarded, because indeed fiscal policy is strongly determined by politics in general, or more precisely, by the political process that the government must go through (parliamentary procedures) to obtain the right to apply fiscal measures (Tofan et al., 2020). However, one cannot ignore the fact that the application of fiscal measures may bring about positive effects for the economy, e.g. slowing down a decline in demand in the economy. For a reliable assessment of the strengths and weaknesses of the fiscal measures taken, one should also answer the question: would resignation from fiscal policy measures worsen the condition of the economy (Christofzik, 2020). The answer to this question is not easy, even on an *ex post* basis, because the economy was influenced by various non-fiscal factors, and moreover, these phenomena cannot be easily categorized in the system of cause-and-effect phenomena.

A different nature of criticism towards fiscal policy concerns the accusations relating to its negative impact on economic growth (Bergman & Hutchison, 2020). This criticism refers to the phenomenon known as the "fiscal brake". The fiscal brake consists in the fact that fiscal policy in the period of economic recovery, manifested in the growth of national income, is too restrictive on the expenditure side. During the economic recovery, the state income from taxes automatically increase, and if this increase is not accompanied by an increase in expenditure and stimulating demand or lowering taxes, such a situation will stop positive trends in the economy (Borge & Hopland, 2020). It is hard to argue with this reasoning, however, the effectiveness of a negative fiscal brake depends on the condition of the economy, external factors affecting it and the degree of coordination of fiscal decisions with monetary decisions.

1.2. Admissibility of state aid in the EU countries

Legal regulation of the issue of state aid is an element of protection of the mechanism of competition, which has been recognized in the Treaty on the Functioning of the European Union (TFEU) as one of the basic tools for the realization of the tasks assigned in it (Treaty, 2016). The general prohibition of providing state aid has been formulated in Article 107 par. 1 of the TFEU, whereas this provision does not specify the definition of state aid, but indicates the criteria taken into account when assessing the specific actual circumstances (Podsiadlo, 2016). These criteria were formulated in the catalogues of terms defining state aid, i.e. government funds, economic advantage, selectivity, impact on competition and trade.

Firstly, state aid needs to be a transfer of government funds. It is irrelevant whether this is a direct monetary transfer or an indirect allocation of government funds. This means that the transfer of government funds may also take place in the sense that the government forgoes revenues, as would be the case in a tax cut or a waiver of certain fees for example. This could be interpreted as an indirect transfer, which includes opportunity costs for the state.

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Secondly, this state measure must confer an economic advantage upon the recipient, which he would not gain in the course of a "normal" business. This therefore excludes the cases in which the state, for example, awards a contract to a supplier after a tender, as long as the services of the supplier are compensated reasonably and not excessively by the state.

Thirdly, the state transfer must be conducted selectively, thus benefiting some enterprises more than others. This criterion excludes fundamental or general measures of the state, which generally benefit all enterprises within the measure. For example, a selective measure would be to change the depreciation procedures for only one enterprise, and a general measure, however, might be the expansion of infrastructure of a certain region arranged by the government that increases the attractiveness of a location for investments and thus is supposed to create jobs after the establishment of enterprises.

Fourthly, the competition and trade between two or more Member States must be affected by the award of government funds. This criterion is sufficiently met if it can be demonstrated that the beneficiary is situated on a market where enterprises from other Member States are also active.

According to Article 107 par. 1 of the TFEU, all state aid, which meets the four criteria mentioned above, is regarded as incompatible with the internal market. However, this does not result in a complete ban on state aid, since Article 107 par. 3 of the TFEU lists exceptions that are not part of the general ban on state aid. In addition, Article 108 par. 2 of the TFEU empowers the European Council upon request of a Member State to determine the types of state aid that are compatible with the TFEU. In practice, the European Commission developed three different exception categories that nullify the general ban on state aid and thereby partially subsume the exceptions of Article 107 of the TFEU. These categories of exception exist in so-called regional, horizontal, and sectoral aid.

2   METHODOLOGY

Complex research issues require the use of an appropriate complex research method. A literature study was conducted based on the achievements of the theory of state intervention and the theory of market failure. A feature of the research method used is the analysis of the instruments used by the state in relation to enterprises from the point of view of the definition of state aid in European Union documents. It is especially about the analysis of state aid for enterprises from the perspective of the competition law of the European Union, in the sense of Art. 107 par. 1 of the Treaty on the Functioning of the European Union (TFEU). The adoption of such a method created an opportunity for: firstly, determining the meaning of admissibility and rules for granting aid in accordance with the interpretation of the Court and the Court of Justice of the European Union, and secondly - capturing the specific features of state aid for enterprises. Another feature of the method used in the work is the analysis of the relationship between the expenditure of the Member States on state aid and their economic growth. This analysis was performed based on a linear regression model.

Statistical analysis will be carried out based on two source tables.

The first shows the calculations for the linear regression model concerning the slope parameter (directional factor β). t Stat is a test of the occurrence of a linear relationship between expenditures on state aid and the size of the GDP. This statistical test makes it possible to verify the authenticity of the null hypothesis that the parameter of regression function I type β is equal to zero, and the alternative hypothesis that it is not equal to zero (H_0: $\beta = 0$; H_A: $\beta \neq 0$). Given the perspective taken in this paper, it will be essential to reject the null hypothesis in favor of the alternative - that is, there is a significant statistical relationship between expenditure on state aid and the size of the GDP. From the tables of critical values of t-Student

it is seen that $\pm t_{\frac{\alpha}{2}}$ = ±2.101 for α = 0.05 and n - 2 = 18 degrees of freedom. The null hypothesis can be rejected in favour of the alternative hypothesis only when: $t_b < t_{\frac{\alpha}{2}}$ or $t_b > t_{\frac{\alpha}{2}}$, that is when $-t_b < -2.101$ or $+t_b > +2.101$.

The second table contains regression statistics, including the correlation coefficient, determination coefficient, standard error and the parameters of the F test - that is, the value of F-test and the probability of making a type I error, when it is verified that expenditure on state aid does not impact the size of the GDP (the irrelevance of state aid expenditure in the regression model). Similar to the t-test described above, the F-test is used to test the significance of linear regression coefficient β evaluation. Statistic F with F-Snedecor distribution of k_1 and k_2 degrees of freedom is used to check this test. When rejecting the null hypothesis F > F_α of no relation between expenditure on state aid and the size of the GDP and accepting the alternative hypothesis of the existence of a statistically significant relationship between the variables. From the table of critical values of the F-Snedecor for k_1 = 1 (1 independent variable) and k_2 = n − 2 = 18 degrees of freedom and α = 0.05 we read $F_{0,05}$ = 4.41. Thus, the alternative hypothesis can be adopted only when: F > 4.41.

3 RESULTS AND DISCUSSION

3.1 Model calibration

The most important statistical test in the simple regression analysis is a test of whether the regression coefficient equals zero. If it can be concluded that the directional coefficient of the real regression line in the population equals zero, it will mean that there is no linear relation between expenditure on state aid and the size of GDP, or expenditure on state aid and the size of GDP are not linearly dependent. Therefore, there should be a test to determine the occurrence of the linear relation between expenditure on state aid in the Member States and the size of their GDP. Table 1 shows the statistics on this test.

Tab. 1 State aid and GDP in the EU Member States in the 2000-2019 period − regression analysis

EU Member States	Regression coefficient b	Standard error Sb	t Stat tb	p-value	Lower 95%	Upper 95%
Austria	90.76583	17.26986	5.255735	5.36E-05	54.4832	127.0485
Belgium	59.09431	8.542916	6.917346	1.82E-06	41.14631	77.04231
Bulgaria	32.08374	8.415796	3.812323	0.001276	14.40281	49.76467
Croatia	20.99466	6.111933	3.435028	0.002953	8.153965	33.83535
Cyprus	-32.526	5.316695	-6.11771	8.86E-06	-43.696	-21.3561
Czechia	19.66736	10.54127	1.865748	0.07846	-2.47903	41.81375
Denmark	30.18098	3.446061	8.758111	6.59E-08	22.94108	37.42089
Estonia	52.87712	6.826861	7.745452	3.87E-07	38.53442	67.21982
Finland	55.81001	4.219074	13.22803	1.04E-10	46.94607	64.67396
France	30.78057	7.616863	4.041109	0.000766	14.77814	46.78301

Germany	26.00028	4.292351	6.057352	1E-05	16.98239	35.01817
Greece	10.27691	8.499787	1.209078	0.242276	-7.58048	28.13429
Hungary	25.62754	3.984282	6.432161	4.71E-06	17.25688	33.99821
Ireland	53.64607	71.38148	0.75154	0.462042	-96.3209	203.613
Italy	-24.2226	15.95058	-1.5186	0.146231	-57.7335	9.288313
Latvia	14.77397	4.556524	3.242377	0.004521	5.201066	24.34687
Lithuania	37.27633	6.758263	5.515668	3.08E-05	23.07775	51.47492
Luxembourg	226.2304	26.19816	8.635354	8.12E-08	171.1901	281.2707
Malta	20.8859	7.656511	2.727861	0.013809	4.800167	36.97163
Netherlands	187.6163	13.84315	13.553	6.95E-11	158.5329	216.6997
Poland	36.85488	10.84812	3.397353	0.00321	14.06383	59.64593
Portugal	-18.8605	5.132675	-3.67459	0.001734	-29.6438	-8.0771
Romania	39.04295	25.11016	1.554866	0.137384	-13.7116	91.79744
Slovakia	136.7711	33.99534	4.023232	0.000797	65.34957	208.1927
Slovenia	44.65327	10.24002	4.360663	0.000377	23.13979	66.16676
Spain	-90.11	21.83688	-4.12651	0.000634	-135.988	-44.2324
Sweden	59.43016	7.707423	7.71077	4.12E-07	43.23747	75.62286
UK	77.23233	10.18661	7.581752	5.22E-07	55.83106	98.63359
EU 28	62.16508	9.247678	6.722237	2.66E-06	42.73643	81.59373

Source: The author's own calculations.

Table 1 shows that for twenty Member States (Austria, Belgium, Bulgaria, Croatia, Denmark, Estonia, Finland, France, Germany, Hungary, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Slovakia, Slovenia, Sweden and United Kingdom), the regression coefficient takes a positive value. Consequently, the increase in expenditure on state aid in these countries by EUR 1 million is accompanied by an increase in GDP by average: EUR 90.77 million, EUR 59.09 million, EUR 32.08 million, EUR 20.99 million, EUR 30.18 million, EUR 52.88 million, EUR 55.81 million, EUR 30.78 million, EUR 26.00 million, EUR 25.63 million, EUR 14.77 million, EUR 37.28 million, EUR 226.23 million, EUR 20.89 million, EUR 187.62 million, EUR 36.85 million, EUR 136.77 million, EUR 44.65 million, EUR 59.43 million and EUR 77.23 million.

Bearing in mind, however, the confidence interval for the regression coefficient, it is nearly certain (95% probability) that an increase in state aid of EUR 1 million will cause GDP to rise in the following countries: Austria from EUR 54.48 million to EUR 127.05 million, Belgium from EUR 41.15 million to EUR 77.04 million, Bulgaria from EUR 14.40 million to EUR 49.76 million, Croatia from EUR 8.15 million to EUR 33.84 million, Denmark from EUR 22.94 million to EUR 37.42 million, Estonia from EUR 38.53 million to EUR 67.22 million, Finland from EUR 46.95 million to EUR 64.67 million, France from EUR 14.78 million to EUR 46.78 million, Germany from EUR 16.98 million to EUR 35.02 million, Hungary from EUR 17.26 million to EUR 33.99 million, Latvia from EUR 5.20 million to EUR 24.35 million, Lithuania from EUR 23.08 million to EUR 51.47 million, Luxembourg from EUR 171.19 million to EUR 281.27 million, Malta from EUR 4.80 million to EUR 36.97 million, Netherlands from EUR 158.53 million to EUR 216.70 million, Poland from EUR 14.06 million to EUR 59.65 million, Slovakia from EUR 65.35 million to EUR 208.19 million, Slovenia from EUR 23.14 million to EUR 66.17 million, Sweden from

EUR 43.24 million to EUR 75.62 million and United Kingdom from EUR 55.83 million to EUR 98.63 million.

It should also be noted that the probability of type I error (p-value), involving the rejection of a true null hypothesis that, in the case of these twenty countries providing state aid do not significantly affect the size of the GDP of the countries, is below the accepted level of significance, i.e. 0.05. The consequence is that the result of the study in relation to these countries, may be considered important, and thus the null hypothesis can be rejected in favour of the alternative hypothesis.

Also for 3 Member States, i.e. for Cyprus, Portugal and Spain, the regression coefficients take negative values, which means that the expenditure on state aid have a negative impact on GDP of these countries. The increase in expenditure on state aid by EUR 1 million is accompanied by a fall in GDP - respectively – with an average of EUR 32.53 million, EUR 18.86 million, and EUR 90.11 million. Estimation errors are respectively EUR 5.32 million, EUR 5.13 million, and EUR 21.84 million.

