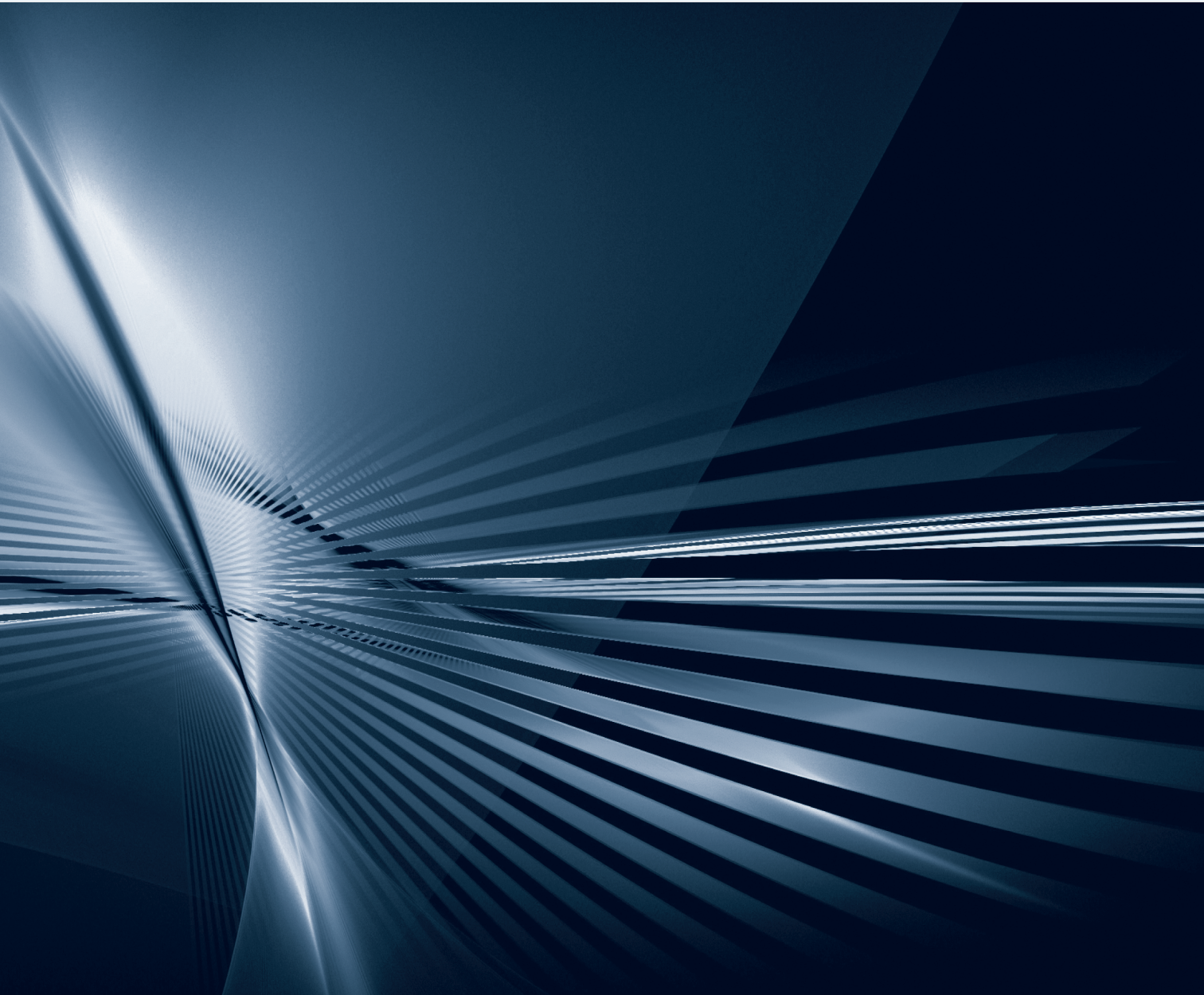


ORGANIZACIJA

Journal of Management, Informatics and Human Resources

Volume 56, Issue 3, August 2023

ISSN 1318-5454



Revija za management, informatiko in kadre

ORGANIZACIJA

Organizacija (Journal of Management, Informatics and Human Resources) is an interdisciplinary peer-reviewed journal which is open to contributions of high quality, from any perspective relevant to the organizational phenomena.

The journal is designed to encourage interest in all matters relating to organizational sciences and is intended to appeal to both the academic and professional community. In particular, journal publishes original articles that advance the empirical, theoretical, and methodological understanding of the theories and concepts of management and organization. The journal welcomes contributions from other scientific disciplines that encourage new conceptualizations in organizational theory and management practice.

We welcome different perspectives of analysis, including the organizations of various sizes and from various branches, units that constitute organizations, and the networks in which organizations are embedded.

Topics are drawn, but not limited to the following areas:

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- human resources management (such as organization & employee development, leadership, value creation through HRM, workplace phenomena etc.);
- managerial and entrepreneurial aspects of education;
- business information systems (such as digital business, decision support systems, business analytics etc.);
- enterprise engineering (e.g., organizational design, business process management, enterprise transformation paradigms etc.);
- papers that analyse and seek to improve organizational performance.

Organizacija (Revija za management, informatiko in človeške vire) je interdisciplinarna recenzirana revija, ki objavlja visoko kakovostne prispevke z vseh vidikov, ki so pomembni za organizacijske procese in strukture.

Revija je zasnovana tako, da spodbuja zanimanje za različne vidike v zvezi z organizacijskimi vedami in je namenjena tako akademski kot strokovni skupnosti. Revija objavlja izvirne članke, ki spodbujajo empirično, teoretično in metodološko razumevanje teorij in konceptov managementa in organizacije. Pozdravljamo tudi prispevke iz drugih znanstvenih disciplin, ki spodbujajo nove koncepte v organizacijski teoriji in praksi. Objavljamo članke, ki analizirajo organiziranost z različnih vidikov, so usmerjeni na organizacije različnih velikosti in iz različnih sektorjev, na enote, ki sestavljajo organizacije, in na mreže, v katere so organizacije vpete.

Teme so pokrivajo predvsem naslednja področja:

- organizacijska teorija, upravljanje, razvoj in organizacijsko vedenje;
- management človeških virov (kot so organizacija in razvoj zaposlenih, vodenje, ustvarjanje vrednosti s pomočjo človeških virov, organizacijski pojavi na delovnem mestu itd.);
- vodstveni in podjetniški vidiki izobraževanja;
- poslovni informacijski sistemi (kot so digitalno poslovanje, sistemi za podporo odločanju, poslovna analitika itd.);
- podjetniški inženiring (npr. organizacijsko oblikovanje, upravljanje poslovnih procesov, paradigme preoblikovanja podjetij itd.);
- članki, ki analizirajo organizacijsko uspešnost in prizadevanja za izboljšanje le-te.

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Tel.: +386-4-2374297, E-mail: organizacija.fov@um.si, URL: <https://organizacija.fov.um.si>. Organizacija is co-sponsored by the Slovenian Research Agency.

Published quarterly. Full text of articles are available at <https://sciendo.com/journal/ORGA>.

Papers for publication in Organizacija can be submitted via journal website at <https://organizacija.fov.um.si/index.php/organizacija/information/authors>. Before submission authors should consult. Guidelines available at <https://sciendo.com/journal/ORGA>, tab "for Authors". You can contact the editorial via e-mail: organizacija.fov@um.si or maja.mesko@um.si

Articles are currently abstracted/indexed in: Cabell's Directory, CEJSH (The Central European Journal of Social Sciences and Humanities), Celdes, Clarivate Analytics - Emerging Sources Citation Index (ESCI), CNPIEC, Die Elektronische Zeitschriftenbibliothek, DOAJ, EBSCO - TOC Premier, EBSCO Discovery Service, ECONIS, Ergonomics Abstracts, ERIH PLUS, Google Scholar, Inspec, International Abstracts in Operations Research, J-Gate, Microsoft Academic Search, Naviga (Softweco), Primo Central (ExLibris), ProQuest - Advanced Polymers Abstracts, ProQuest - Aluminium Industry Abstracts, ProQuest - Ceramic Abstracts/World Ceramics Abstracts, ProQuest - Composites Industry Abstracts, ProQuest - Computer and Information Systems Abstracts, ProQuest - Corrosion Abstracts, ProQuest - Electronics and Communications Abstracts, ProQuest - Engineered Materials Abstracts, ProQuest - Mechanical & Transportation Engineering Abstracts, ProQuest - METADEX (Metals Abstracts), ProQuest - Sociological Abstracts, ProQuest - Solid State and Superconductivity Abstracts, Research Papers in Economics (RePEc), SCOPUS, Summon (Serials Solutions/ProQuest), TDOne (TDNet), TEMA Technik und Management, WorldCat (OCLC).

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Can corporate Social Responsibility Contribute to Bankruptcy Prediction? Evidence from Croatia

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Background/Purpose: Companies are becoming aware of the fact that corporate social responsibility (CSR) is becoming the imperative of their sustainable business model despite the potential costs it could generate. Researchers are mostly focused on estimating the relationship between CSR and financial performance where most of the findings indicate their positive relationship. This paper expands existing research and focuses on the relationship between CSR and the risk of bankruptcy using the data from 102 midsize and large companies from non-financial sectors using the data for four years. Research expands existing studies on the EU level according to the fact that most of the existing studies are performed among US companies.

Method: Descriptive statistics and SEM-PLS methodology was used to compare and analyze financial data with data collected from 7 groups of stakeholders.

Results: Research results indicate that the relation between CSR and the risk of bankruptcy is negative.

Conclusion: Becoming a socially responsible company is in the best interest of all stakeholders because CSR activities contribute to financial stability and maintenance of going concern assumption.

Keywords: *Corporate social responsibility, Bankruptcy prediction, Altman Z' score, SEM-PLS methodology*

1 Introduction

One of the leading motives for starting a business is to generate profit and maximize it considering available resources. Therefore, business activities should be directed toward accomplishing that objective. However, the reality is sometimes different and businesses can face different problems with generating profit as well as paying their liabilities as they come due. Such problems can happen due to different reasons and can be short as well as long termed. If the company is facing financial problems for a larger period, then the risk of bankruptcy is rising, making the company's going concern assumption questionable.

To reduce the risk of bankruptcy, companies' managers should focus on restructuring the company and directing

the limited resources into activities that will result in increased financial performance. Nowadays customers are becoming more aware of products and services provided by companies that are socially responsible so corporate social responsibility (CSR) is becoming an imperative of a sustainable business model which will provide that companies continue to operate as a going concern. The relationship between CSR and financial performance has been the focus of researchers for some time. Although various outcomes of this relationship (positive, negative, mixed, or no relationship,) could be found in literature, the positive relationship dominates (Van Beurden and Gössling, 2008, Lu et al., 2014, Wang et al., 2016, Bartolacci et al., 2020; Velte, 2021). Therefore, it could be assumed that CSR activities can be used to improve a company's financial per-

formance.

If CSR activities improve financial performance, can we suppose that such activities reduce the risk of a company's bankruptcy? The relationship between CSR activities and the risk of bankruptcy is the focus of this paper. This study's main objective is to test this relationship's direction. In other words, whether being socially responsible reduces the risk of bankruptcy. The analysis is conducted on the sample of Croatian medium and large-sized companies operating in the non-financial sector.

The previous evidence on the relationship between CSR and the risk of bankruptcy on a global level is weak and therefore additional research is required. Literature suggests that most results indicate that socially responsible governance is related to a lower risk of bankruptcy (e.g. Cooper and Uzun, 2019, Pizzi et al., 2020). However, the majority of previous studies have been conducted on a sample operating in most developed and/or larger countries of the world. Therefore, this study aims to fulfilling the research gap by analyzing the sample of companies operating in a small economy. Considering the relatively recent transition in the market economy and entrance into European Union, Croatia represents an interesting environment for conducting such research. Due to such historical features, the business environment in Croatia is favorable for the development of CSR activities (Vrdoljak Raguž and Hazdovac, 2014).

The contribution of this paper is twofold. Firstly, it develops ongoing discussions about the relationship between CSR and the probability of bankruptcy by confirming that being socially responsible is related to a lower risk of bankruptcy. Additionally, to the best of the authors' knowledge, this is the first research on the relationship between CSR and the probability of bankruptcy for Croatian companies which allows us to draw conclusions for companies doing business in a small new EU member country.

The paper is organized as follows. The first section contains a brief literature review according to which the research hypothesis is developed. The description of the research methodology and results of model testing are following, while the discussion and conclusions are presented at the end.

2 Literature review

2.1 Corporate social responsibility

The CSR concept is becoming the focus of research for many authors. In literature, different definitions of CSR could be found. Despite a lot of attempts in defining the CSR concept, there is no clear consensus on what CSR is among practitioners, academics, and other interested parties (Sheehy, 2015). Carroll (1979, p. 500) distinguished four parts of CSR, and said that "CSR encompasses the

economic, legal, ethical, and discretionary expectations that society has of organizations at a given point in time". A large number of CSR definitions rely on stakeholder theory, which "takes into account the individuals or groups with a 'stake' in or claim on the company" (Melé, 2008, p. 62). In line with stakeholder theory, Hopkins (2006, p. 299) defined CSR as "a process that is concerned with treating the stakeholders of a company or institution ethically or in a responsible manner", i.e. treating key stakeholders in line with international norms. Some other definitions focus on actions that are not obligatory by the law. McWilliams and Siegel (2001, p. 117) emphasized that "CSR means going beyond obeying the law". Due to a large number of different CSR definitions, several authors have tried to systematize them and identify some common dimensions. Based on an analysis of 37 CSR definitions, Dahlsrud (2008) concluded that they are consistent over five dimensions: stakeholder, social, economic, voluntariness, and environmental dimension. Similarly, Crane et al. (2013) identified six core characteristics of CSR: voluntary, internalizing or managing externalities, multiple stakeholder orientation, alignment of social and economic responsibilities, practices and values, and beyond philanthropy.

Different CSR definitions have also been presented by different organizations. For example, the European Commission has defined it as "as a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis." (European Commission, 2001). The World Bank (2005) defines CSR as "the commitment of business to contribute to sustainable development working with employees, their families, local communities, and society at large to improve their quality of life that are both good for business and good for development". There is also the definition of World Business Council for Sustainable Development which defines CSR as "the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as the local community and society at large" (Dahlsrud, 2008, p. 7).