On the other hand taking into account the confidence interval for the regression coefficient it can be with a probability of 95% said that the increase in expenditure for state aid of EUR 1 million will cause fall in GDP by the value of the interval (EUR 21.36 million; EUR 43.69 million) for Cyprus, (EUR 8.08 million; EUR 29.64 million) for Portugal, and (EUR 44.23 million; EUR 135.99 million) for Spain. For these countries the probability of making a type I error, connecting with the rejection of a real null hypothesis concerning lack of relation between the size of the state aid and the value of GDP, is very small and does not exceed the accepted level of significance of 0.05.

Identical request as to the proposed hypothesis can be obtained by analysing the value of F test and F significance. Table 2 shows the F-test parameters and regression statistics for the relationship between the amount of state aid and the value of GDP in the EU countries.

In the case of Finland and Netherlands, one can speak of a very strong correlation of state aid with the amount of GDP in a positive sense, i.e. 0.9522 and 0.9543 respectively. These two models have a very good fit to the empirical data, as their calculated coefficient of determination are close to 0.91. For Finland determination coefficient is 0.906726. Therefore, variations in GDP in Finland were explained in 90.67% with variations in expenditure on state aid, while the remaining 9.33% result from the impact of other factors. For Netherlands determination coefficient is 0.910751. Therefore, variations in GDP in this country were explained in 91.08% with variations in expenditure on state aid, while the remaining 8.92% result from the impact of other factors. If the coefficient of determination takes the values less than 0.5, the regression explains only less than 50% of the variation in GDP and predictions based on such a regression model may be unsuccessful because the regression model explains then very little. This means that the predictions can be created basing on the Dutch and Finnish models, because the regression model is characterised by a very good fit and is little burdened with the estimation error, which provides grounds for precise forecasting.

Predictions can also be made based on models that have been specified for Denmark, Luxembourg, Estonia, Sweden, United Kingdom, Belgium, Hungary, and Germany. At 0.899964, 0.897525, 0.877045, 0.876134, 0.87266, 0.852438, 0.834764 and 0.819073, respectively, these countries all show a strong positive correlation between the amount of state aid provided and the level of GDP.

Tab. 2 State aid and GDP in the EU Member States in the 2000-2019 period – correlation analysis

	Regression statistics		Test F

EU Member States	Correlation indicator	Determination coefficient	Standard error	F	Significance F
Austria	0.778113	0.60546	36157.68	27.62275	5.36E-05
Belgium	0.852438	0.72665	35939.42	47.84968	1.82E-06
Bulgaria	0.668378	0.446729	10692.18	14.53381	0.001276
Croatia	0.629255	0.395961	7047.255	11.79942	0.002953
Cyprus	0.821733	0.675245	2002.494	37.42642	8.86E-06
Czechia	0.402555	0.162051	41971.01	3.481016	0.07846
Denmark	0.899964	0.809935	17863.45	76.70451	6.59E-08
Estonia	0.877045	0.769207	3097.199	59.99202	3.87E-07
Finland	0.952222	0.906726	9564.105	174.9807	1.04E-10
France	0.6897	0.475686	208869.5	16.33056	0.000766
Germany	0.819073	0.670881	249854.7	36.69152	1E-05
Greece	0.27407	0.075115	27259.38	1.46187	0.242276
Hungary	0.834764	0.69683	13299.17	41.3727	4.71E-06
Ireland	0.174424	0.030424	68515.65	0.564813	0.462042
Italy	0.337001	0.113569	147574.4	2.306157	0.146231
Latvia	0.607214	0.368709	5598.004	10.51301	0.004521
Lithuania	0.792637	0.628273	6745.654	30.42259	3.08E-05
Luxembourg	0.897525	0.805551	5874.655	74.56933	8.12E-08
Malta	0.540821	0.292487	2555.736	7.441227	0.013809
Netherlands	0.954333	0.910751	30018.77	183.6839	6.95E-11
Poland	0.625058	0.390698	85768.42	11.54201	0.00321
Portugal	0.654689	0.428618	17101.71	13.50258	0.001734
Romania	0.344105	0.118408	52585.89	2.417609	0.137384
Slovakia	0.688095	0.473475	17426.88	16.18639	0.000797
Slovenia	0.71674	0.513716	5247.947	19.01538	0.000377
Spain	0.697228	0.486126	121925.8	17.02806	0.000634
Sweden	0.876134	0.76761	36829.03	59.45598	4.12E-07
UK	0.87266	0.761536	135228.7	57.48297	5.22E-07
EU 28	0.845658	0.715138	1089858	45.18847	2.66E-06

Source: The author's own calculations.

In the case of Bulgaria, Croatia, France, Latvia, Malta, Poland, Slovakia and Slovenia, the values of the correlation coefficient are included in the interval (0.540821; 0.71674). These countries demonstrated a weak and medium positive relationship between the amount of state aid they provided and GDP. Moreover, the regression line cannot be adjusted to the empirical data to a satisfactory degree. The determination coefficients for these countries are: 0.446729, 0.395961, 0.475686, 0.368709, 0.292487, 0.390698, 0.473475 and 0.513716.

For all countries of the European Union (EU-28) between the amount of state aid and GDP in the real terms, there is a positive correlation (r = 0.845658). However, the determination coefficient assumes lower values and amounts to 0.715138. This means that 71.51% of the variations in GDP in European economy were attributed to variations in expenditures on state aid, while the remaining 28.49% resulted from the impact of other factors. At the level of the EU-28, the increase in the value of GDP is EUR 62.17 million. Bearing in mind, however, the confidence interval for the regression coefficient, it is certain (95% probability) that an increase in state aid of €1 million will cause GDP to rise at the overall EU-28 level from EUR 42.74 million to EUR 81.59 million.

Cyprus, Portugal and Spain are characterized by occurring between the amount of provided state aid and the level of GDP, strong and medium negative correlation - respectively 0.821733, 0.654689 and 0.697228.

In the case of Cyprus, for which the determination coefficient has the highest value, the variability of GDP in the real terms was explained in 67.52% by variability of expenditure on state aid in this country. The remaining 32.48% is the effect of random and non-random factors (other non-aid variables, imprecise fit of a straight line to the empirical data etc.). For Portugal and Spain, the determination coefficient assumes lower values and amounts to 0.428618 and 0.486126. This means that there can be no satisfactory adjustment of the regression line to the empirical data.

3.2 Discussion

The state has at its disposal a complex set of instruments that enables it to build a broadly understood infrastructure to support sustainable development. The state also creates the organizational and legal framework for the functioning of entities and ecosystems that stimulate activities toward sustainable development. The state's actions for sustainable development and its financing are particularly important in developing countries but are not without significance at the level of developed countries. The state introduces legal regulations supporting the concept of sustainable development and - in the case of European Union member states - implements EU regulations into national legislation. The state develops strategies and public policies that ensure the achievement of the goals of sustainable development (Carayannis et al., 2020). It is the state that decides on the allocation of public funds and their allocation to individual sectors and activities, including those of strategic importance for sustainable development (Casseli, 2012). In this context, policies such as financial policy, energy policy, or policy in the field of innovation and competitiveness are of particular importance. These policies are closely related and interdependent. The state stimulates cooperation between the public and private sectors, determining the degree of private sector involvement in the implementation of public goals and tasks (Amir & Gokmenoglu, 2020).

Following the principle of sustainable development, the condition of which, from the perspective of economic theory, is a stable fiscal policy, the following regularities should be indicated.

Firstly, centuries of experience in the use of fiscal instruments lead to a thesis that universal standards of fiscal policy cannot be clearly defined. It is necessary to follow pragmatism, i.e. the selection of fiscal tools adequate to the prevailing economic, social, political, historical, religious conditions, etc. It is therefore impossible to set a universal taxation limit, optimal public burdens, an ideal tax system, etc.

Secondly, despite numerous recommendations and the rich experience of many countries, fiscal policy is still largely conducted by the method of "trial and error". This is because the

nature of phenomena and processes taking place in the economic and social spheres, their intensity, complexity, etc., and the interactions between the real and money spheres, including public finances, do not allow to reduce the dependencies between them to deterministic relationships. In the analysed area, it is difficult to unequivocally determine which factor causes a specific effect. There is also the so-called delay effect, i.e. the difference in time between the diagnosis (with the optimistic assumption that it is accurate) and the application of fiscal policy measures. In the case of fiscal policy, delays arise e.g. due to lengthy legislative procedures.

Thirdly, the development of state institutions and civilization development force the use of such fiscal tools as taxes and public expenditure. Their use has an impact on strictly economic processes.

Fourthly, in the conditions of the monetary economy, it is obvious that monetary policy instruments (money supply, interest rates, exchange rates, etc.) affect the real economy, i.e. production, employment, investments, exports, imports through the so-called transmission channels. Monetary policy also affects the fiscal situation (public finances) of the country, because it is production, income generated in the economy that determines the revenue (income) to the state budget, income of local government budgets, special purpose funds and other institutions of the public finance sector. The use of monetary instruments is also not neutral for the government's financial position when, for various reasons, it is not able to balance the state budget, but is forced to meet some of the financial needs on the loan market. Hence, the level of interest rates set by the monetary authorities is important for the government, as the decisions of these authorities have an impact on the market interest rates at which the government lends money. For the government, the financial liquidity of the market is also important, and again it is directly (open market operations) or indirectly influenced by the central bank. The point is that the loan market should not be "dried up" by the current monetary policy, which would make it impossible to finance the current financial needs of the government.

Fifthly, the fiscal activity of the state may hinder the achievement of the statutory goals of the monetary authorities, or the protection of the value of money, or controlling low stable inflation. This is possible when the government pursues an excessively loose spending policy, creating additional demand in the economy that is not covered by goods and services, which inevitably leads to inflation. Another reason for the rise in inflation on the part of the government are increases in indirect taxes, which are price-generating. There is much more dependence between the activities of monetary and fiscal authorities that affect society and the economy. In the conditions of a money economy, it is necessary to coordinate the actions of monetary and fiscal authorities.

The scope and instruments of state influence on sustainable development and a balanced financial system are broad. Starting from the legislative process, which includes the development of bills, their processing and implementation into the law, then adapting the law to EU requirements, building a public management system focused on sustainable development, influencing the decisions and behavior of market participants, through the impact on the flow of financial resources, shaping public-private cooperation, stimulating investments in pro-social and pro-environmental innovations, ending with educational and training activities. However, this catalog of activities is not closed, as the changes in the socio-economic environment change the forms and instruments of state influence. New, unconventional activities should be expected, which will allow modern states to effectively participate in achieving the goals of sustainable development in the long term.

CONCLUSION

In the process of creation and distribution of GDP a significant function is performed by the state, which by taking in the form of taxes and other public levies some part of the revenue generated by households and enterprises, changes the structure of aggregate demand in the economy. The taxes imposed on enterprises limit their investment opportunities, but revenues from taxes and other levies are directed by the state to both households (social assistance, unemployment benefits, scholarships etc.) and to enterprises (state aid in the form of grants), forming the basis of demand for consumer goods and investment goods. State expenditure policy, which includes the policy of state aid to enterprises, can thus give an impulse to GDP growth and increase the indicator GDP *per capita* (growth of competitiveness of the national economy) even if the State spends more money than the accumulated revenue in the budget. This situation means the appearance of budget deficits, which accumulation in the coming years leads to the formation of public finance sector debt.

The subject of competition policy usually involves private restrictions of competition (concerning possible restrictions of competition by enterprises) such as through the abuse of market power, through cartels and collusive behavior, and through horizontal and vertical mergers. A specific characteristic feature of European competition policy is the state aid control based on Article 107 of the TFEU. It relates to distortions of competition through state subsidies to private or public enterprises that are in active or potential competition with other enterprises. Article 1 par. 1 of the TFEU issues a general ban on state aid. There are, however, exceptions to the rule defined in Article 107 par. 3 TFEU, which allow aid under certain conditions.

The proposed research thesis in the paper, according to which, both in relation to the European Union and its individual Member States, the amount of expenditure on state aid is positively correlated with the rate of GDP should be rejected. It cannot be considered as a true the thesis that with increasing the amount of state aid the competitiveness of the EU economy increases. It was incorrect to assume that this correlation occurs for all Member States, because of the amount spent on state aid are very different at the level of individual Member States. Different is also the proportion of aid actually granted in the aid approved by the European Commission.

Bearing in mind the results of the regression model, it can be concluded that state aid is not an effective tool for supporting economic growth or investment in European Union Member States. However, this does not mean that state aid is completely pointless. Firstly, state aid does not lead to lower growth; although some of the estimated regression coefficients turn out to be significantly negative. This is the case for three Member States: Cyprus, Portugal and Spain. Thus, despite the redistributive nature of state aid, it does not reduce productivity. Secondly, neither economic growth nor investment is synonymous with social welfare.

According to the European Commission's state aid reports for each Member State, most state aid goes to environmental protection and regional development, which is unlikely to have a direct impact on increasing efficiency. However, state aid can increase welfare in ways that go beyond the scope of the presented regression analysis. State aid can be beneficial to the extent that it helps to alleviate market failures and externalities (which may be the case for state aid for environmental protection) or improves the economic links of remote and underdeveloped areas (regional aid). Future studies should take this possibility into account. Nevertheless, given that the stated objective of state aid in the EU context is to increase efficiency, both national governments and the European Commission should consider rationalising state aid policy to avoid wasting government resources.

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REFERENCES

Amir, A., Gokmenoglu, K.K. (2020). Analyzing the role of government efficiency on financial development for OECD countries. *Review of Economic Perspectives*, 20(4), 445-469. DOI: 10.2478/revecp-2020-0022

Barrientos-Marín, J., Quintero-Vanegas, J.F., Mendoza-Jaramillo, M. (2020). On the determinants of fiscal sustainability of municipalities in Colombia. The case of Antioquia, 2008-2017 [Sobre los determinantes de la sostenibilidad fiscal de los municipios en Colombia. El caso de Antioquia, 2008-2017]. *Lecturas de Economia*, 92, 173-200. DOI: 10.17533/udea.le.n92a06

Bergman, U.M., Hutchison, M. (2020). Fiscal procyclicality in emerging markets: The role of institutions and economic conditions. *International Finance*, 23(2), 196-214. DOI: 10.1111/infi.12375

Bergman, U.M., Hutchison, M.M., Jensen, S.E.H. (2016). Promoting sustainable public finances in the European Union: The role of fiscal rules and government efficiency. *European Journal of Political Economy*, 44, 1-19. DOI: 10.1016/j.ejpoleco.2016.04.005

Biondi, A. (2013). State Aid is falling down, falling down: An analysis of the case law on the notion of Aid. *Common Market Law Review*, 50(6), 1719-1743.

Bock, B.B. (2016). Rural Marginalisation and the Role of Social Innovation; A Turn Towards Nexogenous Development and Rural Reconnection. *Sociologia Ruralis*, 56, 552-573. DOI: 10.1111/soru.12119

Borge, L.-E., Hopland, A.O. (2020). Less fiscal oversight, more adjustment. *European Journal of Political Economy*, 63, 101893. DOI: 10.1016/j.ejpoleco.2020.101893

Bumane, I., Vodolagins, D. (2017). Favourable tax regimes that constitute selective state aid from the perspective of the cjeu recent case-law. *European Research Studies Journal*, 20(3), 231-245. DOI: 10.35808/ersj/706

Callois, J.M., Aubert, F. (2007). Towards Indicators of Social Capital for Regional Development Issues: The Case of French Rural Areas. *Regional Studies*, 41(6), 809-821. DOI: 10.1080/00343400601142720

Caselli, F., Reynaud, J. (2020). Do fiscal rules cause better fiscal balances? A new instrumental variable strategy. *European Journal of Political Economy*, 63, 101873. DOI: 10.1016/j.ejpoleco.2020.101873

Casseli, M. (2012). Does wealth inequality reduce the gains from trade? *Review of World Economics*, 148(2), pp. 333-356, DOI: 10.1007/s10290-012-0119-0

Christofzik, D.I. (2020). Does accrual accounting alter fiscal policy decisions? - Evidence from Germany. *European Journal of Political Economy*, 60, 101805. DOI: 10.1016/j.ejpoleco.2019.07.003

Crafts, N. (2017). Brexit and State aid. *Oxford Review of Economic Policy*, 33, S105-S112,. DOI: 10.1093/oxrep/grx003

De Simone, E., Bonasia, M., Gaeta, G.L., Cicatiello, L. (2019). The effect of fiscal transparency on government spending efficiency. *Journal of Economic Studies*, 46(7), 1365-1379. DOI: 10.1108/JES-03-2019-0123

Dordzhieva, O.B., Dordzhieva, B.V., Siptits, S.O. (2018). State Programs for Sustainable Rural Development. *European Research Studies Journal*, XXI(2), 200-213. DOI: 10.35808/ersj/995

Dovis, A., Kirpalani, R. (2020). Fiscal rules, bailouts, and reputation in federal governments. *American Economic Review*, 110(3), 860-888. DOI: 10.1257/aer.20181432

Ferčič, A., Samec, N. (2014). European union state aid law and policy, and local public services. *Lex Localis*, 12(2), 267-287. DOI: 10.4335/12.2.267-287(2014)

Giaoutzi, M., Nijkamp, P., Storey, D.J. (eds.) (1988). *Smal and Medium Sized Enterprises and Regional Development*, Routledge, London, DOI: 10.4324/9781315544915

Gootjes, B., de Haan, J. (2020). Procyclicality of fiscal policy in European Union countries. *Journal of International Money and Finance*, 102276. DOI: 10.1016/j.jimonfin.2020.102276

Haider, L.J., Boonstra, W.J., Peterson, G.D., Schlüter, M. (2018). Traps and Sustainable Development in Rural Areas: A Review. *World Development*, 101, 311-321. DOI: 10.1016/j.worlddev.2017.05.038

Hansen, D. (2020). The effectiveness of fiscal institutions: International financial flogging or domestic constraint? *European Journal of Political Economy*, 63, 101879. DOI: 10.1016/j.ejpoleco.2020.101873

Heras-Saizarbitoria, I., Urbieta, L., Boiral, O. (2022). Organizations' engagement with sustainable development goals: From cherry-picking to SDG-washing? *Corporate Social Responsibility and Environmental Management*, 29(2), 316-328. DOI: 10.1002/csr.2202

Horlings, I., Padt, F. (2013). Leadership for Sustainable Regional Development in Rural Areas: Bridging Personal and Institutional Aspects. *Sustainable Development*, 21, 413-424. DOI: 10.1002/sd.526

Hutchison, M.M. (2020). The global pandemic, policy space and fiscal rules to achieve stronger stabilization policies. *Seoul Journal of Economics*, 33(3), 307-331. DOI: 10.22904/sje.2020.33.3.003

Leigh, N.G., Blakely, E.J. (2016). *Planning Local Economic Development: Theory and Practice*. Sage Publications: Thousand Oaks, CA, USA.

Martínez-Gomariz, E., Forero-Ortiz, E., Guerrero-Hidalga, M., Castán, S., Gómez, M. (2020). Flood depth-damage curves for Spanish urban areas. *Sustainability*, 12(7), 2666. DOI: 10.3390/su12072666

Meier, S., Gonzalez, M.R., Kunze, F. (2021). The global financial crisis, the EMU sovereign debt crisis and international financial regulation: lessons from a systematic literature review. *International Review of Law and Economics*, 65, 105945. DOI: 10.1016/j.irle.2020.105945

Nakatani, R. (2021). Fiscal rules for natural disaster – and climate change – prone small states. *Sustainability*, 13(6), 3135. DOI: 10.3390/su13063135

Onofrei, M., Vatamanu, A.-F., Bostan, I., Oprea, F., Paraschiv, G., Lazăr, C.M. (2020). The Implication of Fiscal Principles and Rules on Promoting Sustainable Public Finances in the EU Countries. *Sustainability, 12,* 2772. DOI: 10.3390/su12072772

Pham-Truffert, M., Metz, F., Fischer, M., Rueff, H., Messerli, P. (2020). Interactions among Sustainable Development Goals: Knowledge for identifying multipliers and virtuous cycles. *Sustainable Development*, 28, 1236-1250. DOI:10.1002/sd.2073

Pisapia, A. (2015). The role of EU state aid policy in enhancing the development of the industrial sector. *Privredna Kretanja i Ekonomska Polityka* 23(123), 45-64.

Podsiadło, P. (2016). *Regional State Aid and Its Impact on the Competitiveness of the EU Member States*. In: Kovářová E., Melecký L., Staníčková M. (eds.) Proceedings of the 3rd International Conference on European Integration (pp. 771-781). Ostrava; VŠB-Technical University of Ostrava, Faculty of Economics.

Podsiadlo, P., Jachowicz, M. (2020). Protection Guarantee of Public Health in the Functioning of the Pharmaceutical Market based in the Theory of State Interference in the Economy. *European Research Studies Journal*, XXIII: Sp. Iss. 2, 451-468, DOI: 10.35808/ersj/1835

Popović, D.V., Caka, F. (2017). State Aid Control in South-East Europe: Waiting for a Wake-up Call. *European Business Organization Law Review*, 18(2), 333-349. DOI: 10.1007/S40804-017-0069-Z

Rant, V., Marinč, M., Porenta, J. (2021). Debt and convergence: Evidence from the EU member states. *Finance Research Letters*, 39, 101617. DOI: 10.1016/j.frl.2020.101617

Shkolnyk, I., Kozmenko, O., Nowacki, R., Mershchii, B. (2020). Dependence of the state of public finances on their transparency and the level of corruption in a country. *Economics and Sociology*, 13(4), 281-296. DOI: 10.14254/2071-789X.2020/13-4/18

Stöllinger, R., Holzner, M. (2017). State Aid and Export Competitiveness in the EU. *Journal of Industry, Competition and Trade*, 17(2), 203-236. DOI: 10.1007/s10842-016-0222-3

Straka, J., Tuzová, M. (2016). Factors Affecting Development of Rural Areas in the Czech Republic: A Literature Review. *Procedia - Social and Behavioral Sciences*, 220, 496-505. DOI: 10.1016/j.sbspro.2016.05.525

Tofan, M., Onofrei, M., Vatamanu, A.-F. (2020). Fiscal responsibility legal framework—new paradigm for fiscal discipline in the EU. *Risks*, 8(3), 79, 1-18. DOI: 10.3390/risks8030079

Tosun, J., Leininger, J. (2017). Governing the Interlinkages between the Sustainable Development Goals: Approaches to Attain Policy Integration. *Global Challenges*, 1, 1700036. DOI: 10.1002/gch2.201700036

Treaty on European Union, Official Journal of the European Union C 326/13 of 26.10.2012.

Treaty on the Functioning of the European Union (TFEU). Consolidated version. Official Journal of the European Union C 202/2016.

Tremblay, D., Fortier, F., Boucher, J-F., Riffon, O., Villeneuve, C. (2020). Sustainable development goal interactions: An analysis based on the five pillars of the 2030 agenda. *Sustainable Development*, 28, 1584-1596. DOI: 10.1002/sd.2107

Tunali, Ç.B., Fidrmuc, J. (2015). State Aid Policy in the European Union. *Journal of Common Market Studies* 53(5), 1143-1162. DOI: 10.111/jcms.12247

Walasik, A. (2015). Wrażliwość dochodów jednostek samorządu terytorialnego na wahania cyklu koniunkturalnego. *Kwartalnik Kolegium Ekonomiczno-Społecznego. Studia i Prace* 3/4 (23), SGH, Warszawa.

How Do You See the Environment, Young Czech Consumer and Employee?

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Abstract: For employers, product designers, marketers but also for legal representatives, it is important to know what the views of the younger generation are, how they see the current trends in marketing and society. Research conducted among the young Czech population contributes to answering these questions. Survey ascertains the opinions of people aged 19-27. Topics such as sustainability, ecology, waste sorting, work-life balance, the importance of an employer's reputation, but also opinions on the role of the state in the fight against misinformation are investigated. Research, based on quantitative analysis, brings information, for example, a prevailing positive opinion on the importance of environmental issues, but it must not be too burdensome and restrictive for individuals or disclosure that young people are supporters of equal access to job opportunities, which is not regulated by official quotas and recommended preferences.

Keywords: Generation Z, marketing research, work-life balance, sustainability

JEL Classification codes: J40; M30

INTRODUCTION

The difference in the perception of the world by different generations is a frequent topic of articles, papers and scholarly treatises. It is quite common and logical that the older generation perceives the world a little differently than the generation of their children or grandchildren. Young people are full of enthusiasm and vigor for exploring the world and promoting new ideas, while the older generations benefit from their life experiences. The behavior of Generation Z in selected areas is the focus of this paper.

The very fact that older versus emerging generations have slightly different perceptions of the world has been accelerated by the rapid development of technology in recent decades. "Due to the interest in new technology, the members of Generation Z can generally be found at locations that offer the advantage of being hooked up to the Web" (Bejtkovsky, 2016, p.109). But besides technological developments, today's world is influenced by other issues. These include globalisation, the mixing of cultures, and the fight against climate change. Of course, these societal issues are necessarily accompanied by the attitudes of the political representation, which must respond to them. "The impact of globalisation extends to various aspects of a country's development, including its economic, social, political, and technological dimensions." (Nebozhenko, Rassadnykova, Lvova, Palii & Marushchak, 2023, p.1577).

In order for members of different generations to be able to communicate, cooperate and work together, it is important that they understand, comprehend and react to their views and

attitudes. Nowadays, members of Generation X (sometimes even Generation Y) are often in top management positions. They have a relatively high degree of decision-making power, both in relation to determining the direction of the market and the running of society, and in the personnel management of companies and institutions and the recruitment of new employees. The confrontation between the views and approaches of Generations X and Z has recently received considerable attention. "Identifying and retaining valuable intellectual capital among a multigenerational workforce are critical goals for leaders who understand the tremendous amount of institutional wisdom possessed by workers of all ages and generations." (Wiedmer, 2015, p.57)

From the above, the research objective of this paper is to find out the intensity of agreement or disagreement of the members of the generation on selected questions from the thematic areas of sustainability, work-life balance, the importance of an employer's reputation, but also opinions on the misinformation.