2.2 Corporate social responsibility and financial performance

Regarding the effects of CSR on a company's financial performance, two opposing views can be found in the literature. The first view, related to the neo-classic economic perceptive, posits that the only social responsibility of a company is to maximize the profits for shareholders while respecting the regulation (Friedman, 1970, Henderson, 2005). According to this view, investments in CSR activities are not suitable since they are not directly related to increasing profits. The second view is more positive

and in favor of CSR activities. For example, in line with stakeholder theory, which was first introduced by Freeman (1984), larger groups of stakeholders need to be taken into consideration while running a business if a company wants to assure long-term survival and financial success. As summarized by Brooks and McGuire (2022, p. 3) the value of a company can be increased by CSR activities through: “increased sales due to better brand evaluation, premium prices for responsibly sourced goods, enhanced employee morale and productivity, improved companies’ image and reputation capital and better access to valuable resources.”

Nonetheless, the shareholder and stakeholder view should not be seen as opposed business models. Moreover, they should be regarded as complementary concepts. The effect of CSR activities on financial performance is in the focus of research for a while, and although there is not one common conclusion about this effect, the literature suggests that the positive effect dominates (Van Beurden and Gössling, 2008, Lu et al., 2014, Wang et al., 2016, Bartolacci et al., 2020; Velte, 2021). Therefore, by considering stakeholder issues, shareholders’ value is maximized as well.

2.3 Bankruptcy prediction models

Bankruptcy represents a business situation that all companies want to avoid. Therefore, it is important to be aware of the level of bankruptcy risk so that adequate actions can be undertaken. Throughout history, a large number of models for bankruptcy prediction have been developed using various quantitative methodologies from simple regression modeling to very complex methods. According to Zenzerovic and Perusko (2006), financial ratios as an instrument for assessing a company’s creditworthiness began to be used at the beginning of the 20th century. Research conducted in the 30s of the 20th century confirmed that the value of financial ratios of financially healthy companies and those approaching bankruptcy differ significantly. The early studies concerning ratio analysis for bankruptcy prediction were univariate. These studies focused on individual ratios and sometimes compared the ratios of failed companies with those of successful firms (Gissel et al., 2007). The beginnings of using quantitative methods for predicting bankruptcy go back to the 1960s. At that time, discriminant analysis took a prominent place in research. In the 1970s, along with the application of discriminant analysis, researchers began to implement linear probability models and logit/probit analysis to predict bankruptcy. The development of information technology in the 1980s enables the use of more complex and sophisticated quantitative methods, and mathematical programming and simulation techniques have been implemented. The first among them was the decision tree technique, i.e. recursive partitioning. They were followed by more advanced quantitative methods in which multi-nominal logit models and

dynamic time series models stand out. In the last 30 years, bankruptcy forecasting has been approached through the implementation of various advanced methods, among which the most significant are: neural networks, survival analysis, genetic algorithms, multidimensional scaling, expert systems, chaos theory, catastrophe theory, etc.

Throughout history, many complex models have been presented to scientific society and many of them are developed behind the scene by various financial and consulting companies. Firstly, they included only quantitative variables from financial statements and other accounting sources of information focusing on determining the limited number of most significant ones. But the development of information technology along with quantitative methods allowed researchers and practitioners to test many qualitative variables without taking care of their numbers. Machine learning and the availability of data allow further development of this challenging area of accounting analysis.

Despite many models developed one of them takes a particular place in history and practice. It is an Altman Z-score model with two additional versions. Edward I. Altman made the most significant contribution to the development of bankruptcy prediction models (Altman, 1968). In his famous article from 1968, he published the results of the first multivariate study of the relationship between financial indicators and the probability of bankruptcy. Unlike previous research such as Beaver’s univariate model, which emphasized the importance of certain indicators for predicting bankruptcy, Altman considered that the use of only one indicator for predicting bankruptcy can lead to a wrong interpretation if it is “tuned” or equated to some other indicators that show the probability of bankruptcy differently.

The results of the research were obtained from an empirical study conducted on a sample of 66 manufacturing companies whose securities were publicly traded. The sample was divided into two equal groups. The first group included manufacturing companies that filed for bankruptcy in the period from 1946 to 1965. The size of the assets of this group of business entities varied from 700 thousand to 25.9 million dollars with an average of 6.4 million. The second group included financially stable companies from the same industry and approximately the same size of assets. The collected financial statements for business entities from both groups referred to the same reporting period. Based on the collected financial information, 22 financial indicators were calculated, and the weights for each of them were determined by implementing the statistical analysis method called multivariate discriminant analysis. Given that the importance of indicators varies, five indicators have been singled out that best discriminate financially healthy from business entities facing the start of bankruptcy proceedings. The developed model for predicting bankruptcy, known as Z-score, is shown by Equation 1 (Altman, 1993).

$$Z = 0.012X_1 + 0,014X_2 + 0,033X_3 + 0,006X_4 + 0,999X_5 \quad (1)$$

where is:

Z – the value of the discriminant function,

X1 – working capital / total assets,

X2 – retained earnings / total assets,

X3 – profit before interest and taxes / total assets,

X4 – the market value of equity / total liabilities (book value)

X5 – sales revenue / total assets.

Through further statistical analysis of the derived model, Altman determined the critical values of the discriminant function based on which financial stability is assessed. If the value of the discriminant function of a company exceeds the critical value of 2.99, it is considered financially stable. On the other hand, the value of the discriminant function of a company lower than the critical value of 1.81 indicates a serious risk of bankruptcy. Values within the interval from 1.81 to 2.99 represent the so-called “grey zone” i.e. threatened financial stability with potential for recovery.

After performing the discriminant function, Altman proceeded to test its accuracy on a sample of business entities and found that the accuracy decreases as the time horizon of the prediction increases. The precision of the function, that is, the model, shows the highest precision one year before the bankruptcy, when it amounts to a high 95%. Two years before the bankruptcy, the accuracy of the model drops to 72%, while three years before the bankruptcy, the prediction accuracy is equal to the theoretical probability. Generally, models are considered to have discriminatory power when their prediction accuracy is 25% higher than the theoretical probability. Since the models for assessing the probability of bankruptcy are dichotomous variables, they have discriminatory power when the accuracy of their prediction exceeds 62.5% (the theoretical probability of 50% increased by 25%, or 12.5).

Since the aforementioned model for predicting bankruptcy was derived using data from manufacturing business entities whose securities are listed on the stock exchange, Altman made two corrections in later research. The first correction included the adjustment of the model for predicting bankruptcy for those business entities whose securities are not listed on the stock exchange, that is, which are owned by a smaller number of persons. Accordingly, in the numerator of the variable X4, the market value of the principal was replaced by its book value, and the weights were also adjusted, so the new model is shown in Equation 2 (Altman, 1993):

$$Z' = 0,717X_1 + 0,847X_2 + 3,107X_3 + 0,420X_4 + 0,998X_5 \quad (2)$$

When interpreting the corrected model, it is necessary to pay attention to the critical values. The new critical val-

ues according to which the degree of financial stability is assessed are 2.90 and 1.23.

The second modification of the model is the result of an effort to adapt the model to the prediction of bankruptcy of non-manufacturing business entities. The variable X5 was therefore excluded from the model because it differs significantly between different activities. By changing the model, there was a change in the critical values, which are now 2.60 and 1.10. The new model is shown in Equation 3 (Altman, 1993).

$$Z'' = 6,56X_1 + 3,26X_2 + 6,72X_3 + 1,05X_4 \quad (3)$$

2.4 Corporate social responsibility and bankruptcy

Besides the analysis of the relationship between CSR and financial performance, which is mostly measured by accounting-based (e.g. Return on assets ROA, Return on Equity ROE), market-based (e.g. stock return) or accounting and market based (e.g. Tobin's Q) indicators (Galant and Cadez, 2017), this research makes a step forward by analyzing the relationship between CSR and probability of bankruptcy. The main argument behind the relationship between CSR and the probability of bankruptcy is related to financial performance since financially stable companies should have a lower risk of bankruptcy (Brîndescu-Olariu, 2016).

Cooper and Uzun (2019) tested the relationship between CSR and bankruptcy on a sample of US publicly traded companies and found that companies with stronger CSR are less likely to bankrupt compared to ones with weaker CSR. Using a similar sample, Lin and Dong (2018) found that companies with positive prior CSR engagement exhibit a lower risk of bankruptcy when they are in deep financial distress and that such companies tend to recover faster from difficulties. Brooks and McGuire (2022) confirmed the previously negative relationship between CSR and the risk of bankruptcy, documenting that probability for a company to go bankrupt within the next three years is lower when a company increases its CSR investments. Additionally, for a sample of US companies, Boubaker et al. (2020) concluded that implementation of CSR practices results in less distress and default risk. Zheng et al. (2019) concluded that CSR activities decrease the risk of financial distress by improving the relationship between companies and their stakeholders.

Using a sample of Italian companies that voluntarily adopted a legality rating (reward for ethical behavior), Pizzi et al. (2020) showed that experience in CSR practices is lowering the risk of bankruptcy. In a sample of Australian companies, Al-Hadi et al. (2019) showed that positive CSR practices reduce financial distress, and consequently risk of bankruptcy.

Kamalirezaei et al. (2020) analyzed the relationship between CSR and bankruptcy probability in a sample of companies listed on the Teheran Stock Exchange and found that the highest CSR is related to a lower probability of bankruptcy (i.e. inverse relationship).

Yet, not all studies reported that CSR results in a reduced risk of bankruptcy. Habermann and Fischer (2021), using the sample of US companies, found no effect between the level of CSR and the probability of bankruptcy during times of economic growth, and that increase in CSR activities during economic growth leads to an increase in the probability of bankruptcy.

2.5 Research hypothesis

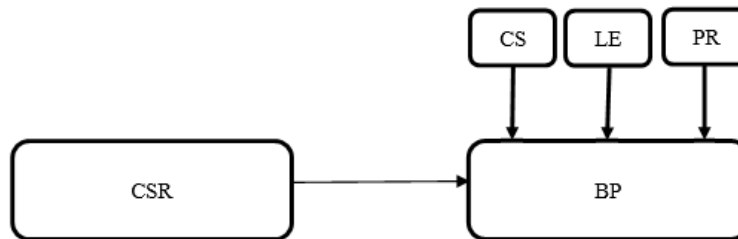
Based on the presented literature review it can be seen that focus on the relationship between CSR and bankrupt-

cy is relatively new and that research results for European countries are limited because the majority of studies are focused on US companies. Therefore, the following hypothesis is defined in order to be tested:

H1: The relationship between corporate social responsibility (CSR) and the probability of bankruptcy is negative.

3 Methodology

For purposes of testing the defined hypothesis, the following model was proposed:



CSR – Corporate social responsibility

BP – the probability of bankruptcy

CS – company size, LE – companies leverage, PR – profitability

Figure 1: Structure of suggested model

To test the hypothesis two data sets have been collected: CSR data and financial data. Data on CSR have been collected using an online questionnaire developed by Turker (2009). The questionnaire included a different number of statements regarding 7 groups of stakeholders: employees (8 statements), customers (6 statements), competitors (4 statements), NGOs (4 statements), government (4 statements), society (5 statements) and natural environment and future generations (8 statements). Responders were asked to assess their agreement with each statement on a scale that ranged from 1 (I fully disagree) to 5 (I fully agree). For purposes of collecting data, the questionnaire was translated into Croatian. The data were collected in the second half of 2016 and the first half of 2017 as a part of research conducted for a doctoral thesis.

In the final model, the variable CSR was measured using 7 variables, one for each stakeholder group. The stakeholder group variable was calculated as the mean value of all statements for that stakeholder group.

The financial data were collected from companies' financial reports and obtained from a Financial agency – an institution that collects financial data for all companies operating in Croatia. Financial data were collected for the period between 2017 and 2020 from a sample of 102 medium and large companies.

Variable bankruptcy prediction was measured using Altman Z' -score from Equation 2.

In the model, three control variables have been included: leverage (LEV) calculated as the ratio between total liabilities and total assets, companies' size (CS) measured as the natural logarithm of total assets and profitability (PRO) measured as the ratio between EBIT and total asset called return on total assets (ROTA).

All financial variables (Altman Z' score, leverage, profitability, and size) were calculated for 4 years (2017-2020), and the mean value for these 4 years was used in model testing.

Model was tested using Smart-PLS model and Smart-

PLS softver (Ringle et al., 2015). Model testing included evaluation of the measurement model and measurement of the structural model. Measurement model evaluation focused on variable CSR since it includes several items, while other variables are single items and there is no need to evaluate them. Evaluation of the measurement model included evaluation of internal consistency, convergent validity, and discriminant validity of variable CSR. Internal consistency was evaluated with composite reliability and Cronbach's alpha which should be higher than 0,7. Indicator reliability was evaluated by considering the outer loadings of indicators which should be above 0,7. Convergent validity was evaluated by considering AVE values which should be higher than 0,5. Discriminant validity was assessed by evaluating the HTMT criterion, cross-loadings, and Fornell-Larcker criterion. After establishing internal consistency, convergent validity, and discriminant validity in measurement model evaluation, the structural model evaluation was performed. The structural model included the evaluation of collinearity (VIF values between 0,2 and 5), path coefficients significance (using bootstrapping), and f^2 evaluation. Additionally, the predictive relevance of the models was assessed using blindfolding, and SRMR values were estimated to evaluate model fit. (Hair et al., 2017).

4 Results

Descriptive statistics of data used in the analysis are presented in Table 1. As can be seen from the data in the table, on average companies included in the sample have threatened financial stability with the potential to recover (Z' score between 1,23 and 2,90), profitable (positive profitability), and moderately indebted (51% of total asset is financed from liabilities). As for CSR variables, companies' representatives see themselves as socially responsible (mean values closer to highest values). From Table 1 it can be seen that companies exhibit the highest social responsibility toward the customers and the lowest toward NGOs.

The correlation matrix of variables used in this research is presented in Table 2. Research results indicate that there is a positive correlation between CSR activities toward all considered stakeholders and Altman Z' -score (only for the ones toward government is not statistically significant). There is also a positive significant correlation between profitability and Altman Z' -score and a negative significant correlation between leverage and Altman Z' -score.