The results of this research are intended to serve company managers and executives in setting the way of communication towards members of Generation Z as young consumers and employees; but also, for academics as input for further follow-up research focused on the value perception of the world of young people generation.

1 LITERATURE REVIEW

The differences in the perception of the world between generations X, Y and Z are described by many authors. For example, Bačinský (2023) says that: "Generation Z customers usually prefer environmentally friendly products and in such cases are willing to pay extra to buy them. The relationship between the preferences for online purchases between different product segments is also demonstrated" (p.62). Some authors suggest that corporate managers already anticipate different job capabilities and deployment in different generations. Kyrousi, Tzoumaka, and Leivadi (2022) note that "Stakeholders distinguish between 'hard' and 'soft' skills but filter their relative importance through a generational lens. An emerging finding was the link between personality traits and perceived employability skills" (p.664).

Of course, not all character traits are generational; the individuality of each individual must also be taken into account, as emphasized, for example, by (Egerová, Komárková & Kutiák, 2021) "Nevertheless, members of each generation may have particular preferences that do not correspond in some cases with the reported stereotypes of their cohort." (p.105).

"Different generations represented in the workforce today provide additional challenges and complexity for managers everywhere." (Bejtkovský, 2016,p.106). "In the age of the digital revolution, attracting and retaining the youngest generation of employees, namely Generation Z, has emerged as a critical concern for organizations (Botezat, Fotea & Fotea, 2023, p.630). For example, (Gosztonyi, 2023) describes the generational shift in an interesting way when he says: "Generation X traditionally opted not to seek advice during startup, a trend which shifted dramatically with Generation Y, who embraced widespread counsel. In contrast, Generation Z favored advice from close acquaintances."(p. 210). Another interesting observation is made by (Melarkode & Thakur, 2022) who say: "Correlational analysis showed that there was a significant and positive relationship between career aspirations and work engagement in case of generation Y, but not for generation Z." (p.427). The value of a company's ethical reputation is mentioned e.g. by Rice et al. (2023). Another interesting finding that other factors are also important when applying for a job is presented by El-Menawy & Saleh (2023) "In addition to economic and social status, other factors like reputation and work-life balance can also have an effect Generation Z intention to apply for a job." (p.7)

Generation Z, in terms of its consumption behaviour, is noticeably shifted towards green products and sustainability. "At the same time, although the young age sometimes prevents the young people of Generation Z from converting their opinions and intentions regarding the purchase of green products into actual purchases, due to financial limitations, their attitudes and knowledge can contribute to the formation of an appropriate behavior of purchasing green products both for the current generation and for future generations." (Dragolea et al., 2023, p.17). Similar findings are reported by (Sawicka & Marcinkowska, 2023) "young people (from Generation Z) declare the need to care about the environment and pay attention as consumers to pro-environmental activities implemented as part of CSR." (p.1). The perception of the place of origin of goods is interesting. In his study, Sharma (2019) concludes that there is not any significant influence of country-of-origin image on quality perceptions of Generation Z consumers.

At the same time, it is interesting to note that young people, despite being fans of buying sustainable products, are not as prone to succumb to greenwashing. "There is a positive relationship between both the sustainable behavior of Generation Z consumers and the satisfaction it conveys to them, as well as their environmental protection activities. However, there is no relationship between the sustainable behavior of Generation Z consumers and the green marketing practices of the organizations, environmental issues and their identification with the environmentally responsible consumer." Dragolea et al., 2023, p.1). Ding & Jiang (2023) bring finding that Gen Z perceived collective efficacy and self-efficacy toward food waste reduction were positively related to their food waste reduction intentions.

That sustainability is a lifestyle in the lives of young people is demonstrated by research such as (Zhao & An, 2023, p.1) "Consumers of Generation Z have stronger sustainable purchase intentions in the face of substantive environmental behaviors rather than symbolic environmental behaviors". A positive attitude towards the environment is reflected not only in the purchase but also in the life cycle of the product. "Gen Z and Millennials are more inclined to purchase second-hand clothes to extend the product lifecycle and reduce textile waste to the environment than Gen X." (Pham & Lam, 2024, p.59).

There are also differences between generations in the way they consume news and information. "The more people take modern information technologies for granted, and in particular, as an entire generation that has grown up after Google heads to college, the more important it becomes that we stop to consider how life with Google has influenced how we approach the world." (Marty, 2022, p.421). At the same time, young people are a kind of barometer for media publishers of further developments "Generation Z as active users of the various forms of the media have the potential to influence the way in which the media package and disseminate news" (Dlamini & Daniels, 2023. p. 702). "The social networking platforms which were created to increase efficiency in communication also used additional features such as photo and video sharing tools which were advertised using young people to highly target the millennials" (Tick et al., 2022, p.146). at the same time, the authors support the hypothesis that "members of generation Y and Z are aware of being exposed to fake news and misinformation when consuming content for political and entertainment purposes" (151).

2   METHODOLOGY

Questions about the behaviour and lifestyle of Generation Z and how it differs from previous generations are the subject of many studies. The research conducted for the purpose of this article is based mainly on the requirements and needs of employers and marketers. Because of the rapid development of technology and the globalization of the world, the differences in intergenerational behaviour are much more vivid than in previous generations. This study is based on periodic survey data. Primary data collected in autumn 2023 are used. The sample

size is 260 respondents. The themes and questions selected from the research for this paper deal with HR issues and young consumers' attitudes towards sustainability and the efforts they themselves are willing to make to fulfil their ideas. It is these themes that emerge from the literature search as some of the key ones.

To meet the research objective, two research questions were formulated.

RQ1: What role does a company's reputation play for young people when choosing a job and how do they perceive the ideal work-life balance?

RQ2: How do young people perceive sustainability and waste separation in their consumption and purchasing behaviour?

The analysis is based on primary data collected between September 29, and November 19, 2023. This is a representative sample of the Czech population aged 19-27 years. Other quota variables were gender and region of residence. In terms of age, the data collection was divided into three bands, namely 19-21 years, 22-24 years, 25-27 years. Details on the ample structure are in Table 1. The survey was conducted using a combination of CAWI and CAPI techniques.

Tab. 1 Sample structure

Category	Variable	Value in number	Value in %
Gender	Male	130	50 %
	Female	130	50 %
Age category	19-21	81	31 %
	22-24	83	32 %
	25-27	96	37 %
Region of residence	Prague	32	12 %
	Bohemia region	132	51 %
	Moravia & Silesian	96	37 %

Source: authors

The specificity of the research is the construction of the questions. Respondents answered each question on a five-point scale. In addition, each topic was accompanied by an open-ended question where respondents could express any related opinions and attitudes. This enriches the research results and gives the opportunity to gradually modify the wording of the questions in the questionnaire in subsequent waves of the research.

3   RESULTS AND DISCUSSION

Data were collected through a questionnaire-based survey. The closed questions (except demographic and identification questions) are in the form of a five-point scale. They are constructed as a semantic differential. The value on the left side of the scale expresses that the respondent completely disagrees with the given statement, while the value on the right-side expresses that the respondent completely agrees with the given statement.

In the context of RQ1, the theme of the importance of the contribution of the company the respondent works for is analysed. (See table 2.) The answers of the respondents to the

question "How important to you is the contribution of the company/institution you want to work for to the society? Where 1 = Not at all important; 5 = Very important
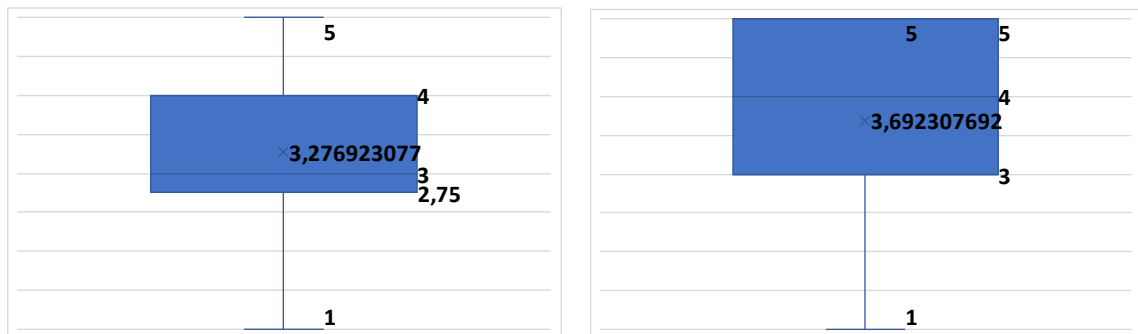
Tab. 2 Importance of the contribution of the company/institution you want to work for to the society

Response on scale	Percentage of responses	Frequency	Cumulative frequency	Average value
1	6 %	15	15	
2	15 %	39	54	
3	27 %	70	124	3,5
4	29 %	77	201	
5	23 %	59	260	

Source: authors

Interestingly, the answers to this question vary according to the gender of the respondents. (See Chart 1.) Women attach more importance to the benefits of the company where they work or apply for a job compared to men.

Chart 1 Importance of the contribution of the company/institution you want to work for to the society Men vs. Women

Source: authors

Not only is the average value higher for women, but also the modus has shifted from 3 to 4.

The prevailing view is that the firm's contribution to society is important. "The values and contribution of the company are very important to me". It could only change the financial valuation in an extreme case." Female 25-27 years old. "I want to work somewhere where I feel like it's not only meaningful to me, but it's a benefit to society because I want to be a benefit to society as well." Female 22-24 years old. "I don't want to work for money, but because I want to enjoy it and be an asset." Male 19-21 years old. A smaller number of respondents mention that this is not essential for them because it is more important what the company brings directly to them instead of the company. "The benefit to society is clear. If it

wasn't, the company would not be successful. It's more about the benefit from the company to me." Male, 22-24 years old. "Companies must be aware of their responsibility not only to their employees, but also to the environmental, social and economic spheres." Female 25-27 years old. "It's not a factor for me to choose a company." Male 25-27 years old. "If it had no benefit, I wouldn't mind, but if it did, it's a small plus." Male, 19-21 years old.

In the context of RQ1, the importance of the reputation of the company in which the young person works is further analysed. (See table 3.) The questionnaire asked: "How important is it to you what your friends and acquaintances think about the company where you work or want to work?". Regarding the semantic differential, the extreme values of the scale corresponded to the statements 1 = Company reputation is not important; 5 = Company reputation is very important.

Tab. 3 Importance of the reputation of the company in which the young person works

Response on scale	Percentage of responses	Frequency	Cumulative frequency	Average value
1	3 %	7	7	
2	10 %	26	33	
3	24 %	63	96	3,7
4	39 %	101	197	
5	24 %	63	260	

Source: authors

Women and residents of Prague declare their agreement most strongly on this question. A comparison of this socio-demographic group and the rest of the young Czech population is presented in the following Chart 2. The reason for this comparison is that this is the most significant demographic difference.

Chart 2 Prague women vs. rest of the young Czech population importance of the reputation of the company in which the young person works.
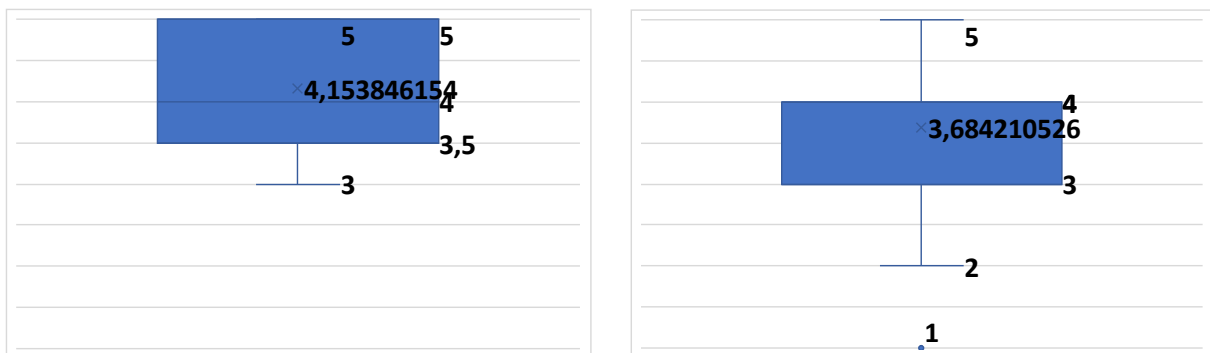
Source: authors

Respondents do not consider the opinion of the environment to be crucial. Their own judgment is more important to them than the judgment of others. They are also more interested in general reputation. "It's not important to me what the people around me think of my work." Female 22-24 years old. "I don't care what other people think, but a general reputation is

important to me because it is related to the quality of the company." Male 19-21 years old. "A company's reputation is important, but the opinion of my friends and acquaintances is not that important to me." Male 19-21 years old. "Not all our decisions have to be based on the opinion of family and friends. Where would we be without our own judgment?" Female 19-21 years old. Occasionally, respondents said they would not like to be embarrassed about their work in front of friends. In this case I would distinguish between the notion of reputation (which I consider quite important) and some personal view of my surroundings (where I believe it is not so important). Female 22-24 years old.

In terms of the distribution of work-life balance, there is a balance across the socio-demographic spectrum. The average is 3.4 in favour of working from home. When the data is analysed in more detail, there is a slight tendency for women to prefer working from home.

Regarding consumption behaviour, which is the content of RQ2, the problematics of how young people perceive the currently debated issue of sustainability was analysed. The results are summarized in Table 4. The question in the questionnaire was: 'What is your personal opinion on sustainable development? (i.e. a way of developing society that reconciles economic and social progress with environmental preservation)" where 1 = It is a social pose; 5 = Striving for sustainability is clearly a positive activity".

Tab. 4 Opinions on sustainable development

Response on scale	Percentage of responses	Frequency	Cumulative frequency	Average value
1	5 %	12	12	
2	5 %	13	25	
3	20 %	51	76	4,1
4	20 %	53	129	
5	50 %	131	260	

Source: authors

It is evident that the opinion on sustainable development and the related consumption pattern is positively evaluated by the respondents. Here too, a detailed analysis of the responses, according to the socio-demographic profile, shows (see Chart 3) that women are more supportive of sustainability than men.

**Chart 3 Opinions on sustainable development Men vs. Women.**

Source: authors

When it comes to respondents' verbal statements on sustainability, respondents clearly state that they sort garbage, do not waste, try to recycle clothes and use a lot of second-hand clothes. "I try not to waste, use public transport, don't eat meat, sort waste and buy clothes second hand." Female 19-21 years old. Young people often mention the enlightenment they do among their friends and family. "I sort my waste, try to buy things from sustainable sources, own bags and straws, try to pass on knowledge in this area to family and friends". Male 25-27 years old.

Related to the issue of consumption and purchasing behaviour is the issue of waste sorting. This issue has been spontaneously mentioned by respondents in previous parts of the research as well. The issue of waste sorting is represented in the research by two questions. First, we ask "What is your opinion on waste sorting?" and then follow up with a follow-up question "How willing are you to sacrifice your own convenience for the cost of sorting?"

An interesting finding here is that although young people's views on waste sorting are very positive and supportive, when it comes to limiting their own convenience or going the extra mile, the responses are far less positive. See Chart 4 that corresponds to the whole sample.

Chart 4 Views on sorting in general vs. willingness to limit own convenience
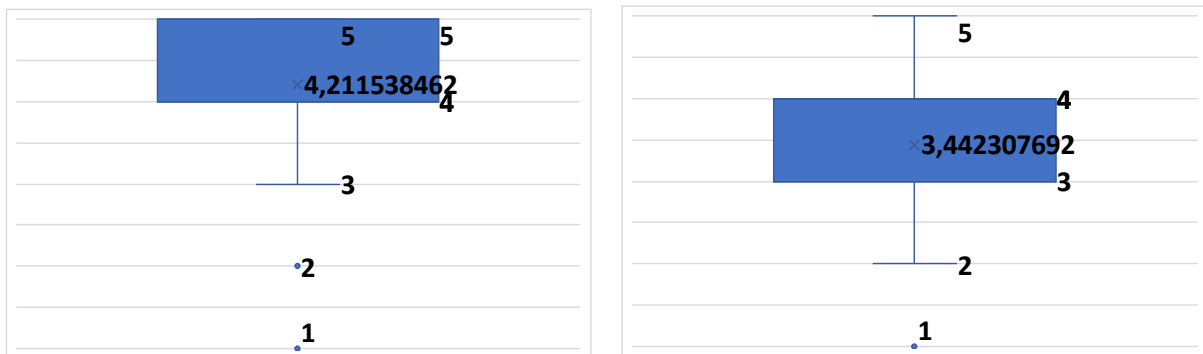
Source: authors

Waste sorting is perceived as rather useful. Young people are skeptical about the percentage of recycling from separated waste. "Sorting does not mean recycling. The whole nation sorts, but the recycling share of the sorted waste is low," said a male, 22-24 years old. "It depends on the actual ability of the city and state to handle the sorted materials," said a female, 25-27 years old. Respondents see only a small contribution to global ecology from waste sorting.

CONCLUSION

Members of Generation Z are typically influenced by digital technologies and the internet. This influence extends beyond their communication habits to encompass their lifestyle, attitudes toward employment, and consumption habits. Unlike previous generations, young people from Generation Z seek employment that not only provides a living but also holds significance in terms of the work they do and the social contribution of the companies they work for.

In their answers, respondents stress that the reputation of the company and especially its contribution to society is important to them. They attach great importance to this when applying for a job. The level of financial compensation would only change their interest in working for the company if it was an extreme increase. Young people are individual in their decisions and actions and in their decision-making mechanisms.

The above paragraphs are therefore a summary of the response to RQ1. The company's reputation is important to young people and they take an active interest in the company's social contribution when seeking employment. In most cases, even in the open-ended questions, respondents mention that the attractiveness, prestige and social benefit of their work is more important to them than finances. When it comes to the split between working from home and commuting, views are very balanced, with a weak leaning across the socio-demographic spectrum towards working from home.

When it comes to RQ2, there is a clear inclination among Generation Z to promote environmentally responsible approaches and avoid waste. They advocate for recycling and using products until the end of their life. These attitudes are more strongly expressed by women.

In terms of consumption behaviour, Generation Z is often perceived as a consumer group with high expectations. They have high expectations of corporate ethics, sustainability and transparency. In addition to the usual mechanisms, the issue of the environmental burden of the purchased product and the subsequent recyclability of the product at the end of its life also enters into their decision-making process. Some authors (e.g. Shetu, 2023) highlight that due to high engagement in the online space, young people prefer to make purchases through e-commerce and are open to new trends and innovations. Thanks to social media and rapid information sharing, they are also able to create and influence trends in consumer behaviour.

The research conducted for the purpose of this article is based mainly on the requirements and needs of employers and marketers. The presented research analyses the attitudes of young people aged 19-27. This is the stage of life when they seek their first jobs and become consumers without depending on their parents. When applying for jobs, it is common for their supervisors or hiring decision makers to be members of generation X, people who are around the age of their parents. It is very important for them to know the attitudes of Generation Z and to be able to communicate effectively when creating and implementing recruitment campaigns and also, if people from Generation Z are in the role of consumers, to correctly set the product offer, product parameters and present product features that are important to Generation Z.

Analysis of the results revealed interesting differences in the responses of respondents by gender. On issues of corporate social responsibility, contribution to society, as well as sustainability and waste management, women have a stronger inclination towards supporting these ideas and behaviors. When it comes to sensible consumption, waste sorting, and sustainability, these ideas are supported by more residents of Prague compared to other regions of the Czech Republic.

REFERENCES

Bacinskÿ, T. (2023). VNÍMANIE ASPEKTOV ELEKTRONICKEJ KOMERCIE GENERÁCIOU Z. [HOW GENERATION Z PERCIEVES ASPECTS OF E-COMMERCE] *Mladá Veda, 11*(5), 62-76.

Bejtkovský Jiří. (2016). The employees of baby boomers' generation, generation X, generation Y and generation Z in selected Czech corporations as conceivers of development and competitiveness in their corporation. *Journal of Competitiveness, 8*(4), 105-123. https://doi.org/10.7441/joc.2016.04.07.

Botezat, E., Fotea, S., & Fotea, I. (2023). Investigating the relationship between workplace expectations and turnover intention mindset among Romanian students as representatives of generation Z. *Journal of East European Management Studies, 28*(4), 630-663. https://doi.org/10.5771/0949-6181-2023-4-630.

Ding, L., & Jiang, C. (2023). The effect of perceived collective efficacy and self-efficacy on generation Z restaurant customers' food waste reduction intentions. *Journal of Global Responsibility, 14*(3), 337-359.https://doi.org/10.1108/JGR-08-2022-0079.

Dlamini, L. B., & Daniels, G. (2023). Scrutinizing south African media companies' strategies for generation Z's news consumption. *Media, Culture & Society, 45*(4), 702-719. https://doi.org/10.1177/01634437221135979.

Dragolea, L., Butnaru, G. I., Kot, S., Zamfir, C. G., Nuţă, A., Nuţă, F., . . . Ştefănică, M. (2023). Determining factors in shaping the sustainable behavior of the generation Z consumer. *Frontiers in Environmental Science,* https://doi.org/10.3389/fenvs.2023.1096183.

Egerová, D., Komárkova, L., & Kutiák, J. (2021). GENERATION Y AND GENERATION Z EMPLOYMENT EXPECTATIONS: A GENERATIONAL COHORT COMPARATIVE STUDY FROM TWO COUNTRIES. *E+M Ekonomie a Management, 24*(3), 93-109. https://doi.org/10.15240/tul/001/2021-03-006.

El-Menawy, S., & Saleh, P. S. (2023). How does the mediating role of the use of social media platforms foster the relationship between employer attractiveness and generation Z intentions to apply for a job? *Future Business Journal, 9*(1), 65. https://doi.org/10.1186/s43093-023-00233-0.

Gosztonyi, M. (2023). Comparative analysis of X-Y-Z generation entrepreneurs in a semi-peripheral EU member country: Insights from regularized regression techniques. *European Research Studies, 26*(4), 191-217.

Kyrousi, A. G., Tzoumaka, E., & Leivadi, S. (2022). Business employability for late millennials: Exploring the perceptions of generation Z students and generation X faculty: MRN. *Management Research Review, 45*(5), 664-683. https://doi.org/10.1108/MRR-04-2021-0328.

Marty, P. (2022). Life with google: LIS educators, generation Z, and the transformation of the information age. *Journal of Education for Library and Information Science, 63*(4), 420-435. https://doi.org/10.3138/jelis-2021-0038.

Melarkode, V., & Thakur, P. (2022). Same or different? an exploratory analysis of generation Y and generation Z. *Journal of Psychosocial Research, 17*(2), 427-438. https://doi.org/10.32381/JPR.2022.17.02.15.

Nebozhenko, T., Rassadnykova, S., Lvova, I., Palii, S., & Marushchak, S. (2023). Economic development of countries and formation of international business relations under the influence of globalization. *Economic Affairs, 68*(3), 1577-1588. https://doi.org/10.46852/0424-2513.3.2023.24.

Pham, N. T., & Lam, T. (2024). Trade-in programs in the fashion industry: A win-win sustainability strategy for consumers and brands. *Journal of Strategic Innovation and Sustainability, 19*(1), 50-63.

Rice, D. B., Taylor, R. M., Wang, Y., Wei, S., & Ge, V. (2023). My company cares about my Success…I think: Clarifying why and when a Firm's ethical reputation impacts employees' subjective career success: JBE. *Journal of Business Ethics, 186*(1), 159-177. https://doi.org/10.1007/s10551-022-05143-9.

Sawicka, J., & Marcinkowska, E. (2023). Environmental CSR and the purchase declarations of generation Z consumers. *Sustainability, 15*(17), 12759. https://doi.org/10.3390/su151712759.

Sharma, R. (2019). Consumer-based brand equity: Does country of origin (COO) matter to generation Z consumers? *South Asian Journal of Management, 26*(1), 136-150.

Shetu, S. N. (2023). Do user-generated content and micro-celebrity posts encourage generation Z users to search online shopping behavior on social networking sites—the moderating role of sponsored ads. *Future Business Journal, 9*(1), 100. https://doi.org/10.1186/s43093-023-00276-3.

Tick, A., Fulgence, M. C., Bayazova, A. M., Aneel, M., & Mwangi, F. A. (2022). Impact of internet misinformation on generation Y and Z. Management, Enterprise and Benchmarking in the 21st Century, 145-157.

Wiedmer, T. (2015). Generations do differ: best practices in leading traditionalists, boomers, and generations X, Y, and Z. *Delta Kappa Gamma Bulletin, 82*(1), 51-58.

Zhao, X., & An, H. (2023). Research on the mechanism of heterogeneous corporate environmental responsibility in Z-generation consumers' sustainable purchase intention. *Sustainability, 15*(13), 10318. https://doi.org/10.3390/su151310318.

HRM Global Mobility Practice: Remuneration of Posted Workers as a Part of Relocation Process

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Abstract: The enactment of revised Posted Worker Directive in 2018 (Directive 2018/957/EU) gave a momentum to EU Member states to transpose the Directive into their national legal order within a two-year duration. Posted workers remuneration reimbursed by the Employer must be calculated on the principle of an "equal pay", which either has to be based on the comparison of remuneration received by the Employer in the Home country and the statutory minimum wage in the country of posting, but also alternatively, based on the universally applicable collective bargaining agreements, if those apply. In order to apply such principle, when calculating the posted workers remuneration, it is necessary for the Sending entity (as Home employer) to obtain and evaluate the collective bargaining agreements applicable for the respective work performance done in the scope of posting, which is a challenge, as the collective bargaining agreements are often available only in local language. Therefore, this paper investigates the situation across all EU, EEA and EFTA Member states and aims to provide a comprehensive overview on a regional scale of remuneration system with the main focus on basic salary for posted workers including the state of translation universally applicable collective agreements per each above mentioned state.