Table 1: Results of Measurement Model

Variable	N	Mean	Min	Max	Standard deviation	Kurtosis
LN total asset	102	20,00	17,16	24,28	1,51	0,10
Leverage	102	0,51	0,03	3,54	0,39	36,44
Profitability	102	0,07	0,00	0,28	0,05	3,14
Altman Z' -score	102	2,67	-1,69	16,56	2,33	14,81
CSR employees	102	3,94	1,13	5,00	0,67	3,00
CSR customers	102	4,62	2,00	5,00	0,53	6,73
CSR Society	102	4,24	1,20	5,00	0,64	5,60
CSR competitors	102	4,18	2,25	5,00	0,61	0,86
CSR government	102	4,58	1,00	5,00	0,60	13,00
CSR natural environment and future generations	102	4,22	1,00	5,00	0,69	4,99
CSR NGOs	102	3,44	1,50	5,00	0,71	0,18

Source: Authors' calculation

Table 2: Correlation matrix

	EMP	CUS	SOC	COM	GOV	ENFG	NGO	Z score	PRO	LEV	CS
EMP	1,00										
CUS	0,67***	1,00									
SOC	0,66***	0,61***	1,00								
COM	0,70***	0,63***	0,66***	1,00							
GOV	0,59***	0,65***	0,58***	0,58***	1,00						
ENFG	0,67***	0,62***	0,71***	0,71***	0,61***	1,00					
NGO	0,56***	0,43***	0,55***	0,55***	0,46***	0,57***	1,00				
Z score	0,20**	0,22**	0,20**	0,20**	0,13	0,18*	0,17*	1,00			
PRO	0,14	0,16	0,02	-0,06	0,11	-0,01	0,19*	0,30**	1,00		
LEV	-0,05	0,09	-0,08	-0,07	0,02	-0,05	-0,05	-0,45***	-0,13	1,00	
CS	-0,20**	-0,30***	-0,06	-0,24	-0,06	-0,02	0,02	-0,10	-0,31***	-0,09	1,00

Source: Authors' calculation

Table 3: Measurement model evaluation results

Latent variable	Indicator	Convergent Validity		Internal consistency reliability			Discriminant validity
		Loading	AVE	Composite reliability	Cronbach's Alpha	HTMT confidence interval does not include 1	
CSR	EMP	0,860	0,665	0,933	0,916	Yes	
	CUS	0,821					
	SOC	0,843					
	COM	0,848					
	GOV	0,766					
	ENFG	0,848					
	NGO	0,714					

Source: Authors' calculation

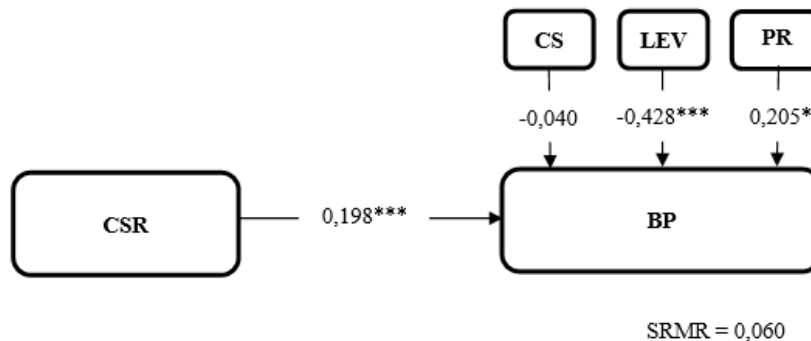
As described before, the proposed model was tested in two phases. The first phase included the evaluation of the measurement model, while the second phase included the evaluation of the structural model. The results of measurement model evaluation are presented in Table 3. The table includes the results only for latent variable CSR, since other variables are single items, and there is no need to evaluate them. As evident from the table, internal consistency reliability is established since both composite reliability

and Cronbach's Alpha are above 0,70. Convergent validity is also established since all indicator's outer loadings are higher than 0,70 and the average variance extracted (AVE) is higher than 0,50. Discriminant validity was assessed by analyzing cross-loadings, the Fornell-Larcker criterion, and the HTMT ratio. There are no cross-loadings, the Fornell-Larcker criterion has been met, the HTMT value is below 0,90 and the confidence intervals of the HTMT statistics do not contain 1. Therefore, discriminant validity has been met. After confirming the reliability and validity of

the measurement model, the structural model was analyzed. The results of structural model testing are presented in Figure 2. Before analyzing the path coefficients, the collinearity was examined, and there are no issues with it since predictor constructs' tolerance (VIF) values are above 0,20 and below 5. The analysis of the path coefficient (0,198) shows that there is a positive, statistically significant, relationship between CSR and the probability of bankruptcy. This result indicates that higher CSR results in a higher Altman Z' score (lower bankruptcy probability). As for the results of testing the effects of control variables, they have shown a significant positive effect of profitability on the Altman Z'-score (0,205), a significant negative effect of leverage on the Altman Z'-score (-0,428), and negative but

statistically non-significant effect of company size on Altman Z'-score (-0,040).

Model effect size has also been analyzed, and it suggests that there is a medium to large effect of leverage on Altman Z' score ($f^2=0,254$) and a small effect of CSR ($f^2=0,054$) and profitability ($f^2=0,053$) on Altman Z'-score. The blindfolding procedure was used to assess the predictive relevance, and it resulted in Q^2 higher than 0 ($Q^2=0,228$) indicating that the exogenous constructs have predictive relevance for Altman Z'-score (bankruptcy prediction) (Hair et al., 2017). Model fit was explored using SRMR measure, and for the estimated model it is 0,060 which is below 0,08, indicating good fit.



CSR – Corporate social responsibility
 BP – the probability of bankruptcy
 CS – company size, LE – companies leverage, PR - profitability
 Source: Authors' calculation

Figure 2: Structural model results

5 Discussion and conclusions

The majority of companies are established according to the going concern assumption, meaning they plan to operate for an unlimited time in the future. The precondition for doing so is to achieve and sustain financial stability and profitability so managers need to focus on activities that are in line with it. Nowadays, social responsibility and sustainability activities are becoming more important, as well as the possibility of using these activities to increase profitability. Numerous researchers have analyzed the effects of social responsibility and sustainability activities on profitability, and although the conclusions are not unique, the positive relationship dominates. Considering the positive effect of socially responsible activities (CSR) on companies' profitability, it is reasonable to assume that such activities also have a positive effect on reducing the risk of bankruptcy since better financial results can be related to lower bankruptcy risk.

Since it is reasonable to assume the positive effect of CSR activities on reducing the risk of companies' bankruptcy, this research aimed to estimate the direction of the relationship between CSR and bankruptcy risk using a sample of companies doing business in Croatia. The main hypothesis of this research was that the relationship between CSR and bankruptcy is negative, i.e. that a higher level of CSR activities results in a lower level of bankruptcy risk. Analysis was conducted on a sample comprising 102 companies from Croatia using the SEM-PLS method. Results of the analysis have shown that higher values of CSR activities result in higher Altman Z' -score, i.e. lower bankruptcy risk. The defined hypothesis was confirmed on the sample of companies operating in Croatia and it can be concluded that CSR activities are in the best interest of a company.

There are several contributions of this research. First of all, it contributes to ongoing research about the financial benefits of being socially responsible by showing that high-

er levels of CSR activities are related to lower bankruptcy probability. Additionally, the research was conducted on a sample comprising companies from a small country, which represents a significant contribution since the majority of previous studies have been focused on large countries with a long tradition in a market economy.

Results of this study could be of interest also for practitioners since they have shown that CSR activities lead to better financial position and lower bankruptcy risk. Obtained results can also serve as a good tool for promoting CSR activities and sustainability.

An increasing number of Croatian companies apply CSR business practices (Grilec et al., 2022). Starting from Carroll's pyramid of CSR (Carroll, 1991), Čarapić and Leko-Šimić (2009) have shown that the most applied aspect of CSR by Croatian companies is the philanthropic aspect, i.e. donations, sponsorships, and activities in the environment protection. Mutavdžija et al. (2021) have also confirmed the focus on philanthropic responsibilities by Croatian companies during the COVID-19 pandemic and after natural disasters (two strong earthquakes) that hit one part of Croatia in 2020. According to Osmanagić Bedenik & Labaš (2011), Croatian companies' most important CSR practices are related to investments in development, motivation, education, and employee satisfaction. Croatian companies are aware of CSR business practice benefits and the results of this research could contribute to the wider implantation of such business practices.

The main limitations of this research are related to data, i.e. relatively small sample size and response bias. The sample comprised 102 companies from one country. Future research could be focused on larger samples from different countries. Response bias could be related to data on CSR since these data were collected using an online questionnaire in which companies' representatives were asked to self-assess different statements regarding the CSR activities of the companies they work for. Despite of mentioned limitations, research results represent valuable findings that could be broadened using a similar methodology.

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Ali lahko družbena odgovornost podjetij prispeva k napovedi bankrota? Evidence Hrvaške

Ozadje in namen: Podjetja se zavedajo, da družbena odgovornost podjetij postaja imperativ njihovega trajnostnega poslovnega modela kljub morebitnim stroškom, ki bi jih lahko povzročila. Prejšnje raziskave s tega področja so večinoma osredotočene na ocenjevanje razmerja med družbeno odgovornostjo podjetij in finančno uspešnostjo, kjer večina ugotovitev kaže na njun pozitiven odnos. Pričujoča raziskava razširja obstoječe raziskave in se osredotoča na razmerje med družbeno odgovornostjo podjetij in tveganjem bankrota z uporabo podatkov pridobljenih na 102 srednje velikih in velikih podjetij iz nefinančnih sektorjev. Raziskava se osredotoča na področje EU, kar tudi doprinese k obstoječim raziskavam, saj je večina obstoječih študij narejena med podjetji iz ZDA.

Metode: Opisna statistika in metodologija SEM-PLS je bila uporabljena za primerjavo in analizo finančnih podatkov s podatki, zbranimi od sedmih skupin deležnikov.

Rezultati: Rezultati raziskave kažejo, da je povezava med družbeno odgovornostjo in tveganjem bankrota negativna.

Zaključek: Postati družbeno odgovorno podjetje je v interesu vseh deležnikov, saj dejavnosti družbene odgovornosti prispevajo k finančni stabilnosti in ohranjanju predpostavke delujočega podjetja.

Ključne besede: Družbena odgovornost podjetij, Napoved bankrota, Rezultat Altmana Z, Metodologija SEM-PLS

DOI: 10.2478/orga-2023-0013

Employers' Efforts to Encourage Older Workers to Retire Later - A Case Study of Large Companies in Slovenia

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Background and Purpose: Most developed societies are facing the challenge of an ageing population, which poses several issues, including low labour force participation and financial pressures on the sustainability of the pension system. Countries typically address this situation by raising the retirement age, which often results in dissatisfaction among workers as such decisions are perceived as imposed. Therefore, our work's main purpose was to research the analysis of implementing measures for managing older workers in companies, which would indirectly influence workers' decisions to voluntarily choose longer work participation.

Design/Methodology/Approach: We designed our study on the assumption that companies that more frequently conduct various analyses of their employees also pay greater attention to measures for managing older workers. In doing so, we focused on the measures that the literature identifies as important for keeping older workers employed for longer. The data source was a study from 2020, which sampled large companies in Slovenia with more than 100 employees. We posed the questions to the person responsible for human resource management in the company. The initial question was whether conducting employee analyses is associated with the implementation of measures focused on education and training, skills transfer, and career development as well as managing the health of older workers. We formulated three main hypotheses, which we confirmed using linear correlation analysis.

Results: We found that companies that conduct more frequent analyses of employees' qualifications and competencies, on average, also more frequently implement measures related to the area of education and training of older workers and to the area of knowledge transfer and career development of older workers. We confirmed statistically significant correlations in general as well as at the level of particular measures. Furthermore, we found that companies that more frequently conduct analyses of the health structure of employees, on average, also more frequently implement measures in the field of managing the health of older workers. We concluded that companies that conduct employee analyses more frequently demonstrate a higher level of commitment to implementing measures for managing older workers, which subsequently impacts their decision to retire later.

Conclusion: By conducting employee analyses, companies gain important information that leads to the timely and sufficiently frequent implementation of measures for managing older employees. With empirical data, we have supported our prediction that the frequency of implementing measures through which companies can influence older workers' decisions for later retirement is associated with the frequent conduction of employee analyses. This article has contributed to our understanding of ageing and the treatment of older workers. It has also highlighted a softer approach to promoting prolonged work engagement for older employees as an alternative to unwanted, legally imposed later retirement.

Keywords: *An ageing population, Management of older workers, Education and training, Knowledge transfer and career, Health management, Later retirement*

1 Introduction

In recent decades, the developed world has faced significant population ageing, primarily due to improved health conditions, hygiene practices, and a better quality of life. This trend is projected to continue, driven by longer life expectancy and declining fertility rates (Eurostat, 2020). Consequently, the upcoming retirement of the large “baby-boom” generation will have critical implications in just over a decade. As a result, concerns regarding the management of public finances and the sustainability of pension systems are justified. The issue of population ageing is undoubtedly complex, which is why we have decided to focus only on the question of how to ensure that older workers remain actively employed for longer periods.

Many European countries are addressing those challenges by raising the retirement age. However, Pirani et al. (2022) view such a solution as an imposition, highlighting its negative consequences for individuals, companies, and society as a whole. Worker protests and trade union dissatisfaction with retirement age increases have been prevalent (Shah, 2023; Hill, 2018; Heintz, 2018; CBS News, 2010). Moreover, most employers also do not support late retirement despite acknowledging the ageing issues (Van Dalen et al., 2010a). Negative stereotypes about older workers persist within companies, influencing hiring practices (Munnell & Wettstein, 2020; Van Dalen & Henkens, 2020; Parry & Smeaton 2018). Consequently, older individuals face difficulties in obtaining employment, resulting in higher long-term unemployment rates compared to other age groups across many EU countries (Eurostat, 2023a). Last but not least, the effects of extending the retirement age have a negative effect on the health of older workers (Barschkett et al., 2022; Pilipiec et al., 2021; Voss et al., 2020; Shai, 2018; De Grip et al., 2012), which implies an additional burden on public finances. The fact is, that while extending the retirement age preserves the pension system from collapsing, the cost savings are counterbalanced by increased healthcare expenditures (Shai, 2018).

Considering the potential negative consequences of forcibly extending the retirement age, our focus is on encouraging older individuals to remain actively engaged in the workforce for a longer period out of their personal desire, rather than being obligated to do so by the system. We see the solution in tackling the problems associated with older workers in the workplace and in the planned treatment of older workers in companies. Indeed, many authors (e.g. Rožman et al., 2019; Kim & Kang, 2017; Buckle, 2015; Anxo et al., 2012; Kooij et al., 2010) argue that appropriate incentives from employers have a beneficial impact on older workers in terms of their well-being, belonging, commitment, satisfaction, and productivity, and impact on longer labour participation.

This topic led us to analyse the measures companies take to treat older workers so that they can stay at work

for as long as possible. Companies in Slovenia are implementing various measures proposed by the Slovenian Employers' Association (ZDS, 2010). Since these measures are based on information gathered from various analyses, we assumed that companies systematically conducting employee analyses are more aware of the importance of creating a supportive work environment for older employees and consequently implementing appropriate measures. Our research focused on three key aspects, namely training and education, knowledge transfer and career development, and health management for older employees. The rationale for each aspect is provided below. The education and training aspect was chosen because of previous findings that employers mostly perceive outdated knowledge of modern technologies and their unwillingness to engage in further training as the main shortcomings of older workers (Conen et al., 2012; Baruch et al., 2014). This highlights the need for employers to adequately motivate older workers for training and education (ZDS, 2010). On the other hand, employers have shown hesitation in including older workers in training programs or adapting training methods to suit them (Schröder et al., 2014; Ng & Feldman, 2012; Fuertes et al., 2013; Ilmarinen, 2012). The consequences of the above are often reflected in the decision of older workers to retire earlier (Hennekam & Herrbach, 2013). The second chosen aspect was knowledge transfer and career development. We consider it to be important since older workers take valuable tacit knowledge with them when they retire, even though employers should ensure that older workers transfer their knowledge to younger workers (Baruch et al., 2014; Ilmarinen, 2012). Additionally, employers' focus on the career development of older workers is a significant activity, as it is known that older workers who are provided with opportunities for career growth tend to postpone their retirement plans (Hennekam & Herrbach, 2013). Managing the health of older workers was chosen as the third aspect. It is important because poor health is the most common reason for leaving work and early retirement (Trades Union Congress (TUC), 2021). Employers should therefore pay more attention to activities that have a positive impact on employees' health, as health is the factor that has the greatest impact on workers' satisfaction and decision to retire later (Marvell & Cox, 2017). On the other hand, employers often criticize the poor health of older workers, which leads to additional costs for companies, e.g. due to absenteeism and reduced productivity (Bogataj et al., 2019). Employers could make improvements by taking appropriate action, such as creating a supportive work environment, promoting lifestyle changes, and raising employee awareness (ZDS, 2010).

We based our research on the understanding that the frequency of implementing HR practices influences employee development and the maturity of the company itself. However, the measures within the three aspects mentioned above are among those most frequently mentioned in the literature as ways in which employers can influence

the decision of older workers to postpone retirement or prolong their working lives. Since employee analyses form the basis of employee management, we investigated how the frequency of analyses affects the frequency of implementing measures within these three aspects. In conducting the survey, we limited our focus to large companies in Slovenia. We believe that our research opens up a new perspective and opportunities for companies to reflect on their practices in managing older workers and actively engage in the analysis and implementation of measures. The benefits of taking action are not only important for companies, but also for individuals and, ultimately, for society as a whole.

In the following section of the article, we presented the literature review chapter, which outlines the findings of authors in the field of ageing and managing older workers. In the Methods chapter, we provided the basis of our research, justified it, and described the methodology employed. The Results chapter follows, where we presented the significant findings of our study. The Discussion chapter focused on the implications of our findings and highlighted the importance of the research. In the conclusion, we summarized the main results, acknowledged the limitations of the study, and provided suggestions and directions for future research.

2 Literature review

2.1 Ageing population

Population ageing is undoubtedly the predominant demographic phenomenon of this century in most developed countries (Bloom & Luca, 2016). It is primarily driven by declining fertility rates and increasing life expectancy (Dobrescu & Smith, 2016). According to demographic projections, this trend is expected to continue. Eurostat data (2021) stated that the proportion of the Slovenian population aged 65+ was 20.2% in 2020 and will increase to 30.7% by 2050. At the same time, the share of young people aged 14 and under will decrease (from 15.4% to 13.1%). The same will happen to the population aged 15-64, which currently represents the most active working-age population (decrease from 64.6% of the total population in 2020 to 55.9% in 2050). Considering that not all individuals in this age group are employed (e.g., young people mostly enter the labour market after the age of 24), it is evident that addressing the issue of population ageing requires a serious approach.

The older population is typically defined as individuals aged 65 and above (European Commission, Eurostat, 2020) or those above retirement age (Lazazzara & Bombelli, 2012). In Slovenia and most EU countries, the retirement age is set at 65. However, various authors differently

approach the term “older worker”. Some consider individuals aged 50 and above (e.g., Hilsen & Olsen, 2021; Van Dalen & Henkens, 2020; ZDS, 2010), while others focus on individuals above 55 years old (e.g., Munell & Wettstein, 2020; Voss et al., 2020; Lazazzara & Bombelli, 2011). Some authors even use the term “older workers” to refer to individuals aged 40 or 45 and above (e.g., Ybema et al., 2016; Bayl-Smith & Griffin, 2014; Ng & Feldman, 2012). In our research, we adopted the term “older worker” for individuals aged 55 and above, which aligns with the definition accepted by the European Council in Lisbon and Stockholm (European Communities, 2003) as well as with Slovenian legislation (ZDR-1, 2013).

To better understand the situation, here are some key data on the older population in the labour market in Slovenia compared to the EU member states' average. According to Eurostat data (2023b), the low employment rate among the population aged 55 to 64 poses the greatest challenges to employment and the sustainability of the pension system. While the employment rate in the age group of 15 to 64 years was higher than the EU-27 average in 2021 (SI: 71.4%, EU-27: 68.4%), the situation is reversed for older workers. Slovenia has one of the lowest employment rates among countries in the age group of 55 to 64 years (52.7%), while the EU-27 average stands at 60.5%. The situation is even worse in the age group of 60 to 64 years, with Slovenia's employment rate being only 30.6%, while the EU-27 average is 46.4%.

To maintain the sustainability of pension systems, many developed countries are increasing the retirement age, but this is not necessarily the best solution if it is imposed. This is suggested by various studies and research. Firstly, the opinion of De Grip et al. (2012) argue that policymakers have overlooked the impact of later retirement on individuals' well-being and health. In fact, their study showed significant and lasting effects on the health of older workers when they were forced to extend their working lives. Furthermore, it should be noted that many older workers leave the labour market before reaching the official retirement age. Some leave because of demanding or exhausting work, others due to poor health, and some due to family caregiving responsibilities (Pirani et al., 2022; Voss et al., 2020; TUC, 2021). For older workers, particularly stressful are low-paid and physically demanding industries, as ageing is associated with decreased physical capacity (Conen et al., 2012; Turek & Perek-Bialas, 2013). If they remain employed, they often produce fewer or lower-quality goods, leading to significant supply chain delays (Bogataj et al., 2019). Using the case of manufacturing workers in Italy, the authors found that in certain jobs, workers are unable to work until the increased retirement age. In the case of unemployment, they are in an unenviable position, as unemployment of older people has been shown to lead to depression and anxiety, lower self-esteem, impaired well-being, and mental health (Blomqvist

et al., 2020; Whitley & Popham, 2017; Voss et al., 2020). In addition, unemployment of older people is more often associated with long-term unemployment, leading to involuntary retirement.

The increase in the retirement age does not only affect workers in less skilled or physically demanding jobs. It also impacts the health and well-being of highly educated workers due to increased work intensity and a stressful environment. Standing (2017), for example, mentions cases of managers who, after the age of 55, consciously choose to change their employment and accept positions below their technical abilities and experience. This decision allowed them to calm their thoughts and focus on their personal lives without experiencing significant stressors. Previously, this was not possible as their synapses were so overloaded that they could not think about anything other than work-related issues. Flynn (2014) has highlighted the poor health conditions of individuals in the age group of 50 to 59 in the United Kingdom, with 44% being inactive due to chronic illness or disability. The author attributes this to the increasing work intensity and higher levels of work-related stress, particularly evident in specific sectors such as healthcare and education.

Two more recent studies mention the negative consequences of extending the retirement age, in particular the poorer health of older workers. Barschkett et al. (2022) examined the impact of pension reform for women in the Netherlands and provided evidence that raising the retirement age has a detrimental effect on health outcomes, particularly in terms of mental health, musculoskeletal disorders, and obesity. Shai (2018), on the other hand, investigated the impact of a new reform extending the retirement age among men in Israel from 65 to 67 and found that extended retirement leads to worsening health outcomes among older workers. The study found that prolonged retirement resulted in a deterioration of health among older workers. Importantly, the study also emphasized that while extending the retirement age contributes to sustainable pension systems, the savings are offset by increased healthcare expenditures for the affected older workers due to the reform.

The imposed policy of raising the retirement age, which has many of the negative consequences mentioned above, can be replaced by older workers voluntarily choosing to stay in work for longer. In fact, the following options are also available to address the sustainability of the pension system (Grah et al., 2019): establishing additional or supplementary pension schemes, attracting young immigrant workers, providing education and parallel training of new young workers under the supervision of older workers, investing in collaborative robots and raising productivity. Studies that highlight the negative impact of imposed decisions regarding retirement age extension are particularly significant. Therefore, our efforts are directed towards voluntary decision-making and individuals' willingness to

remain actively engaged in work for a longer period. The sense of control over the transition to retirement also influences an individual's happiness (Calvo et al., 2009), which further supports the idea that the retirement transition should not be forced through retirement age extension.

Employers play a crucial role in determining whether a worker will retire or continue working when they reach retirement age. That is why the OECD (2019) actively encourages employers to retain and hire older workers as part of their policies addressing the challenges of an ageing workforce. However, this raises the question of whether employers are truly doing enough to retain and motivate older employees. Indeed, many authors (e.g. Buckle, 2015; Kim & Kang, 2017) suggest that workers are more likely to stay longer in the workforce, even if they are eligible for retirement, only if their employer supports them and takes their needs seriously.

2.2 HRM and older employees

There are many definitions of HRM in the literature, but the common thread is that it is a comprehensive approach to the recruitment and development of people. A more recent definition that takes into account modern approaches, strategic perspectives, a partnership, and a sustainable view of employee management was proposed by Opatha (2021: 31): "HRM refers to the implementation of specific functions and activities within an organisation to maximize the efficiency and effectiveness of its employees. The primary goals of HRM include satisfying key stakeholders to the best possible extent and making a positive contribution to the natural environment." According to this definition, as demographic changes occur and the proportion of older workers in the labour force increases, it becomes evident that age management is a crucial component of HRM. Indeed, an appropriate work environment, taking care of older workers' health and well-being, considering the needs of older workers, and promoting age diversity are all consequences of appropriate management of older workers, which results in better performance of work tasks (Rožman et al., 2019).

Finally, workers experience HRM practices as a recognition of their contribution, which influences their positive attitude towards the organisation as they feel that they have something to give back to the organisation (Kooij et al., 2010). We are talking about the loyalty that older workers have towards the organisation, which is why these workers often choose to stay with the company even after they have reached the conditions for retirement. By implementing appropriate measures and strategies to manage age and ageing in the workforce at the organisational level, we can significantly contribute to its success and competitiveness.

While companies are aware of population ageing and the need for extended work participation of older workers

(Van Dalen, 2010a), this awareness alone is far from sufficient. In practice, it is often found that older workers face avoidance or bias (Derous & Decoster, 2017). Negative beliefs held by employers about older workers often influence these attitudes, preventing the utilization of the significant potential of older employees (Turek & Henkens, 2020). Among the negative stereotypes and beliefs held by employers, the most frequently mentioned by authors are inflexibility, lower creativity, less willingness to undertake training and education, poor computer skills, and a number of health problems (Turek & Henkens, 2020; Van Dalen & Henkens, 2020, Parry & Smeaton 2018; Munnell & Wetstein, 2020). These employer stereotypes also affect the beliefs of older workers, making them less confident and often leading them to retire as soon as possible or even prematurely. Finally, an additional problem of negative stereotypes of older workers is that they are deeply rooted and difficult to change (Van Dalen et al., 2010b). Therefore, it is of great importance to implement prevention programs to increase knowledge of the ageing process and promote positive attitudes towards older people, with a consequent impact on reducing stereotypical images of older people (Donizzetti, 2019).

On the positive side, the labour shortage will encourage employers to improve their treatment of older workers, as they will be forced to harness their potential and consider measures that are important to older employees (Turek & Henkens, 2020). This means they will need to monitor factors that motivate and bring satisfaction to older workers. Marvell & Cox (2017) found that older workers value the same factors at work as other age groups, with a particular emphasis on health, which has the greatest impact on their satisfaction, job quality, and decisions regarding extended work participation. The opportunity for additional training and education is also an important factor, as older workers are well aware of rapid technological advancements and the need for new skills. The significance of job satisfaction among older workers is further evident in the fact that, on average, the likelihood of older workers desiring early retirement decreases by 14.2 percentage points among those who are satisfied with their job (Anxo et al., 2012: 622). This means that HR management needs to take a proactive and timely approach to the issue of ageing and older workers, otherwise, there is a high risk that older workers will leave the labour market because working conditions and health conditions will make them uncompetitive with younger generations.

The report addressing the key question of how to support older workers in extending their working lives (TUC, 2021) highlights several important measures. These include providing support for the training and education of older workers, focusing on their development and career advancement, and raising awareness about the importance of a healthy lifestyle. Therefore, in our study, we specifically focused on measures related to three aspects imple-

mented by companies when dealing with older workers: education and training, knowledge transfer and career development, and initiatives related to managing the health of older workers.

2.2.1 Education and training of older workers

In the past, people used to follow a linear life cycle where education, work, and retirement were separate stages. However, rapid changes in society have introduced a new pattern where education, work, and leisure activities are spread throughout our lives (Ilmarinen, 2006). This means that continuous education and training have become crucial for the success of businesses. It is especially important to involve older workers in the process of education and training to ensure their ongoing development (Hilsen & Olsen, 2021; Marvell & Cox, 2017).

Ageing has a clear impact on the decline of physical abilities as well as on certain cognitive abilities of individuals (Bogataj et al., 2019; Ilmarinen, 2012). As we age, fluid cognitive abilities associated with information processing, such as mental skills, problem-solving, and the speed of making connections, tend to decline. On the other hand, crystallized cognitive abilities tend to increase with age. These are skills and experiences that have been accumulated over years of practice and repetition. There is often a compensatory effect where declines in fluid cognitive abilities are offset by relying more on crystallized abilities (Conen et al., 2012), as well as psychomotor abilities (Ilmarinen, 2012).

With the advancements in technology and robotics, there are valid expectations for extended working lives as they successfully replace hazardous and physically demanding tasks. Modern technology effectively replaces jobs that require physical labor or motor skills and has a positive impact on workers' productivity (Bogataj et al., 2019; Baruch et al., 2014). However, it also demands new skills, rapid adaptation to changing situations, and a willingness to embrace novelties which are often considered weaknesses of older workers by employers (Parry & Smeaton, 2018; Van Dalen & Henkens, 2020). Therefore, providing continuous education and training is a significant challenge for employers to ensure that older workers can quickly and successfully acquire the skills needed to work with new technology. It is particularly important to tailor the training and education methods to the needs of older workers, as they typically require more time to learn new innovations compared to younger workers (Bogataj et al., 2019). Inadequate training methods often result in older workers being unwilling to learn, which can be attributed to feelings of insecurity and fear of failure (ZDS, 2010). Hence, it is necessary to motivate older workers appropriately, especially when it comes to training with new technology, and dispel the notion that they will be unsuccess-

ful. Considering the recommendations for older workers to continue working longer (TUC, 2021) and the benefits of voluntarily choosing later retirement (Voss et al., 2020; Shai, 2018; Anxo et al., 2012), an important finding emerges: older workers who receive adequate training and education from their employers are more inclined to extend their working lives (Hennekam & Herrbach, 2013). This underscores the significance of providing tailored training and support for older workers, which can ultimately influence their decision to prolong their careers.