Keywords: posted worker, remuneration, equal pay

JEL Classification codes: M16; M15; M10

INTRODUCTION

The competitiveness of the European region requires free labor force mobility. One of the key components introduced by the latest revision of Posted Worker Directive (enacted as the Directive 2018/957/EU and further referred as Posted Worker Directive) is a concept of fair remuneration, specified in the Directive as the "equal pay" principle. The principle is not only a prerequisite for free labor market mobility, it is also an answer on how to prevent social dumping set of business tactics on national, international, and inter-corporate levels, as the issue of social dumping of foreign employees has been in the eye of the authorities at least since 1992 (the year of introducing Treaty of Maastricht) (Berger & Luckmann, 1990). Therefore the Posted Worker Directive imposes an obligation to the Employer of posted worker to comply with the equal pay requirement. The principle of equal pay has its own definition in the Posted Worker Directive, it should be understood as "equal pay for equal work" performed by the posted worker in the same place as the local employee in the country of posting. However, to apply the equal pay principle on the remuneration of posted workers has shown as challenging. The reason of the challenge is that the basic component of each posted workers

remuneration – basic salary earned in the country of employment, has to be compared with the basic salary applicable in the country of posting. Such basic salary is either determined based on statutory minimum wage (also known as universal minimum wage) or collective bargaining agreement (CBA). Collective bargaining agreements often (but not exclusively) includes the sectoral minimum wages applicable for locally hired employees, as they are set between the employers and the workers. However, in their absence, national collective bargaining agreements apply, representing the minimum standards per certain industry (Berger & Luckmann, 1990). The literature and also the jurisprudence of the CJEU recognize beside the above stated terms also an expression "minimum rates of pay". This term refers again to remuneration, but as a sum of individual elements, when one of them is the basic salary: minimum wage or salary calculated based on respective CBA. For the purpose of this paper, we are going to further use the terms minimum wage and CBA.

The urgency of the topic of remuneration of posted workers lies, as already mentioned, in social dumping activities. Whether the posted workers are transferred on purpose from "low wage" country elsewhere due to saving labor costs, multinational companies settled in "high wage" country leasing the personnel via subcontractors from "low wage" countries or leasing temporary agency workers from "low wage" countries, in all cases the "equal pay" principle is relevant. Therefore, fair remuneration of posted workers became not only part of the social dialogue and soft law, but also a part of legal historical development on the national scale as well as EU one (Berger & Luckmann, 1990). To demonstrate the development of EU on the topic of fair remuneration, we would like to present the following overview of key Directives supporting the principles introduced in the European Pillar of Social Rights in the form of the following Table 1:

Table 5 - Overview of key Directives related to posting of workers including principles introduced in the European Pillar of Social Rights

Date	Description
1996	First adoption of the Posted Workers Directive (96/71/EC)
1999	Deadline of implementation of the Posted Workers Directive (96/71/EC) to EU
2014	Adoption of the Enforcement Directive
2016	Proposal for revision of the Posted Workers Directive
2016	Deadline of implementation of the Enforcement Directive (2014/67/EU)
2018	Adoption of the revised Posted Workers Directive (2018/957/EU)
2019	Adoption of the Transparent and Predictable Working Conditions Directive (2019/1152/EU)
2020	Deadline for implementation of the Revised Posted Workers Directive (2018/957/EU)
2022	Deadline of implementation of the Transparent and Predictable Working Conditions Directive (2019/1152/EU)

Source: European Parliament (2023)

The development of EU directives concerning fair remuneration reflects the commitment of the EU to uphold the principles of equal treatment and social justice. By ensuring that posted workers receive fair remuneration based on equal pay principle and comparable working conditions as local employees, these directives contribute to the realization of the European Pillar of Social Rights, which aims to guarantee fair and decent living standards for all workers

in the EU. Moving forward, continued efforts to enforce and strengthen these directives will be essential in combating social dumping and promoting fair remuneration across the EU.

1   LITERATURE REVIEW

A multinational company (MNC) is defined as a "a firm having operations in more than one country, international sales, and a nationality mix of managers and owners."(Doh & Luthans, 2018). The maintenance of global operations usually brings the challenge of hiring and even posting abroad appropriate staff to perform tasks allocated to the respective global positions or projects.

There are a few premises, which have to be considered, when selecting the staffing strategy for international assignments. First of all, the MNC must consist of at least one entity, but operate cross border in at least another two countries. Secondly, cross-border business activities usually trigger legal implications for all involved parties, which are related to various topics (e.g. tax, labor law, immigration, social security, commercial and export) depending on the country combination, duration of an assignment, profile of companies, their business portfolio and also the profile of employees posted abroad (Foley et al., 2021). Moreover, a significant impact cause whether the employee is going to be temporarily providing services or acting as hired-out personnel (Tansky & Heneman, 2006). The elementary criteria highlighted above could be shrunk to the following basic staffing concepts: secondment, transfer of employment, dual employment, and employer of records (Collings & Scullion, 2009). The major difference between those strategies lies in the employment parties – either the employment contract remains active in the country of employment (further referred as Home country) during the assignment, become dormant or the contract is canceled on the Home side and a new employment relation is established between the assignee and entity located in the country of assignment (further referred as Host country). Alternatively, employment could be active on both sides. Finally, as it will be soon obvious, the employment setup affects the remuneration scenario during the assignment.

Taking now a closer look at secondment, a general definition considers secondment as the detachment of a person from his or her regular organization for temporary assignment elsewhere (Lalanne, 2011). Torzo argues, that being seconded implies a general rule, that the seconded employee remains subject to the managing and disciplinary power of the Employer based in the Home country and is therefore liable to fulfill all liabilities connected vis-à-vis the secondment (Torzo, 2014).

The provision of services in the EU complies with the principle of freedom to provide cross-border services set by Article 56 of the Treaty on the Functioning of the European Union (2012), which in general prohibits any kind of burden or restriction on service provision related to EU nationals in the Member States. To this end, the EU case law, especially the case nr. C-43/93 of Raymond Vander Elst v. Office des Migrations Internationales (1994) ruled by the European Court of Justice, clearly confirmed, that also third-country nationals, legally residing in any of the Member states on a long term basis, should possess the freedom of cross-boarded services provision. Therefore, the third-country nationals posted by any EU-based company (further referred as Sending company) to another Member state should not be a subject to work permit or any other work authorization related proceeding (European Commission - Directorate General for Employment, Social Affairs and Inclusion, 2019). However, the practice over the past years proved that due to the fact, that each Member state adopted the EU case law differently (Mazzeschi, 2014), the principle of „cross-boarded provision freedom" is not a reliable apparatus, which could help to ease down the necessity of Sending companies to apply for work authorization to be posted to the respective Member state. Lastly, if the posted worker

is posted in a concept of hiring out of personnel, the above specified work exemption does not apply.

The increasing amount of service provision in the EU was early reflected also by the legislators – concretely by introducing a specific Directive related to posting in 1996 (Kennedy, 2023). The Directive 96/71/EC of the European Parliament and of the Council of 16 December 1996 concerning the posting of workers in the framework of the provision of services, known as Posted Worker Directive or Directive 96/71/EC, set general mandatory rules for Employers such as posted workers to ensure protection and responsibilities for each party, as well as to prevent social dumping on the EU scale. The legal framework of posting the worker sets two prerequisites: the posted worker has to maintain employment in the Home country with no interruption and the posting duration must be scheduled up to 12 months, with a possibility to prolong the total duration up to 18 months upon special request.

The fundamental requirement of the Directive mandates that the Employer, acting as the Sending company, ensures that posted workers receive working conditions equivalent to those of locally hired employees. Alternatively, if conditions in the Home country are more advantageous, they would take precedence (Directive 96/71/EC of the European Parliament and of the Council of 16 December 1996 Concerning the Posting of Workers in the Framework of the Provision of Services, 2020). This requirement entails that the Sending company must conduct a compulsory assessment comparing the working conditions in the Home and Host countries. To carry out this evaluation, the Sending company must consider the "hard core set" of working conditions, as stipulated by either national laws or universally applicable sectoral collective bargaining agreement (CBA) (Vermandel & Van Overmeiren, 2020). The list of "hard core set" of working conditions to be compared is as follows:

- minimum wage;
- working time;
- vacation;
- health and safety;
- conditions of hiring out employees;
- protective measures for pregnant women or women with young children;
- equal treatment between men and women;
- other local public policy provisions.

However, above mentioned list of the minimum employment standards for posting has changed over time due to revision processes of the Posted Worker Directive. The key revision of minimum employment standards applicable for posted workers took place in 2018 (Directive EU 2018/957 of the European Parliament and of the Council of 28 June 2018 amending Directive 96/71/EC concerning the posting of workers in the framework of the provision of services) following a prior proposal for revision of the initial Poster Worker Directive. The revised Posted Worker Directive 2018/957/EU was supposed to be implemented into the national legislation of each Member state no later than by 30 July 2020. The revision brought more detailed requirements towards the Sending company especially in terms of minimum employment conditions to be compared and then observed during posting. The significant alterations related to "hard core set" of working conditions could be outlined as follows: (Vermandel & Van Overmeiren, 2020):

- Introduction of the principle „equal pay for equal work"(further referred as equal pay principle) as key determinant for posted workers' remuneration;

- If the secondment is longer than 12 months (with the possibility to extend up to a total of 18 months), Host country labor law conditions apply only (instead of the prior principle of applying more favorable working conditions);
- Temporary agency workers must be treated the same as local employees.

The above-stated equal pay principle would be a subject of further discussion in the following text, as according to joint inspections performed by European Labour Authority, the majority of inspected EU based companies struggle with selecting the correct remuneration (base salary) applicable in the Country of posting for the further comparison with the remuneration (salary) received by the posted worker in the Home country (European Labour Authority, 2023) . Besides that, the newly introduced principle of equal pay has a high impact on both Home and Host Member state markets, as it aims to erase the difference between the costs of posted and locally hired workers.

The remuneration of posted workers according to the Posted Worker Directive is generally divided into two parts – wage and wage supplements. Wage is compensation for performed work based on the employment contract concluded between the posted worker and the Employer in the Home country (Vermandel & Van Overmeiren, 2020). Wage supplements represents additional payments based on the posted workers actual work performance: typically related to length of posting, acknowledgement of quality of work performance or payments related to location of the posting. Both wage and wage supplements, for which the posted worker is eligible to collect in the country of employment (Home country) and country of posting (Host country) in accordance with local labor law constitutes remuneration and should be compared (Vermandel & Van Overmeiren, 2020). The only exception not added to the comparison are expenses on the travel, board, and lodging as those should count directly to the Employer (Directive 2018/957/EU of the European Parliament and of the Council of 28 June 2018 Amending Directive 96/71/EC Concerning the Posting of Workers in the Framework of the Provision of Services, 2018). The following practical example demonstrates the approach explained above:

Table 6 Practical example of remuneration comparison

Gross amount to be paid in Home country (Czech Republic)		Gross amount to be paid in the Host country (Portugal)	
Home Basic salary	2,000 EUR	Host Basic salary (in accordance with equal pay principle)	3,000 EUR
Posting allowance	1,100 EUR		
Compensation for board, travel, and lodging	500 EUR		
Total	3,100 EUR	Total	3,000 EUR

Source: European Commission - Directorate General for Employment, Social Affairs and Inclusion (2019)

In the Table 2 above, the remuneration in the Home country (Czech Republic) is a total of 3,100 EUR. The amount of 500 EUR for travel, board, and lodging is not considered part of the remuneration as previously described. In the Host country (Portugal) would the posted worker receive based on the principle of „equal pay for equal work" an amount of 3,000 EUR (as per the original Directive 96/71/EC, for the purpose of the comparison would be the only benchmark used the national minimum wage in amount of 760 EUR gross per month). However, the Portuguese national legislation does not recognize posting allowance as part of

total remuneration, so the posted workers` remuneration in the Host country consists only of basic salary selected based on equal pay principle. When comparing the Home and Host basic salary, the Employer must also bear in mind the principle of applying more favorable conditions. The principle was described already in the Posted Worker Directive 96/71/EC: "*7. Paragraphs 1 to 6 shall not prevent the application of terms and conditions of employment which are more favorable to workers. Allowances specific to the posting shall be considered to be part of remuneration, unless they are paid in reimbursement of expenditure actually incurred on account of the posting, such as expenditure on travel, board and lodging.*" (Directive 96/71/EC of the European Parliament and of the Council of 16 December 1996 Concerning the Posting of Workers in the Framework of the Provision of Services, 2020). As in the case above the Home remuneration exceeds the Host remuneration, the Employer of the posted worker must in accordance with principle of applying more favorable conditions preserve the remuneration scenario applicable in the Home country.