2.2.2 Knowledge transfer and career development for older workers

In favor of older workers, it is important to recognize that they represent an authentic source of capital and wisdom (Vasconcelos, 2018), have invaluable experience, excellent interpersonal skills, commitment, and reliability (Parry & Smeaton, 2018; Van Dalen & Henkens, 2020). Therefore, employers should ensure that knowledge is transferred to younger workers in a timely manner (Baruch et al., 2014; Grah et al., 2019). Special attention should be given to talented older workers to preserve their extensive knowledge and experience, as this is essential for maintaining competitiveness (Pinto et al., 2015). An example of good practice is mentoring or instructing younger workers, especially those who will eventually replace older employees (Hilsen & Olsen, 2021; Flynn, 2014). On the other hand, younger workers bring new knowledge in IT and modern work methods, making mixed-age teams an ideal opportunity for knowledge exchange (Grah et al., 2019; Flynn, 2014).

In addition to the necessary knowledge, experience, and skills in the workplace, it is important to consider other negative factors that further challenge older workers. Older workers often experience reduced physical strength (Bogataj et al., 2019; Conen et al., 2012) and lower resilience in stressful situations (Buckle, 2015). Career development can successfully address these challenges by reducing physical burdens and stress, which positively impacts their productivity (Baruch et al., 2014). To ensure that older workers remain active in the workforce for longer, job redistribution should also be utilized as a preventive measure to maintain their health and job satisfaction (ZDS, 2010). Companies that are aware of this provide better working conditions and, through appropriate career development for older workers, influence them to choose to retire later (Hennekam & Herrbach, 2013).

2.2.3 Older workers and the importance of health

Companies are increasingly dependent on the working capacity of older workers, as their proportion in the work-

force continues to grow year by year (Varianou-Mikellidou et al., 2018). It is a fact that as people age, their overall health deteriorates (Turek & Perek-Bialas, 2013), and that long-term health problems and chronic diseases are on the rise (Ilmarinen, 2012). As the good health of employees is crucial for the success and competitiveness of any business (Craftword et al., 2017), it is not surprising that companies are adopting age-related employee treatment practices (Previtali et al., 2022). The purpose of companies implementing those practices is to create an age-friendly environment, support healthy ageing at work, and contribute to the extended work participation of older workers (Boehm et al., 2021). Indeed, older people are a group that requires special attention in terms of occupational safety and health (Varianou-Mikellidou et al., 2018), as their poor health often leads to early retirement (Pirani et al., 2022; Flynn, 2014). It is in the interest of society as a whole and sustainable development that older workers remain in employment for as long as possible (Neupane et al., 2023).

The often-poor health condition of employees coincides with unfavorable working conditions and accidents at work. Ilmarinen (2012) mentions that as many as 30% of workers between the ages of 50 and 60 require adjustments due to health issues, which helps prevent early retirement and work disability. Therefore, it is important to assess the risks associated with each job position and implement appropriate measures to eliminate or prevent negative impacts that lead to ill health (ZDS, 2010). Investments in ergonomics and collaborative robots can for example contribute to reducing fatigue and cognitive stress among older workers (Bogataj et al., 2019). Increasing work intensity and stressful situations can be successfully addressed through flexible working hours, shorter working hours, and even redeployment (Baruch et al., 2014; Standing, 2017), or by creating a work environment in which older workers feel comfortable (Rožman et al., 2019). Employers play a crucial role in promoting positive visions of ageing and implementing programs that lead to positive self-perception of ageing (Donizzetti, 2019). In fact, studies have shown that positive self-perception of ageing is associated with a higher level of well-being, better health, and longevity, while negative self-perception of ageing is linked to reduced self-efficacy, depression, and poorer physical health. Therefore, the main purpose of raising awareness among employees regarding health is to change their attitude toward health. Employers have a key role to play in promoting healthy and active ageing, influencing employees to become aware of the negative consequences of an unhealthy lifestyle (Rožman et al., 2019). Besides strong employer's support, the study by Previtali et al. (2022) also highlighted the importance of organisational health climate and supervisor support for the successful work of older workers. The authors found that organisational support in health management and leadership care for employee well-being contribute to increased effec-

tiveness among older workers. Therefore, they believe that policies and incentives promoting health promotion should be encouraged. Raising awareness about health in the workplace, promoting healthy lifestyles, and creating a supportive work environment are therefore important factors in ensuring appropriate working conditions and thus influencing older workers to work longer (Neupane et al., 2023).

3 Methodology

3.1 Research background and justification of the research hypotheses

The rationale for our research is that an ageing population requires action, otherwise, living standards cannot be maintained and existing economic and social systems become unsustainable. A review of the literature on population ageing and the treatment of older workers (e.g., Pirani et al., 2022; Voss et al., 2020; Shai, 2018) has shown that simply extending the retirement age is not always the right solution, especially if it is imposed. Given the complexity of the ageing issue, we have focused our research on the actions of employers, who, according to Henkens (2021), serve as a crucial link between state legislation and workers. Therefore, we have been considering how employers can contribute to the desire of older workers to continue working. Based on a review of relevant literature in Chapter 2 (e.g., ZDS, 2010; Boehm et al., 2021; TUC, 2021; Neupane et al., 2023; Hennekam & Herrbach, 2013), we have found that the decision of older workers to retire later is influenced primarily by HRM measures, which are:

- The employer provides opportunities for continuous training, education, and skill development.
- The employer expresses concern for career development and ensures the transfer of knowledge to younger generations.
- The employer demonstrates a commitment to health and provides appropriate health-oriented working conditions.

Such a work environment is more stimulating for older workers and allows them to make the most of their potential, which is, of course, the desire of every employer.

The HRM measures identified in the literature as important in encouraging older workers to work longer were also considered in our study. We wanted to know whether companies that have a higher level of HRM maturity and are more engaged with their employees, in general, are also more likely to implement measures aimed at education and training, skills transfer and career development, and health management of older workers.

We therefore started from the premise that companies that recognise the importance of human resource manage-

ment and strive for a higher level of HRM maturity work systematically and proactively towards providing a stimulating environment for all employees, with particular attention to vulnerable groups, including older workers. In this way, they contribute to better working conditions for older workers and, indirectly, help to make them more fit for longer working lives.

It is a fact that analyses of employees serve as the foundation for achieving a higher level of HRM maturity in companies (Shams-Zare et al., 2018). Through employee analyses, companies obtain all the necessary information for further action. The literature shows that the frequency of implementing HR practices influences employee development and contributes to HRM maturity (Chašovschi, 2012; Shams-Zare et al., 2018), with mature HRM companies conducting regular and systematic analyses of their employees. By conducting competency and qualification analyses, companies can identify development solutions in a timely manner (Hilsen & Olsen, 2021), such as how to involve older workers in the work process in the coming years, what additional knowledge they will need, how to foster their career development, and what changes to introduce regarding existing job classifications, among other things. The guiding principle in formulating the research question was that employers who generally have a greater awareness of the importance of HR management and systematically conduct employee analyses are more aware of the importance of providing a stimulating environment for older workers and accordingly implementing appropriate measures.

Systematic analyses of the health structure of the employees also play a significant role in effective human resources management, especially for older workers. The results of such analyses provide companies with a basis for employee health management. Information such as health absenteeism and accidents at work provides a starting point for companies to contribute to better employee health (ZDS, 2010). Such companies are also aware that older workers require certain special treatments and working conditions and, consequently, implement appropriate measures for older workers.

Based on all the above, we therefore assume that the more mature a company is in HRM, the more frequently it conducts competency analyses and health analyses of its employees, as well as the more frequently it implements measures aimed at improving the well-being of older workers, such as training and education, knowledge transfer, career development of employees and health management. In order to confirm or refute our prediction in the case of large companies in Slovenia, we have formulated the following statistical hypotheses, which we intend to test empirically in our research:

H1: Companies that more frequently conduct comprehensive analyses of their employees' competencies and qualifications are also more likely to implement measures

geared toward the education and training of older workers.

- H1a: There is a statistically significant positive correlation between the frequency of conducting analyses of employees' competencies and qualifications and the overall average frequency of implementing measures geared toward the education and training of older workers.
- H1b: There is a statistically significant positive correlation between the frequency of conducting analyses of employees' competencies and qualifications and the frequency of implementing measures geared toward the education and training of older workers (at the level of a particular measure).

H2: Companies that more frequently conduct comprehensive analyses of their employees' competencies and qualifications are also more likely to implement measures geared toward the knowledge transfer and professional development of older workers.

- H2a: There is a statistically significant positive correlation between the frequency of conducting analyses of employees' competencies and qualifications in companies and the overall average frequency of implementing measures geared toward the knowledge transfer and career development of older workers.
- H2b: There is a statistically significant positive correlation between the frequency of conducting analyses of employees' competencies and qualifications and the frequency of implementing measures geared toward the knowledge transfer and career development of older workers (at the level of a particular measure).

H3: Companies that more frequently conduct comprehensive analyses of their employees' health structure are also more likely to implement measures geared toward caring for the health of older workers.

- H3a: There is a statistically significant positive correlation between the frequency of conducting analyses of the employees' health structure and the overall average frequency of implementing measures geared toward caring for the health of older workers.
- H3b: There is a statistically significant positive correlation between the frequency of conducting analyses of the employees' health structure and the frequency of implementing measures geared toward caring for the health of older workers (at the level of a particular measure).

A review of a wide range of literature has shown the importance of both employee analyses and measures in the management of older workers, but we have not seen any research examining whether there is a statistically significant relationship between these activities. Thus, our study

is unique and offers an opportunity to fill a gap in the scientific and professional environment in the field of ageing and employers' actions in the context of dealing with older workers.

3.2 Research population and data collection

In this study, we will use a part of the data collected during a comparative analysis of the implementation of measures geared toward managing older workers in large companies (Vidmar et al., 2021). The study focused on the population of Slovenian companies classified as large companies according to Article 55 of the Companies Act (ZGD-1-UPB3, 2009) and have at least 100 employees. At the time of data collection, according to the Agency of the Republic of Slovenia for Public Legal Records and Related Services (AJPES), the chosen population consisted of 269 companies. Data collection was performed from April 17, 2020, to July 6, 2020, using a purpose-developed survey questionnaire and the online survey tool Ika (<https://www.ika.si/>). Through companies' management or their HR departments, all 269 companies from the research population were invited to participate in the survey.

3.3 Statistical methods

The validity of our predictions will be tested by applying the correlation analysis. The relationship among the variables under consideration will be analysed using Pearson's correlation coefficient on sample data. The absolute value of this coefficient indicates the strength of the correlation, while its sign indicates the direction of the correlation. For testing H1a, H1b, H2a, H2b, H3a, and H3b, we will conduct a one-tailed test of linear correlation.

Hypotheses H1a, H2a, and H3a will be confirmed if the corresponding p-value is significant at least at the 10% level. For hypotheses H1b, H2b, and H3c, multiple p-values will need to be examined (for each particular measure). These hypotheses will be confirmed if the majority (more than 50%) of the corresponding p-values are significant at least at the 10% level. The main hypotheses H1, H2, and H3 will be confirmed if both sub-hypotheses are confirmed.

4 Results

4.1 Sample analysis

73 out of a total of 269 companies responded to the invitation to participate in the survey, representing a response rate of 27.14%. 13 questionnaires were only par-

tially completed and were consequently excluded from further analysis. We therefore have a sample of 60 companies, which corresponds to 22.3% of the total population.

The smallest company had 107 employees, while the largest company had 4,872 employees. Most of the companies in the sample (33.33%) fell into the range of 200-400 employees, while 25% of the companies had 1,000 or more employees. 18.33% of the companies had between 400 and 600 employees, while 13.33% had 600-800 employees. Companies with up to 200 employees accounted for the smallest number (10%). The average number of employees was 758.57 with a standard deviation of 799.58.

The majority of companies in the sample (56.67%) have domestic capital, while the proportion of companies with foreign or mixed capital are the same (21.67%).

4.2 Hypothesis testing

The selected data were processed using IBM SPSS Statistics (<https://www.ibm.com/se-sv/products/spss-statistics>), version 28.0. The results of the analyses are presented below.

4.2.1 The correlation between analyses of employees' competencies and qualifications and the implementation of education and training measures for older workers

In order to test H1a and H1b (and consequently H1) we extracted from an existing database the data on conducting analyses of employees' competencies and qualifications and implementation of measures geared toward education and training of older workers. All the activities studied were rated on a 5-point Likert scale, where 1 means "never" and 5 means "always". The descriptive statistics for the selected variables are shown in Table 1.

For testing the H1a, a correlation analysis was carried out between the variables "Frequency of conducting analyses of employees' competencies and qualifications in the company." and "The overall average frequency of implementing measures for the education and training of older workers.". The results are shown in Table 2.

Table 1: Descriptive statistics of variables needed to test H1a, H1b, and H1

		N	Min	Max	Mean	Std. Dev.
Frequency of conducting analyses of employees' competencies and qualifications in the company.		58	1	5	3,28	1,039
Measures for the education and training of older workers.	Conducting analyses of educational needs.	59	1	5	3,86	1,106
	Designing an education plan.	58	2	5	4,05	0,999
	Implementing training and education programs specifically tailored for older workers.	59	1	5	2,83	1,206
	Evaluation of education and training of older workers.	59	1	5	2,66	1,169
	Motivating older workers for education.	59	1	5	3,19	1,210
	Implementing various on-the-job training methods during work (instruction, mentoring, assistance, ...).	59	1	5	3,58	1,248
	Implementing various educational methods that do not take place on the job (lectures, workshops, brainstorming, distance learning).	58	1	5	2,93	1,122
	Implementing programs in the context of lifelong learning (until the end of employment).	59	1	5	2,61	1,175
The overall average frequency of implementing measures for the education and training of older workers.		59	1,25	5,00	3,21	0,838

Table 2: Results of testing H1a

		The overall average frequency of implementing measures for the education and training of older workers.
Frequency of conducting analyses of employees' competencies and qualifications in the company.	Pearson Correlation	0,577***
	Sig. (1-tailed)	<0,001
	N	58

*** Correlation is significant at the 0.01 level (1-tailed).

Table 3: Results of testing H1b

		Frequency of conducting analyses of employees' competencies and qualifications in the company.	
Measures for the education and training of older workers.	Conducting analyses of educational needs.	Pearson Correlation	0,366***
		Sig. (1-tailed)	0,002
		N	58
	Designing an education plan.	Pearson Correlation	0,318***
		Sig. (1-tailed)	0,008
		N	57
	Implementing training and education programs specifically tailored for older workers.	Pearson Correlation	0,399***
		Sig. (1-tailed)	<0,001
		N	58
	Evaluation of education and training of older workers.	Pearson Correlation	0,463***
		Sig. (1-tailed)	<0,001
		N	58
	Motivating older workers for education.	Pearson Correlation	0,428***
		Sig. (1-tailed)	<0,001
		N	58
	Implementing various on-the-job training methods during work (instruction, mentoring, assistance, ...).	Pearson Correlation	0,468***
		Sig. (1-tailed)	<0,001
		N	58
	Implementing various educational methods that do not take place on the job (lectures, workshops, brainstorming, distance learning).	Pearson Correlation	0,384***
		Sig. (1-tailed)	0,002
		N	57
	Implementing programs in the context of lifelong learning (until the end of employment).	Pearson Correlation	0,486**
		Sig. (1-tailed)	<0,001
		N	58

From Table 2, it can be seen that the Pearson correlation coefficient is 0.577, which means that there is a significant positive correlation between the two variables in the sample data. This means that among the companies that participated in the survey, the more frequently the company conducts analyses of the competencies and qualifications of its employees, the higher the average frequency of implementing measures geared toward the education and training of older workers.

The decision to accept/reject H1a can be made on the basis of the result of a one-sided linear correlation test. It can be seen that the p-value of the test (Sig. 1-tailed) is less than 0.001, which means that the H1a hypothesis can be accepted at 1% significance level.

As part of the H1b analysis, we are interested in whether the frequency of analyses of employees' competencies and qualifications in a company is related to the frequency of the implementation of specific measures geared toward the education and training of older workers (see Table 1). The results of the correlation analysis are summarised in Table 3.

The results in Table 3 show that all sample values of the Pearson correlation coefficient are positive, ranging from 0.318 to 0.486. For the companies that participated in the survey, it can therefore be concluded that there is a moderate positive linear correlation between the variables studied. The more frequently a company analyses the employees' competencies and qualifications, the more fre-

quently it carries out specific measures to educate and train older workers.

The decision to accept/reject H1b is based on the result of a one-sided linear correlation test. It can be seen that the p-values of the test (Sig. 1-tailed) are statistically significant and less than 0.01 for all measures. Therefore, the hypothesis H1b can be fully accepted at 1% of significance level.

Given that we have confirmed both hypothesis H1a and hypothesis H1b, we can also confirm the main hypothesis H1.

4.2.2 The correlation between analyses of employees' competencies and qualifications and the implementation of measures for knowledge transfer and career development of older workers

In order to test H2a and H2b (and consequently H2) we extracted from an existing database the data on conducting analyses of employees' competencies and qualifications and implementation of measures geared toward the knowledge transfer and career development of older workers. All the activities studied were rated on a 5-point Likert scale, where 1 means "never" and 5 means "always". The descriptive statistics for the selected variables are shown in Table 4.

Table 4: Descriptive statistics of variables needed to test H2a, H2b, and H2

	N	Min	Max	Mean	Std. Dev.	
Frequency of conducting analyses of employees' competencies and qualifications in the company.	58	1	5	3,28	1,039	
Measures for knowledge transfer and career development of older workers.	Identification and transfer of key knowledge of older employees in the company.	59	1	5	3,34	0,993
	Discussions with older workers on knowledge transfer before retirement.	59	1	5	3,56	1,055
	Utilizing various methods for knowledge transfer.	59	1	5	3,32	1,025
	Formation of mixed work teams (involving both older and younger employees; intergenerational collaboration).	59	2	5	3,53	0,916
	Aligning job requirements with the abilities and capabilities of older workers.	59	2	5	3,34	0,958
	Systematic assignment of employees with similar knowledge.	59	1	5	3,22	1,001
	Offering career development opportunities.	59	1	5	3,42	1,102
The overall average frequency of implementing measures for knowledge transfer, and career development of older workers.	59	1,86	5,00	3,39	0,766	

Table 5: Results of testing H2a

		The overall average frequency of implementing measures for knowledge transfer, and career development of older workers.
Frequency of conducting analyses of employees' competencies and qualifications in the company.	Pearson Correlation	0,583***
	Sig. (1-tailed)	<0,001
	N	58

*** Correlation is significant at the 0.01 level (1-tailed)

Table 6: Results of testing H2b

		Frequency of conducting analyses of employees' competencies and qualifications in the company.	
Measures for knowledge transfer and career development of older workers.	Identification and transfer of key knowledge of older employees in the company.	Pearson Correlation	0,453***
		Sig. (1-tailed)	<0,001
		N	58
	Discussions with older workers on knowledge transfer before retirement.	Pearson Correlation	0,525***
		Sig. (1-tailed)	<0,001
		N	58
	Utilizing various methods for knowledge transfer.	Pearson Correlation	0,471***
		Sig. (1-tailed)	<0,001
		N	58
	Formation of mixed work teams (involving both older and younger employees; intergenerational collaboration).	Pearson Correlation	0,359***
		Sig. (1-tailed)	0,003
		N	58
	Aligning job requirements with the abilities and capabilities of older workers.	Pearson Correlation	0,448***
		Sig. (1-tailed)	<0,001
		N	58
	Systematic assignment of employees with similar knowledge.	Pearson Correlation	0,444***
		Sig. (1-tailed)	<0,001
		N	58
	Offering career development opportunities.	Pearson Correlation	0,432***
		Sig. (1-tailed)	<0,001
		N	58

*** Correlation is significant at the 0.01 level (1-tailed).

For testing the H2a, a correlation analysis was carried out between the variables "Frequency of conducting analyses of employees' competencies and qualifications in the company." and "The overall average frequency of implementing measures for knowledge transfer, and career development of older workers.". The results are shown in

Table 5.

Table 5 shows that the sample Pearson correlation coefficient is 0.583, which means that there is a significant positive correlation between the two variables. This means that for the companies that participated in the survey, the more often the company carries out competency and quali-

fication analyses of its employees, the higher is the average frequency of implementing measures in the field of skills transfer and career development of older workers.

The decision to accept/reject H2a can be made on the basis of the result of a one-sided linear correlation test. It can be seen that the p-value of the test (Sig. 1-tailed) is less than 0.001, which means that the H2a hypothesis can be accepted at a significance level of 1%.

In an analysis of H2b, we are interested in whether the frequency of analyses of employees' competencies and qualifications is correlated with the frequency of the implementation of specific measures geared toward the knowledge transfer, and career development of older workers (see Table 4). The results of the correlation analysis are summarised in Table 6.

From the results in Table 6, we can see that all the sample values of the Pearson correlation coefficient are positive and vary between 0.359 and 0.525. This means that for the companies that participated in the survey, we can conclude that there is a positive linear correlation between the variables studied. The more often a company analyses employees' competencies and qualifications, the more often it takes measures to transfer knowledge, and skills and

develop the careers of older workers.

The decision to accept/reject H2b is based on the result of a one-sided linear correlation test. It can be seen that the corresponding p-values (Sig. 1-tailed) are statistically significant and less than 0.01 for all measures.

Given that we have confirmed both hypothesis H2a and hypothesis H2b, we can also confirm the main hypothesis H2.

4.2.3 The correlation between the employees' health structure analyses and the implementation of measures to manage the health of older workers

In order to test H3a and H3b (and consequently H3) we extracted from an existing database the data on conducting analyses of employees' health structure and implementation of measures geared toward managing the health of older workers. All the activities studied were rated on a 5-point Likert scale, where 1 means "never" and 5 means "always". The descriptive statistics for the selected variables are shown in Table 7.

Table 7: Descriptive statistics of variables needed to test H3a, H3b, and H3

		N	Min	Max	Mean	Std. Dev.
Frequency of conducting analyses of the health structure of company employees.		58	1	5	3,29	1,200
Measures for managing the health of older workers.	Formulating rules regarding health and safety in the workplace.	59	2	5	4,42	0,814
	Organising health promotion programs (workshops, seminars, ...).	59	2	5	4,05	0,899
	Providing additional health insurance coverage.	58	1	5	2,47	1,856
	Organising age-related health check-ups.	59	1	5	2,80	1,584
	Organising fitness exercises and sports activities.	58	1	5	3,31	1,524
	Offering healthy food options.	59	1	5	3,32	1,570
	Organising education on work and safety upon entering the company or taking on a new position.	59	1	5	4,59	,931
	Raising awareness and promoting a healthy lifestyle.	59	1	5	3,85	1,080
	Implementing programs for achieving work-life balance.	59	1	5	2,90	1,255
	Implementing programs and tools for stress management among older workers and well-being programs.	59	1	5	2,78	1,233
	Incorporating health promotion into company communication.	59	1	5	3,73	1,215
	Promoting awareness of the importance of health among employees.	59	1	5	3,73	1,064
Offering rehabilitation program options.	59	1	5	2,08	1,236	
The overall average frequency of implementing measures for managing the health of older workers.		59	1,85	4,92	3,39	0,776

Table 8: Results of testing H3a

		The overall average frequency of implementing measures for managing the health of older workers.
Frequency of conducting analyses of the health structure of company employees.	Pearson Correlation	0,351***
	Sig. (1-tailed)	0,003
	N	58

***. Correlation is significant at the 0.01 level (1-tailed)

In order to test H3a, a correlation analysis was carried out between the variables “Frequency of conducting analyses of the health structure of company employees.” and “The overall average frequency of implementing measures for managing the health of older workers.”. The results of the analysis are shown in Table 8.

Table 8 shows that the sample value of Pearson correlation coefficient is 0.351, indicating a positive linear correlation between the two variables. This means that for the companies participating in the survey, the more often the company carries out analyses of the health structure of its employees, the higher is the average frequency of implementing measures to manage the health of older workers.

The decision to accept/reject H3a can be made on the basis of the result of a one-sided linear correlation test. It can be seen that the p-value of the test (Sig. 1-tailed) is $0.003 < 0.01$, which means that hypothesis H3a can be accepted at 1% significance level.

As part of the H3b analysis, we want to discover whether the frequency of employees’ health structure is correlated with the frequency of the implementation of specific measures to manage the health of older workers (see Table 7). The results of the correlation analysis are summarised in Table 9.

The results in Table 9 show that the sample values of Pearson correlation coefficient are mostly positive (the only exception is the measure “Providing additional health insurance coverage.”. This means that for the companies surveyed, there is a positive linear correlation between the frequency of health structure analyses of their employees and the frequency of implementation of specific measures to manage the health of older workers. The strength of this relationship is measured by the absolute value of the coefficient, which varies between 0.14 and 0.344.

The decision to accept/reject H3b is based on the result of a one-sided linear association test. It can be seen that the corresponding p-values of the test (Sig. 1-tailed) for most of the measures (11 out of a total of 13 measures) are statistically significant at least at the 10% significance level. In four cases, the correlation can be confirmed at the 5% level of test significance, and in three cases even at the 1% significance level. The only exceptions are the measures “Providing additional health insurance coverage.” and “Offering healthy food options.”, where the obtained

p-values are not statistically significant. On the basis of all the above, and in line with the criteria presented in section 3.3, H3b can also be supported.

Given that we have confirmed both hypothesis H3a and hypothesis H3b, we can also confirm the main hypothesis H3.

5 Discussion

The main focus of our research was to explore how employers can contribute to prolonging the work participation of older employees. After reviewing relevant literature, we narrowed our study to examine measures implemented by employers in the areas of education and training, knowledge transfer and career development, and health management, and how these measures are connected to conducting employee analyses within the company. We conducted our study using a sample of large companies in Slovenia.

Our findings revealed that the participating employers in the study conducted competency and qualification analyses of their employees relatively frequently (average rating of 3.28 on a 5-point scale), as well as analyses of the company’s health structure (average rating of 3.29 on a 5-point scale). Similarly, they also conducted analyses of the company’s health structure, with an average rating of 3.29 on a 5-point scale. By conducting these analyses on a rather frequent basis, companies obtained valuable insights about their employees, enabling them to identify the specific needs of older workers and take appropriate actions in a timely manner. This approach helps employers avoid falling into the trap of stereotyping older workers, a common issue highlighted in previous research (Van Dalen & Henkens, 2020; Parry & Smeaton, 2018). Furthermore, this proactive approach prevents employees from internalizing age-related stereotypes, such as doubts about their learning abilities or willingness to engage in personal development (Jeske & Stamov Roßnagel, 2015). Therefore, measures taken to manage older workers based on frequent employee analyses are more realistic, and older workers are more accepting of these measures and more willing to cooperate. Several studies (Boehm et al., 2021; Neupane et al., 2023; Rožman et al., 2019) also find a positive impact

Table 9: Results of testing H3b

		Frequency of conducting analyses of the health structure of company employees.	
Measures for managing the health of older workers.	Formulating rules regarding health and safety in the workplace.	Pearson Correlation	0,215*
		Sig. (1-tailed)	0,053
		N	58
	Organising health promotion programs (workshops, seminars, ...).	Pearson Correlation	0,291**
		Sig. (1-tailed)	0,013
		N	58
	Providing additional health insurance coverage.	Pearson Correlation	-0,068
		Sig. (1-tailed)	0,691
		N	57
	Organising age-related health check-ups.	Pearson Correlation	0,277**
		Sig. (1-tailed)	0,018
		N	58
	Organising fitness exercises and sports activities.	Pearson Correlation	0,216*
		Sig. (1-tailed)	0,053
		N	57
	Offering healthy food options.	Pearson Correlation	0,140
		Sig. (1-tailed)	0,148
		N	58
	Organising education on work and safety upon entering the company or taking on a new position.	Pearson Correlation	0,188*
		Sig. (1-tailed)	0,079
		N	58
	Raising awareness and promoting a healthy lifestyle.	Pearson Correlation	0,221**
		Sig. (1-tailed)	0,048
		N	58
	Implementing programs for achieving work-life balance.	Pearson Correlation	0,344***
		Sig. (1-tailed)	0,004
		N	58
Implementing programs and tools for stress management among older workers and well-being programs.	Pearson Correlation	0,338***	
	Sig. (1-tailed)	0,005	
	N	58	
Incorporating health promotion into company communication.	Pearson Correlation	0,305***	
	Sig. (1-tailed)	0,010	
	N	58	
Promoting awareness of the importance of health among employees.	Pearson Correlation	0,279**	
	Sig. (1-tailed)	0,017	
	N	58	
Offering rehabilitation program options.	Pearson Correlation	0,192*	
	Sig. (1-tailed)	0,075	
	N	58	

***. Correlation is significant at the 0.01 level (1-tailed).

** . Correlation is significant at the 0.05 level (1-tailed).

*. Correlation is significant at the 0.1 level (1-tailed).

of implementing measures to manage older workers on employees and organisational performance. Consequently, this results in a greater willingness among older workers to engage in extended work participation, which was our fundamental guiding principle in this article.