Given the fact that wage (basic salary) typically represents the largest portion of the remuneration, it is crucial to utilize for such comparison appropriate wage selected based on "equal pay" principle. To do so, the Employer (Sending company), in order to comply with the Posted Worker Directive, has to identify the correct minimum wage or amount set by the collective bargaining agreement (if the business activity performed in the Host Member state would fall under the scope of CBA). If the posted worker's basic salary paid in the Home country, compared to the minimum wage in the Host Member state, does not meet the basic salary paid to the posted worker by the Employer, the posted worker is eligible to receive compensation equal to the difference between those two basic salaries. However, although process-wise the above-described process of comparing remuneration of the posted worker might seem to be straightforward, challenges arise primarily during the initial step in identifying the correct basic salary that a posted worker is entitled to receive in the Host country.

2   METHODOLOGY

The critical assessment of posted worker key part of the remuneration – base salary across **EU, EEA, and EFTA** was conducted.

The research is based on primary and secondary data analysis. Primary research was conducted with specialists, in form of the in-depth interviews with Labor Inspectorate authorities (European Labor Authority members (ELA)) per each of the presented countries to cross check what constitutes in each specific EU Member state the base salary for posted worker and to verify the legal source of construction CBA. The secondary data were represented mainly by numerous EU policy papers, Directives, agreements, reports and expert commentaries, accompanied by databases within national legislation and financial systems of the **EU, EEA, and EFTA** countries.

Due to the novelty of comprehensive analysis of the topic, the study was exploratory, descriptive and analytical, based on the primary and secondary data. Having done the literature review, the authors formulated the following research questions:

RQ1: How much is the base salary remuneration of posted workers reflecting the equal pay principle?

RQ2: What are the main determinants of the posted workers base salary?

3   RESULTS AND DISCUSSION

The principle of compensation under the revised Posted Worker Directive, known as "equal pay for equal work," no longer exclusively revolves around comparing the minimum wage applicable in the Host country as the benchmark for remuneration. As already mentioned, the level of basic salary used for comparison should be equal to one of the local employees working on the same position and performing the same tasks. However, the legal base for determination of the basic salary is as follows: „…*by the national law and/or practice of the Member State to whose territory the worker is posted including all the constituent elements of remuneration rendered mandatory by national law, regulation or administrative provision*" (Directive 2018/957/EU of the European Parliament and of the Council of 28 June 2018 Amending Directive 96/71/EC Concerning the Posting of Workers in the Framework of the Provision of Services, 2018) or alternatively as „*by collective agreements or arbitration awards which, in that Member State, have been declared universally applicable or otherwise apply in accordance with paragraph 8*" (Directive 2018/957/EU of the European Parliament and of the Council of 28 June 2018 Amending Directive 96/71/EC Concerning the Posting of Workers in the Framework of the Provision of Services, 2018).

First of all, there is a difference in the meaning between the concepts of minimum wage for posted workers laid by Directive 96/71/EC and the latter Directive 2018/957/EU. Referring to the term minimum wage pursuant to Directive 96/71/EC, the Employer (Sending company) had to comply with the minimum wage settled by the Host Member state national legislation (or alternatively a minimum wage set by applicable collective bargaining agreement). However, the following Image 1 provides an overview of how the minimum wage is determined among the EU, EEA and EFTA::

Image 1 Overview of Minimum wage and CBA applicability in EU, EEA, EFTA
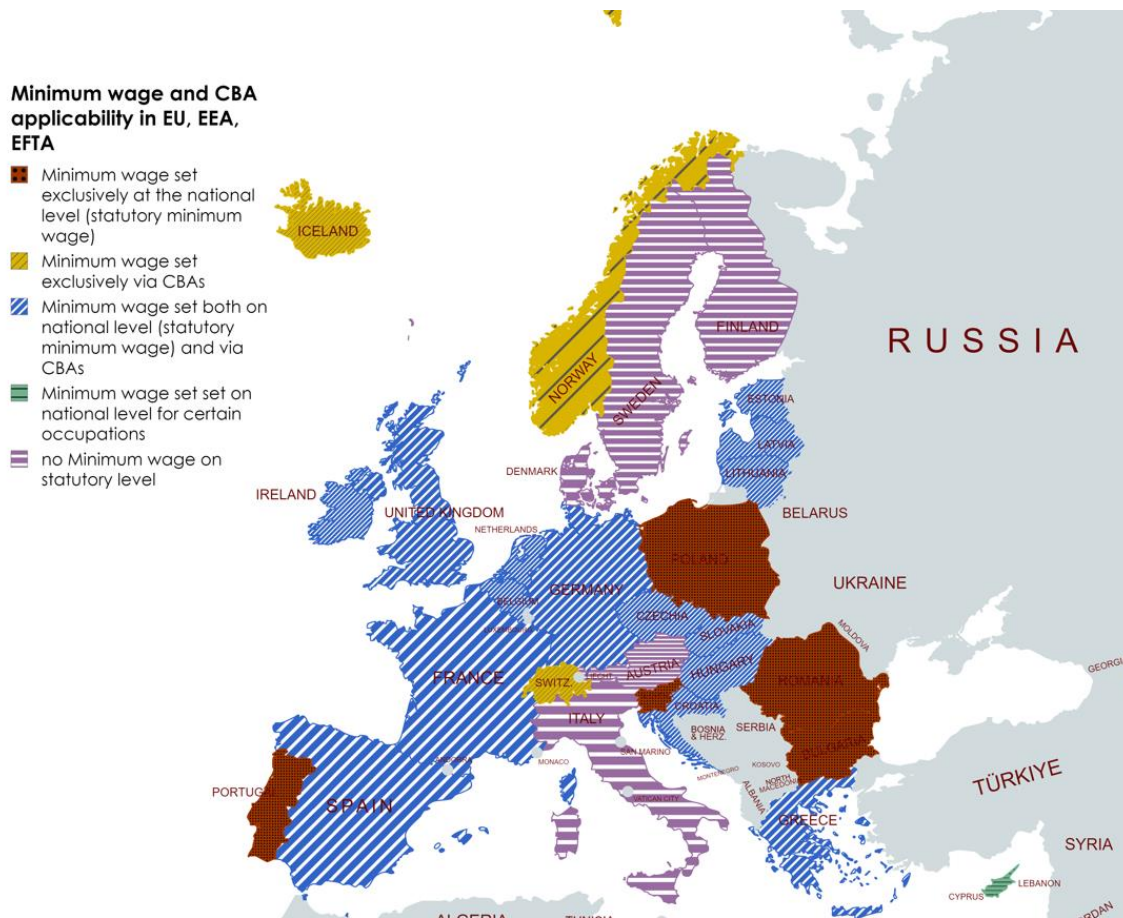
Source: Arbeidstilsynet (2023); Eurofound (2023); Risch (2023); Schweizerische Eidgenossenschaft (2023); Vinnumálastofnun (2023)

The image above clearly indicates, that the constitution of minimum wage is among the selected states not unified. The only EU Member state, which has no minimum wage set on statutory level or in collective bargaining agreements is Sweden. Another approach also represent Cyprus as there is minimum wage established not on statutory level or in collective bargaining agreements, but only for certain occupations. For the rest of the states only the national level, collective bargaining agreements or a combination of both apply. The actual figures valid for the year 2023 are displayed in the table below. Furthermore, the Table 3 includes the minimum wage for the most frequent sector among posted workers, which is the sector of construction. The overview includes the information whether the collective bargaining agreement for this industry exists and if so which language mutations are available:

Table 3 Overview of minimum wage figures in EU, EEA, EFTA for 2023 (as of January 2023 in EUR)

Country	Structure of Minimum Wage	Minimum wage in gross	Sectoral CBA (construction) minimum wage in gross	Language mutations available for the section of remuneration	Source

Austria	CBA only	N/A	14.94 EUR per hour	German, English, Hungarian, Polish, Czech, Slovak, Slovenian	(Bundesministerium Arbeit und Wirtschaft, 2023)
Belgium	statutory minimum wage + CBA	1,995 EUR	14,3188 EUR per hour	French, Dutch	(SPF Emploi, Travail et Concertation sociale, 2023)
Bulgaria	statutory minimum wage only	399 EUR per month	N/A	N/A	(Eurofound, 2023)
Croatia	statutory minimum wage + CBA	700 EUR per month	820 EUR per month	Croatian	(Eurofound, 2023; Sindikat graditeljstva Hrvatske, 2023)
Cyprus	statutory minimum wage set for specific occupations	713 EUR per month	N/A	Greek	(ΚΕ.Π.Ε.Α/ Γ.Σ.Ε.Ε., 2023)
Czech Republic	statutory minimum wage + CBA	717 EUR per month	16 200 CZK per month	Czech	(Eurofound, 2023; Ministerstvo práce a sociálních věcí, 2023)
Denmark	CBA only	N/A	113.95 DKR per hour	Danish, English, German, Polish	(Confederation of Danish Industry, 2023; Workplace Denmark, 2023)
Estonia	Statutory minimum wage + CBA	725 EUR per month	N/A	N/A	(Eurofound, 2023)
Finland	CBA only	N/A	11.71 EUR per hour	Finnish, English	(Rakennusliitto ry, 2023)
France	statutory minimum wage + CBA	1,709 EUR per month	1 782 EUR per month	French	(Eurofound, 2023; La CGT, 2023)
Germany	statutory minimum wage + CBA	1,981 EUR per month	N/A	German	(Central Customs Authority, 2023; Eurofound, 2023)
Greece	statutory minimum wage + CBA	832 EUR per month	N/A	Greek, English	(Eurofound, 2023; Ministry of Labour and Social Security, 2023)

Hungary	statutory minimum wage + CBA	579 EUR per month	73,700 HUF per month	Hungarian, English	(Építőipari Ágazati Kollektív Szerződés, 2014; Eurofound, 2023)
Iceland	CBA only	N/A	410 984 ISK per month	Icelandic, English	(Vinnumálastofnun, 2023)
Ireland	statutory minimum wage + CBA	1,910 EUR per month	18.47 EUR per hour	English	(Eurofound, 2023; Workplace Relations Commission, 2023)
Italy	CBA only	N/A	1608.67 EUR per month	Italian	(Ministero del Lavoro e delle Politische Sociali, 2023)
Latvia	statutory minimum wage + CBA	620 EUR per month	780 EUR per month	Latvian, English	(Eurofound, 2023; Labklājības ministrija, 2023)
Liechtenstein	CBA only	N/A	CHF 21.65 per hour	German	(Risch, 2023)
Lithuania	statutory minimum wage only	840 EUR per month	N/A	N/A	(Eurofound, 2023)
Luxembourg	statutory minimum wage + CBA	2,387 EUR per month	14.5 EUR per hour	French, German	(Eurofound, 2023; Inspection du Travail et des Mines, 2023)
Malta	statutory minimum wage + CBA	835 EUR per month	872.8 EUR per month	English	(Department for Industrial and Employment Relations, 2023)
Netherlands	statutory minimum wage + CBA	1,934 EUR per month	15.34 EUR per hour	Dutch, English	(Eurofound, 2023; Ministerie van Sociale Zaken en Werkgelegenheid, 2023)
Norway	CBA only	N/A	18.90 EUR per hour	Norwegian, English	(Arbeidstilsynet, 2023)
Poland	statutory minimum wage only	746 EUR per month	N/A	N/A	(Eurofound, 2023)
Portugal	statutory minimum wage only	887 EUR per month	N/A	N/A	(Eurofound, 2023)
Romania	statutory minimum wage only	606 EUR per month	N/A	N/A	(Eurofound, 2023)

Slovakia	statutory minimum wage + CBA	700 EUR per month	N/A	Local language only (Slovak)	(Eurofound, 2023)
Slovenia	statutory minimum wage only	1,304 EUR per month	N/A	N/A	(Eurofound, 2023)
Spain	statutory minimum wage + CBA	1,260 EUR per month	1,538 EUR per month	Spanish, Basque, Catalan, English, French, Galician	(Eurofound, 2023; Federación de Industria, Construcción y Agro (FICA, 2023)
Sweden	CBA only	N/A	92,88 SEK per hour	Swedish, English	(Byggnads, 2023)
Switzerland	CBA only	N/A	4,969 EUR (in canton Zurich)	German, French, Italian, English	(Schweizerische Eidgenossenschaft, 2023)

Own analysis, sources are listed above in the right column

While the minimum employment conditions applicable for posted workers (including the minimum wage) have been published on the national website of each EU Member state (and similarly the states of EEA and EFTA adopted the same legislation related to posted workers including the creation of website related to posting of workers on their territory), the collective bargaining agreements have been rarely translated to English or to other of the three main EU languages (German, French). Therefore, determining the Host remuneration (especially the basic salary) could be a lengthy and demanding process requiring in some cases ordering official translation or local professional's support. According to the figures presented in the table above, selecting incorrect CBA can result in using inaccurate basic salary for the purpose of posted workers remuneration, ultimately leading to posted workers receiving lower remuneration than they are entitled to, potentially resulting in employer noncompliance.

Finally, it is mandatory for the Employer as Sending company to report all posted workers, including applicable working conditions and remuneration based on Equal pay principle for the posting. There are only a few exceptions constituting no duty to report. Those are typically connected to certain duration of the trip or initial installation or assembly as for this activity the conditions of posting do not apply up to 8 days: „*In the case of initial assembly and/or first installation of goods where this is an integral part of a contract for the supply of goods and necessary for taking the goods supplied into use and carried out by the skilled and/or specialist workers of the supplying undertaking, the first subparagraph of paragraph 1 (b) and (c) shall not apply, if the period of posting does not exceed eight days*.*"* (Directive 96/71/EC of the European Parliament and of the Council of 16 December 1996 Concerning the Posting of Workers in the Framework of the Provision of Services, 2020).

Lastly, it is important to also highlight, that along with the transposition of the Directive 2018/957/EU, a new Directive (EU Directive 2019/1152 on the Transparency working conditions5) came into force. Directive 2019/1152 newly constituted for posted workers a right

to obtain a document before the departure, which would clearly state the following information (Directive 2019/1152/EU of the European Parliament and of the Council of 20 June 2019 on Transparent and Predictable Working Conditions in the European Union, 2019):

- country and duration of posting;

- currency used for remuneration;

- all applicable benefits or allowances related to the posting;

- information about repatriation and its conditions;

- remuneration to which the worker is entitled in accordance with the applicable law of the country of posting;

- information about benefits, allowances and conditions of reimbursement for expenditure on travel, board, and lodging;

- the link to the single official national website developed by the country of posting (pursuant to Article 5(2) of Directive 2014/67/EU of the European Parliament and of the Council (15)).

In accordance with the Directive 2019/1152/EU, the posted worker must receive relevant information about the calculated remuneration before the posting, so the Employer (Sending company) must process the calculation in advance of the posting, which on one side brings more clarity for the posted worker on the applicable conditions for the posting, on the other hand, creates an additional administrative burden for the Employer as Sending company, because the conditions can change during the posting (e.g. existence of overtime hours, the Cost of living allowance increase/decrease). To conclude, in the past four years, only the following countries already adopted the above-mentioned legislation and introduced it as a part of Labor code amendments so-called „posting agreement": Germany, Slovakia, Poland, and Bulgaria.

CONCLUSION

Over the last three decades, there has been a noticeable increase in economic migration within the EU region. In response, the legislature acted swiftly by introducing the Posted Worker Directive in 1996, which underwent a significant revision in 2018. The Directive aimed to establish a fundamental set of working conditions for posted workers, with the goal of standardizing the posting practices for the EU-based employers and safeguarding posted workers against social dumping. Although the purpose of the Directive and its revision is comprehensible, the state of implementation by EU Member States (and similarly EEA and EFTA states) differ. The variations of integrating the Directive to the national legislation caused for Employers a challenge to understand to what extent the other Member state implemented the Directives and how does it affect the posting, what are the deviations from the Home country working conditions and most significantly, how to determine the remuneration in accordance with the equal pay principle.

As previously demonstrated through the example of remuneration calculation as key part posted workers working conditions comparison, we could clearly illustrate how complex the selection of basic salary and further comparison of Home and Host country applicable salary in accordance with equal pay principle, could be. We believe the potential simplification for a comparison lies in providing the Employers with the language mutation of collective bargaining agreements (especially in English as common language) or potentially if each EU Member state (including EEA and EFTA countries) would publish an Equal pay salary calculator. In praxis, such remuneration calculator (known as Minimum wage calculator followed by Calculation

spreadsheet for the directive on international wage comparison) has been already introduced by the Federal Department of Economic Affairs: Education and Research introduced, but it is only valid to posting to Switzerland (Schweizerische Eidgenossenschaft, 2023).

The calculator along with the spreadsheet represents comprehensive guidance for Employers posting their staff to Switzerland and guarantees compliant way how to fulfill the criteria of posting in respect of the Posted Workers Directive. Therefore, we argue that the benefits of providing such a solution for the Employers (Sending companies) by the EU Member state (including EEA and EFTA countries) are indisputable. Firstly, the unified process could eliminate potential errors in calculations of remuneration and provide Employer as well as posted worker with more clarity on the process. Secondly, the usage of the spreadsheet could be legally binding for the Employer (including archiving), and easily communicated to the employees - posted workers (instead of creating additional posting agreements prior to departure). Lastly, the spreadsheet calculation could be used in electronic communication: for example, as a part of reporting obligation (posted worker EU registration).

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REFERENCES

Berger, P. L., & Luckmann, T. (1990). *The social construction of reality: A treatise in the sociology of knowledge* (Repr). Anchor Books.

Collings, D. G., & Scullion, H. (2009). Global staffing. *The International Journal of Human Resource Management*, 20(6), 1249–1252. https://doi.org/10.1080/09585190902909798

Commission Paritaire des Constructions Metallique, Mecanique et Electrique | SPF Emploi, Travail et Concertation sociale. (2023). https://emploi.belgique.be/fr/themes/commissions-paritaires-et-conventions-collectives-de-travail-cct/conventions-collectives-3

Construcción y minería | FICA Federación de Industria, Construcción y Agro. (2023). https://www.ugt-fica.org/sectores/construccion-y-mineria.html

Construction industry | Labklājības ministrija. (2023). https://www.lm.gov.lv/lv/construction-industry

Construction Sector | Workplace Relations Commission. (2023). Workplace Relations Commission. https://www.workplacerelations.ie/en/what_you_should_know/hours-and-wages/sectoral employment orders/construction-sector/

Directive (EU) 2019/ of the European Parliament and of the Council of 20 June 2019 on transparent and predictable working conditions in the European Union. (n.d.).

Directive 2018/957/EU of the European Parliament and of the Council of 28 June 2018 amending Directive 96/71/EC concerning the posting of workers in the framework of the provision of services. (2018).

Directive 96/71/EC of the European Parliament and of the Council of 16 December 1996 Concerning the Posting of Workers in the Framework of the Provision of Services (2020). http://data.europa.eu/eli/dir/1996/71/2020-07-30/eng

Doh, J. P., & Luthans, F. (2018). *International management: Culture, strategy, and behavior (Tenth edition).* McGraw-Hill Education.

ELA's Framework for Action on Road Transport: Outcomes and way forward | European Labour Authority. (2023, May 23). https://www.ela.europa.eu/en/news/elas-framework-action-road-transport-outcomes-and-way-forward

Entsendeplattform | Bundesministerium Arbeit und Wirtschaft. (2023). https://www.entsendeplattform.at/kv/Z04/bauindustrie-und-baugewerbe-zkv-baulose-cs-arb?language=cs

Építőipari Ágazati Kollektív Szerződés. (2014*). ÉPÍTŐIPARI ÁGAZATI KOLLEKTÍV SZERZŐDÉS (ÉÁKSZ).* Építési Vállalkozók Országos Szakszövetsége. https://www.evosz.hu/hirek/2-bejegyzesek/62-epitoipari-agazati-kollektiv-szerzodes-eaksz

Equal pay for equal work | Byggnads. (2023). https://www.byggnads.se/om-oss/translation/english/

EUR-Lex—C:2008:115:TOC - EN - EUR-Lex. (n.d.). Retrieved February 15, 2024, from https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=OJ%3AC%3A2008%3A115%3ATOC

Foley, C. F., Hines, J. R., & Wessel, D. (Eds.). (2021). *Global goliaths: Multinational corporations in the 21st century economy.* Brookings Institution Press.

Gebäudereinigung | Inspection du Travail et des Mines. (2023, September 28). http://itm.public.lu/de/conditions-travail/convention-collectives/nettoyage-batiments.html

How will the revision of the Posted Workers Directive impact your assignments? | Vermandel, N., & Van Overmeiren, F. (2020). https://www2.deloitte.com/content/dam/Deloitte/be/Documents/tax/PostedWorkersDirective.pdf

Kolektivní smlouvy vyššího stupně závazné pro další zaměstnavatele | Ministerstvo práce a sociálních věcí. (n.d.). Retrieved February 23, 2024, from https://www.mpsv.cz/kolektivni-smlouvy-vyssiho-stupne-zavazne-pro-dalsi-zamestnavatele

Kolektivni ugovor u graditeljstvu | Sindikat graditeljstva Hrvatske. (2023). https://www.sgh.hr/kolektivni-ugovor

Lalanne, S. (2011). Posting of workers, EU enlargement and the globalization of trade in services. *INTERNATIONAL LABOUR REVIEW*, 150(3–4), 211–234. https://doi.org/10.1111/j.1564-913X.2011.00114.x

Legal advice for companies | Confederation of Danish Industry. (2023). https://www.danskindustri.dk/english/advisory/legal-advice/

Mazzeschi, M. (2014). Mobility of Non-EU Workers within EU Implementing Vander Elst. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.2928692

Minimum conditions of employment—Conditions of employment as laid down in collective bargaining agreements and legal provisions | Central Customs Authority. (2023). https://www.zoll.de/EN/Businesses/Work/Foreign-domiciled-employers-posting/Minimum-conditions-of-employment/Minimum-pay-pursuant-AEntG-AUEG/Industries-minimum-wage-pursuant-AEntG-wage-floors-pursuant-AUEG/conditions_of_employment.html?nn=207008

Minimum wage | Arbeidstilsynet. (2023). https://www.arbeidstilsynet.no/en/working-conditions/pay-and-minimum-rates-of-pay/minimum-wage/

Ministerie van Sociale Zaken en Werkgelegenheid. (2023). *MinSZW | Directie UAW - Construction & Infrastructure Sector—10—BOUW EN INFRA* (CAO)—TTW - 21-06-2023—31-12-2023—14902—20-06-2023.

https://www.uitvoeringarbeidsvoorwaardenwetgeving.nl/mozard/!suite92.scherm1007?mObj=38186

National Collective agreements / Ministero del Lavoro e delle Politische Sociali. (2023). https://distaccoue.lavoro.gov.it/en-gb/Thematic-Areas/Thematic-area-detail/id/3/National-Collective-agreements

Ouvriers / La CGT. (2023). https://fnscba.com/ouvriers-2/

Pay and working hours for posted workers / Workplace Denmark. (2023). https://workplacedenmark.dk/working-conditions/pay-and-working-hours/

Posting / Schweizerische Eidgenossenschaft. (2023). https://entsendung.admin.ch/app/?wicket:interface=:0:8:::

Posting of workers / Kennedy, A. (2023, October). https://www.europarl.europa.eu/factsheets/en/sheet/37/posting-of-workers

Posting of workers—Fact Sheets on the European Union / European Parliament. (2023, September 30). https://www.europarl.europa.eu/factsheets/en/sheet/37/posting-of-workers

Practical guide on posting / European Commission - Directorate General for Employment, Social Affairs and Inclusion. (2019). Publications Office. https://data.europa.eu/doi/10.2767/664838

Statutory minimum wages / Eurofound. (2023). https://www.eurofound.europa.eu/en/data-catalogue/minimum-wages/statutory-minimum-wages-2023

Tansky, J. W., & Heneman, R. L. (Eds.). (2006). *Human resource strategies for the high growth entrepreneurial firm.* Information Age Pub.

Torzo, F. (2014). - . *Journal of Istanbul University Law Faculty*, 72(2), Article 2.

Verordnung vom 8. März 2022 betreffend die Abänderung der Verordnung über die Allgemeinverbindlicherklärung des Gesamtarbeitsvertrages für das Baumeister- und Pflästerergewerbe / Risch, D. (2023). https://www.gesetze.li/chrono/2022066000?search_text=+Mindestloh&search_loc=text&lrnr&lgblid_von&lgblid_bis

Wage Regulation Orders / Department for Industrial and Employment Relations. (2023). https://dier.gov.mt/en/Legislation/Pages/Wage-Regualtion-Orders.aspx

Wages and work hours / Vinnumálastofnun. (2023). https://posting.is/en/employment-conditions/wages-and-work-hours

Wages and working conditions / Rakennusliitto Rakennusliitto ry. (2023). https://rakennusliitto.fi/en/wages-and-working-conditions/

Καθορισμός κατώτατου μισθού και κατώτατου ημερομισθίου για τους υπαλλήλους και τους εργατοτεχνίτες όλης της χώρας από / ΚΕ.Π.Ε.Α / Γ.Σ.Ε.Ε. (2023). 1.4.2023. ΚΕ.Π.Ε.Α./Γ.Σ.Ε.Ε. https://www.kepea.gr/kathorismos-katotatoy-misthoy-kai-katotatoy-imeromisthioy-gia-toys-ypalliloys-kai-toys-ergatotexnites-olis-tis-xoras-apo-1-4-2023

Συλλογικές Ρυθμίσεις Εργασίας. Υπουργείο Εργασίας και Κοινωνικής Ασφάλισης. / Ministry of Labour and Social Security. (2023). https://ypergasias.gov.gr/category/sillogikes_rythmiseis_ergasias/

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