The first hypothesis: “Companies that more frequently conduct comprehensive analyses of their employees’ competencies and qualifications are also more likely to implement measures geared toward the education and training of older workers.” has been confirmed. Therefore, we can conclude that companies that conduct more frequent employee analyses are more responsive, leading to a higher implementation of measures. Testing at the level of individual measures also indicates that more frequent analyses of employee competencies and qualifications result in a higher implementation of specific measures in the field of education and training for older workers, as considered in our research. The strongest correlation was confirmed for the measures “Implementation of programs within the context of lifelong learning” and “Implementation of various on-the-job training methods during work.” These measures are identified by various authors as crucial in managing older workers. For example, Ilmarinen (2012) emphasizes the important role of lifelong education and training throughout all stages of a person’s life, which leads to increased productivity, improved quality of life, and higher employability for older workers. Lazazzara & Bombelli (2011) regard lifelong learning as a key strategy for employing older workers, which is reflected in lower unemployment rates among older individuals with higher education. Additionally, knowledge quickly becomes outdated, especially in relation to information technology, making continuous education and training crucial for older workers to keep up with advancements. We believe that companies conducting more frequent analyses of employee competencies and qualifications generally demonstrate greater concern for their employees, allowing older workers to acquire and upgrade the necessary skills for performing required tasks. Fuertes et al. (2013) mention that the problem with education and training for older workers often arises due to inappropriate methods or approaches offered, which should be tailored to older individuals; otherwise, older workers may avoid education and training due to fear of failure compared to younger individuals. Our research has shown that this awareness is lacking in the surveyed companies, as the measure “Implementation of training and education programs specifically tailored to older workers” is among the less frequently implemented measures (average rating of 2.83 on a 5-point scale). By providing tailored approaches, we increase the willingness of older workers to engage in education and training (Vasconcelos, 2018), thus influencing a higher implementation of educational initiatives. In conclusion, companies conducting more frequent analyses of employee competencies and qualifications are more likely to take action in the di-

rection of education and training for older workers, allowing older individuals to continuously refresh their knowledge and prevent it from becoming outdated. Considering the numerous findings in the literature, we can expect that this leads to increased productivity and subsequent satisfaction among older workers, influencing their decision to retire later.

We have also confirmed the second hypothesis: “Companies that more frequently conduct comprehensive analyses of their employees’ competencies and qualifications are also more likely to implement measures geared toward the education and training of older workers.”. More frequent analyses of employees enable timely action to prevent the loss of knowledge and valuable experiences held by older workers. The strongest correlation was observed in measures such as “Utilizing various methods for knowledge transfer,” “Forming mixed work teams (a collaboration between older and younger employees; intergenerational cooperation),” and “Providing career development opportunities”. Many authors recognize these measures as crucial for preserving knowledge and influencing the willingness of older workers to work longer. Knowledge exchange can occur through mentoring schemes, sponsorships, or on-the-job training (Hilsen & Olsen, 2021). It is important for companies not to overlook the career goals of older workers. Knowledge exchange and intergenerational cooperation also lead to improved work relationships and satisfaction among all generations. Fasbender & Gerpott (2022) found that younger workers feel proud to share knowledge with older workers, while the latter satisfy their need for leadership and shaping the next generation through knowledge transfer. This increases their readiness for work and, consequently, leads to later retirement. We agree with Hilsen & Olsen (2021) that the value of age diversity lies in complementarity, as older workers possess a range of professional knowledge and experience, while younger workers bring new skills. In conclusion, companies that conduct more frequent competency and qualification analyses of their employees are more likely to take timely measures for knowledge transfer and promote the career development of older workers. Based on numerous findings in the literature, this ultimately leads to extended work engagement of older employees.

According to the third hypothesis, we have confirmed that the frequency of conducting analyses of employees’ health structure in a company is linked to the frequency of implementing measures for managing the health of older workers. The health of older workers is undoubtedly important for both employees and employers. Older workers even consider health as the most important factor in staying employed for a longer period (Marvell & Cox, 2017). For an employer, taking care of employees’ health is crucial to fully utilize their potential; otherwise, they may face absenteeism and higher costs. Although physical functions decline the most with age (Turek & Perek-Bialas, 2013),

it is important to consider that modern technologies enable employees to work at levels below their maximum capabilities. Modern technology and AI successfully compensate for certain cognitive abilities as well. Employers can, therefore, influence and even improve the overall health and abilities of older workers through appropriate measures, thereby increasing their readiness to retire later. The strongest correlation was observed for measures such as “Implementing programs to achieve work-life balance,” “Implementing programs and tools for managing stress in older workers and well-being programs,” and “Incorporating health promotion into company communication.” The latter measures are frequently mentioned by authors in relation to employee health (e.g., Crawford et al., 2017; Rožman et al., 2019; Buckle, 2015). Implementing programs to achieve work-life balance is particularly important for older workers because many of them have additional responsibilities in their private lives, such as caring for grandchildren and elderly parents, which can lead to additional work-related exhaustion and worsen the health of older workers (Rožman et al., 2019). Special attention should also be given to measures for managing stress, as it is increasingly prevalent and negatively affects other health conditions in older individuals (Buckle, 2015). This is also related to incorporating health promotion into company communication, which is essential for promoting healthy lifestyle habits and creating a supportive work environment, thus influencing the later retirement of older workers. Non-significant results were obtained for measures such as “Paying for additional health insurance” and “Providing healthy food options.” Therefore, in the case of large Slovenian companies, we cannot claim that the frequency of implementing these measures is associated with the frequency of conducting analyses of the company’s health structure. In conclusion, regarding the implementation of measures for managing the health of older workers, we can summarize the opinion of Ilmarinen (2012), who said that investing in health is an investment for the entire lifespan, highlighting the necessity of employer actions to have healthy and satisfied older workers who can remain actively employed for longer.

6 Conclusion

The future of the economy and society depends on the appropriate approach to population ageing. This complex process can be viewed from the perspective of the state, employers, and individuals. In this article, we focused on how employers can contribute to addressing longer labour participation of older workers. It is a fact that demographic projections raise questions about the sustainability of pension systems. Many countries opt for the quickest and easiest solution, which is changing legislation to enforce later retirement. However, such imposed decisions have

negative effects on individuals, employers, and society as a whole. Therefore, we chose a different approach.

We explored how employers can indirectly influence older workers to choose longer work participation because they genuinely desire it, not just for economic reasons but also because work brings them happiness and fulfillment of their life purpose. To achieve this, we analysed the measures that companies implement in dealing with older workers and focused on education and training, knowledge transfer and career development, and health management.

A review of the literature revealed that stereotypes about older workers often hinder employers in their actions related to older employees, including their employment and retention in the company. Companies can successfully overcome these stereotypes by obtaining real information about older workers through employee analyses, considering their competencies, qualifications, and health structure. We found a gap in the literature regarding the correlation between the frequency of conducting employee analyses and the frequency of implementing measures for dealing with older workers. The most significant finding of our research is the confirmation that companies that conduct employee analyses more frequently also implement measures for dealing with older workers more frequently, including education and training, knowledge transfer and career development, and health management. According to the literature, this means that employers recognize key personnel, ensure knowledge updates, prevent the loss of tacit knowledge, and care for employees’ health, thereby positively influencing the productivity of older workers.

These measures also have positive effects on older workers, who, due to education and training measures, become more confident and efficient. Through knowledge transfer and career development measures, they fulfill their purpose, which is reflected in their longer work participation. Implementing health management measures is also crucial for older workers as it improves well-being, increases their commitment to the company, and prevents poor health, which often leads to premature retirement. To maximize the effectiveness of these measures and influence productivity, we recommend that companies conduct employee analyses more frequently, as this leads to the more frequent implementation of measures for dealing with older workers. We are confident that the positive aspects will also be reflected in the decision-making of older workers regarding later retirement. Thus, older workers will voluntarily embrace their social responsibility in the context of population ageing, alongside employers.

We believe that our contribution sheds additional light on the issue of population ageing and demonstrates the importance of conducting employee analyses, which is directly related to the implementation of measures for dealing with older workers. One limitation of our research is that only companies from Slovenia participated, so the results reflect a “national attitude” towards managing older

workers in the workplace. Additionally, when evaluating the implementation of measures targeted at older workers, we considered only the employers' perspective and did not include the viewpoint of older workers, who may have a different perception of how genuinely concerned employers are about their well-being. Furthermore, we did not consider the diversity of working conditions in different companies, which could have influenced different results.

Future research opportunities lie in examining the implementation of measures for dealing with older workers in the coming years. This would allow us to determine whether the situation in companies is improving and whether employers are becoming more aware of the importance of addressing ageing issues. It would also be interesting to survey older workers in companies, comparing their assessment of the implementation of measures and their satisfaction with the measures implemented by companies in employee management. Additionally, the research could be expanded to include other economic entities. We focused solely on large companies with more than 100 employees. However, since the issue of ageing affects all types of companies, it would be meaningful to include small and medium-sized enterprises in the research and compare whether the strategy for dealing with older workers differs based on the company's size or economic activity.

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Prizadevanja delodajalcev za spodbujanje starejših delavcev k poznejšemu upokojevanju – študija primera velikih podjetij v Sloveniji

Ozadje in namen: Večina razvitih družb se sooča s staranjem prebivalstva in s tem povezano problematiko delovne aktivnosti prebivalstva in vzdržnostjo pokojninskih sistemov. Države nastalo situacijo običajno rešujejo z dvigom upokojitvene starosti, kar se največkrat odraža v nezadovoljstvu delavcev, saj so take odločitve vsiljene. Zato je bil glavni namen našega dela usmerjen v raziskavo analize izvajanja ukrepov ravnanja s starejšimi delavci v podjetjih, s katerimi bi posredno vplivali na odločitve delavcev, da bi se odločili za daljšo delovno aktivnost po svoji volji.

Zasnova/metodologija/pristop: Raziskavo smo zasnovali na predpostavki, da podjetja, ki pogosteje izvajajo različne analize svojih zaposlenih, večjo pozornost posvečajo ukrepom ravnanja s starejšimi delavci. Pri tem smo se osredotočili na ukrepe, ki jih literatura navaja kot pomembne, da bi starejši delavci ostali zaposleni dalj časa. Vir podatkov je predstavljala raziskava avtorjev iz leta 2020. V vzorcu smo zajeli velika podjetja v Sloveniji, ki so imela več kot 100 zaposlenih. Vprašanja smo zastavili odgovorni osebi za ravnanje s kadri. Izhodiščno vprašanje je bilo, ali je izvajanje analiz zaposlenih povezano z izvajanjem ukrepov usmerjenih v izobraževanje in usposabljanje, prenos znanj in karierni razvoj ter upravljanje z zdravjem starejših delavcev. Postavili smo tri krovne hipoteze, ki smo jih z uporabo testa linearne povezanosti tudi potrdili.

Rezultati: Ugotovili smo, da podjetja, ki pogosteje izvajajo analize kvalifikacij in kompetenc zaposlenih, v povprečju pogosteje izvajajo tako ukrepe na področju izobraževanja in usposabljanja starejših delavcev kot tudi na področju prenosa znanj in kariernega razvoja starejših delavcev. Statistično značilno povezanost smo potrdili tako v splošnem kot tudi na nivoju posameznih ukrepov. Poleg tega smo ugotovili, da podjetja, ki pogosteje izvajajo analize zdravstvene strukture zaposlenih, v povprečju pogosteje izvajajo ukrepe na področju upravljanja z zdravjem starejših delavcev. Zaključili smo, da podjetja, ki pogosteje izvajajo analize zaposlenih, intenzivneje skrbijo za izvajanje ukrepov ravnanja s starejšimi delavci, kar posledično vpliva na njihovo odločitev za kasnejše upokojevanje.

Zaključek: Z analizami zaposlenih podjetja pridobijo pomembne informacije, ki vodijo v pravočasno in dovolj pogosto izvajanje ukrepov za ravnanje s starejšimi zaposlenimi. Z empiričnimi podatki smo podprli naše predvidevanje, da je pogostost izvajanja ukrepov, s katerimi lahko podjetja pripomorejo na odločitev starejših delavcev za daljšo delovno aktivnost, povezana s pogostim izvajanjem analiz zaposlenih. S člankom smo pripomogli k razumevanju problematike staranja in ravnanja s starejšimi delavci ter opozorili na mehkejšo možnost za daljšo delovno aktivnost starejših delavcev v izogib nezaželenim, zakonsko vsiljenim pogojem upokojevanja.

Ključne besede: *Staranje prebivalstva, Ravnanje s starejšimi delavci, Izobraževanje in usposabljanje, Prenos znanja in kariera, Upravljanje z zdravjem, Poznejše upokojevanje*

High-Performance Work Systems and Intrapreneurial Behavior: The Mediating Role of Knowledge Centered Culture

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Background and purpose: Employee intrapreneurial behavior (EIB) has become strategically important for organizational performance. Contemporary managers are exploring ways by which EIB can be reinforced and sustained. The purpose of this study is to examine the role of high-performance work systems (HPWS) and knowledge centered culture (KCC) on EIB, and the mediating role of KCC on the HPWS-EIB path.

Methodology: The proposed hypotheses were tested by utilizing the variance-based structural equation modeling approach on cross-sectional responses garnered from individuals working in the Jordanian tourism, travel, and hospitality enterprises.

Results: The analyses yielded robust support for the associations. As expected, HPWS had a direct and significant effect on KCC and EIB. Consequently, KCC did not only impact EIB significantly, but also mediated the association between HPWS and EIB.

Conclusion: This study considers bundle of HR initiatives via HPWS and explores the underlying processes by which EIB is nurtured. Unlike past discoveries that linked HPWS to EIB, this study shows why and how EIB is enabled in an Arabian context. The findings did not only extend past discoveries, but also provide theoretical and practical basis for EIB as an outcome.

Keywords: High-performance work systems, Intrapreneurial behavior, Knowledge centered culture, Jordan

1 Introduction

The contemporary tourism, travel and hospitality industry is dynamic and faces many challenges that pose a constant threat to the business landscape; thus, pursuing new ways of service delivery must be operationalized to bypass sustainability threats and to gain competitive advantage (Ruiz-Palomino et al. 2021). Managers and organizations are now taking refuge on a newer and broader concept called employee intrapreneurial behavior (EIB). EIB is conceptualized as the tendency of employees to exhibit creative and innovative and proactive behaviors and the

ability to explore/exploit business opportunities through risk-taking behaviors (Neessen et al. 2019, Farrukh et al. 2016). Initiatives and practices for knowledge management (KM) in the knowledge-based economy of today are widely seen as innovation enablers (Iqbal and Malik 2019) and as such outcomes such EIB are seen as potential byproducts of high-performance work systems (HPWS) (Muhammad Farrukh et al. 2021) and KM (Escriba-Carda et al. 2020). HPWS impacts the abilities (A), motivations (M) and opportunities (O) of individual in carrying and executing their organizational functions (Huselid 1995).

Past research efforts have been centered around the

influence of HPWS on organizational and individual performance, work engagement and commitment, job satisfaction, future time perspective, psychological capital, and knowledge sharing (Elrehail et al. 2022, Abbasi et al. 2021, Huselid 1995, Mostafa et al. 2015, E. Behraves et al. 2020). However, there are reports that demonstrate the ability of HPWS to influence collective outcomes such as organizational culture (Chow and Gong 2010, Chow 2012), and ecosystem in which people are embedded (Evans and Davis 2005). In past discoveries, knowledge-centered culture (KCC) was found to be a consequence of leadership style and a predictor of knowledge sharing (Lei et al. 2019). Despite the existence of such reports, to the best of our knowledge, few researches have linked HPWS with KM activities (Chuang and Liao 2010, Abbasi et al. 2021) and EIB (Muhammad Farrukh et al. 2021). In essence, there is a lack of theory linking HPWS to KCC and EIB, which renders the association premature to reach a conclusive decision in the tourism, travel, and hospitality context. To fill theoretical void highlighted above, the current study proposes the following research question to elaborate the inter-relationship among the variables:

RQ1: Does HPWS influence KCC and EIB?

RQ2: Does KCC influence EIB and?

RQ3: Does KCC mediate the path between HPWS and EIB?

2 Literature reviews and hypotheses

2.1 High performance work systems

Conventional HR practices are designed as independent policies and initiatives for specific outcomes. However, changes in the business environment have prompt a novel approach that consider bundles of inter-related HR practices called the HPWS (A.M. Abubakar et al. 2019). HPWS is “an integrated system of HR practices that are internally consistent (alignment among HR practices) and externally consistent (alignment with organizational strategy)” (Evans and Davis 2005) p. 759). According to scholars, HPWS is a systematic framework coupled with inter-related HR practices (e.g., career mobility, participation in decision processes, empowerment, rewards, job security, training, and promotion opportunities) that is design to attract, recruit, develop, and retain the best talents (Lepak et al. 2006). In the case of this research, HPWS contains a series of well-connected HR practices (e.g., job security, T&D, information sharing and decision-making processes) (E. Behraves et al. 2020) that can boost organizational culture and employees’ competencies such as KCC and EIB. The increased psychological conditions, autonomy and competencies seen among employees in organizations where HPWS is practiced emerged from the transparent communication, job security, information

sharing and T&D (Elrehail et al. 2022, Ruiz-Palomino et al. 2021) and participation in decision processes (Elaheh Behraves et al. 2020). The dynamic model of ability, motivation, opportunity (AMO) suggests that T&D signal organizational willingness to invest and help employees develop skills and knowledge; job security signal organizational desire for fairness and concerns for equity; participation in decision-making. And information sharing signal organizational appreciation and expectation for knowledge contributions and practices. HPWS is important because it operate in synergy, which is why organizational-based HPWS may influence both organizational, team and individual outcomes (Miao et al. 2021, Huselid 1995) such as KCC and EIB.

2.2 Knowledge centered culture

Organizational culture (OC) is a set of shared values, beliefs, norms, and patterns of interactions that shape the people, structure, and control system to build a moral code and guide organizational behavior (Schein 1990). OC does not only govern how work is accomplished and define the behavior that is expected from each employee (Deal and Kennedy 1992), but also assists individuals in understanding organizational functioning (Schein 1990). Given the heighten value of knowledge in organizations amid transmission into the knowledge-economy sphere, organizations have turned their attention to KCC, defined as “a set of organizational values, core beliefs, norms and social rules that acts as a common reference for employees in the process of creating, sharing and applying knowledge” (Peralta and Saldanha 2014, Lei et al. 2019). In the context of this study, we expect HPWS to influence both KCC and EIB and that KCC will function as a mediator on the path. The line of reasoning arises from the AMO framework, in that, in firms where HPWS is practiced, the T&D, information sharing, decision undertakings and characterized with low threats (i.e., job security) can foster KCC which promotes learning, willingness to acquire, transform and transfer knowledge with others among employees. Finally, when employees apply the learned and acquired knowledge and skills, we expect EIB to increase.

2.3 Intrapreneurial behavior

In the era of knowledge and contemporary economy, entrepreneurially driven enterprises identify and explore opportunities for growth by placing a strong emphasis on innovation from bottom to top. At the bottom level, EIB reflect the tendency of people to collectively innovate and create in the workplace (Neessen et al. 2019, Mahmoud et al. 2020). By definition, EIB is a “process by which individuals inside an organization undertake new activities and depart from routines to pursue new opportunities”

(García-Morales et al. 2014, Halme et al. 2012). A more recent definition of EIB “is a process whereby employee(s) recognize and exploit opportunities by being innovative, proactive and by taking risks, in order for the organization to create new products, processes and services, initiate self-renewal or venture new businesses to enhance the competitiveness and performance of the organization” (Neessen et al. 2019). EIB is a form of entrepreneurial behavior but inside an organization and it is conceptualized as a tripartite construct. The first-dimension innovativeness is concerned with all phases of the innovation process, such as the exploitation of opportunities, generation, promoting, executing, or deploying of ideas. The second-dimension proactiveness is concern with people actions and control over an initiative and being a beaver. The third-dimension risk-taking is attributed to facing potential losses in a broader sense, as well as a proclivity to proceed without prior permission or consensus (Neessen et al. 2019, Blanka 2019). As an extra-role behavior exhibited by employees, EIB is essential for managers and supervisors to combat the effects of globalization, fierce market competition and fragmentation and to improve work outcomes (Mahmoud et al. 2020, Valsania et al. 2016). Hence, workers’ intrapreneurial spirit can be revitalized to combat intense competition and innovation. It is therefore important to note that EIB differ significantly from entrepreneurial orientation, corporate venturing, and entrepreneurship (Escriba-Carda et al. 2020). The main variation starts from the level of analysis, EIB situate at individual level and bottom-top approach of entrepreneurial behavior, while the others are at team and organizational-level and uses a top-bottom approach (Blanka 2019, Mahmoud et al. 2020). Unlike the other concepts, EIB is somewhat new and has received limited empirical attention from the tourism, travel, and hospitality industry. Moreover, the interrelation between HPWS and EIB did not receive adequate theoretical and empirical attention (Escriba-Carda et al. 2020, M. Farrukh et al. 2021). This warrants additional research in this domain.

2.4 Research hypotheses

Accordingly, HPWS bundle functions as form of organizational support that enables several KM initiatives (Abubakar Mohammed Abubakar et al. 2019). AMO is a well-grounded theory in the HPWS discourse and is seen as an apparatus to enhance the motivation and abilities of employees. Past discoveries have shown that HPWS increased job satisfaction, work commitment and citizenship behavior (E. Behravesht et al. 2020, Mostafa et al. 2015), knowledge sharing and helping behavior (Chuang and Liao 2010, Abbasi et al. 2021), EIB (Muhammad Farrukh et al. 2021) and organizational performance (Huselid 1995) and also help to boost psychological well-being, happiness and future time evaluations (A.M. Abubakar

et al. 2019) of individuals. Accordingly, HPWS focuses on building organizational members by ensuring sound staffing and skills recalibration through T&D, information sharing, participation in decisions, and the provision of job security (Sun et al. 2007). HPWS increases the tendency of KCC and intrapreneur behaviors, by giving employees the opportunity to participate in decision processes, creating communication medium, and granting volition not only on the use of skills, knowledge, and experience, but also to acquire, share, and apply (Miao et al. 2021). Through T&D opportunities, HPWS allow employees to update and recalibrate skills and knowledge to solve business problems and overcome setbacks (Ansari et al. 2018). Through participation in decision processes and information sharing, HPWS allows employees to learn, request for, disseminate and apply new knowledge in solving business problems. All of which play and support KCC and EIB initiatives (M. Farrukh et al. 2021). The job security opportunities enable employees to exert efforts in work, create a sense of belonging and install hope about a future in the organization. In addition, individuals are more likely to exert EIB in a work atmosphere characterized as having low uncertainty or threats (M. Farrukh et al. 2021). In the tourism, travel and hospitality industry, research found that HPWS and innovativeness culture influences strategic service differentiation (Ruiz-Palomino et al. 2021). Thus, we expect HPWS to boost KCC and EIB respectively:

H1: HPWS will positively impact knowledge-centered culture.

H2: HPWS will positively impact employee intrapreneurial behavior.

KM initiatives are more likely to succeed in an organization where the culture supports knowledge processes (Alavi and Leidner 2001). KCC is a novel culture that champions KM processes. KCC is a bundle of corporate cultures, values, standards, and norms that serve as a reference point for employees as they create, share, and apply knowledge in the workplace (Lei et al. 2019). It is important to note that KM initiatives are not exclusively centered on innovation, but rather the creation of a climate that nourishes innovation. In past discoveries, ethical leadership emerged as a determinant for KCC and knowledge sharing and KCC mediate the stated association (Lei et al. 2019). KCC was also found to moderate the link between transformational leadership and innovation (Gui et al. 2021), other related studies focused on the moderating role of KCC (Lei et al. 2021). Research on KCC in the tourism, travel and hospitality industry is scarce (Gürlek 2021), which warrants further inquiry. In response to this call, we propose a possible link between KCC and EIB. Our rationale is that employees’ cognitions are compelled to acquire new information, knowledge, and resources under the KCC climate (Lei et al. 2019), this enables them to resolve work-related issues in novel ways, thereby improving EIB. In addition, KCC is tolerant to mistakes, trial

and errors endeavors, encourages autonomy and champions teamwork; considering these qualities, KCC aroused employees willingness for broader exploration and exploitation which contributes to KM processes and initiatives (Intezari et al. 2021) and may results in higher EIB. Thus, we expect KCC to boost EIB:

H3: Knowledge-centered culture will positively impact employee intrapreneurial behavior.

Several studies posited that organization composition, structure and culture are underlying mechanisms by which HPWS use to influence performance outcomes (Shahzad et al. 2019, Chuang and Liao 2010). The core thesis is that a forward-thinking HPWS promotes a favorable working atmosphere, which enhances employee skills and drive, ultimately leading to improved organizational performance (Elrehail et al. 2022). Human capital and motivation mediated the path between HPWS and innovation (Shahzad et al. 2019). Also, the big five personality traits influence EIB, which in turn, boost individual performance and EIB played a mediatory role on the associations (Mahmoud et al. 2020). A study in Spain show that HPWS does not impact EIB directly but rather through knowledge sharing among employees (Escriba-Carda et al. 2020). Discoveries concerning the mediating role of POS on the HPWS, and EIB link, found that HPWS influences EIB, and POS functions as a mediator on the link (M. Farrukh et al. 2021). KCC has been shown to moderate the link between HR practices and innovation (Lei et al. 2021). However, its mediatory role remains unclear and untested even though HR bundles such as HPWS are known to create a favorable climate for KM activities (Escriba-Carda et al. 2020, Abbasi et al. 2021), which are enablers for innovation and creativity (Abubakar Mohammed Abubakar et al. 2019) and possibly EIB. Future examination of organizational culture and environment may provide further insights on the HPWS, and EIB link has been suggested in the literature (M. Farrukh et al. 2021). In response, this research work scrutinizes the mediating role of KCC on the HPWS-EIB path. The current study postulates that progressive HPWS will nurture KCC, which increases

the potential of learning new skills, creation, sharing, and application of knowledge. Consequently, KCC increases employee's confidence and motivations to engage in proactive and innovative behavior and a desire to take risks. The rationale for this proposition is that HPWS operate via its impacts on the skills and knowledge of staff members, their desire to partake and make decisions, exert effort and their opportunities to express their talents in their work. This could be transformed into a shared culture such as KCC and talent expression could be in form EIB. Thus, we expect the following:

H4: Knowledge-centered culture will mediate the path between HPWS and intrapreneurial behavior.

Based on the proposed hypotheses, the researchers developed the conceptual model for visual illustration in Figure 1.

3 Methodology

3.1 Study participants and data collection

A quantitative technique was utilized to test the formulated research hypotheses. In line with past studies, the study measures were translated into the local language and all the necessary procedures for back-translations were considered. Multiple-item scales (seven-point Likert scales) were used to measure all variables. As of 2022, Jordan has 679 travel agencies that employ approximately 5,000 people as per the information received from the Statistics Department (2022) supplied by the Jordan Society of Tourism and Travel Agents (JSTA). Jordan Hotel Association (JHA) reported that there are 43 (5-star) and 44 (4-star) registered hotels employing approximately 14,000 Jordanians (Statistics Department, 2021). The rationale for studying corporate travel agencies, and hotels (4- and -5-stars) is due to their inclination for higher HPWS and KM practices. Employees from 107 travel agencies, 24 and 27 5-and -4 stars hotel establishments partake in the

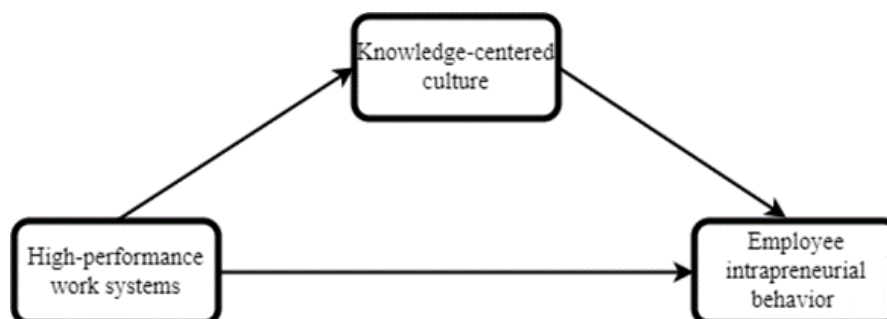


Figure 1: Conceptual model

survey that was administered between May and June 2022 in Jordanian cities (Amman, Aqa-ba) and touristic destinations (Petra and the Dead Sea). Approval from the relevant of the hotels and agencies management was taken prior to data collection. The cumulative number of respondents received is 456 (218 from hotels and 238 from travel agencies).

3.2 Study instruments

High-performance work systems - although several scale items for HPWS exist in the literature, the current study adopted the AMO perspective due its existing validity in the Arabian context (E. Behravesht et al. 2020, El-rehail et al. 2022). The 17-items measures developed by (Sun et al. 2007) were used with four dimensions namely: training and development (5-items), job security (2-items), staff members participation in decision-making (4-items) and information sharing (6-items). A sample item is "Employees in my job category normally go through training programs every few years to improve our customer service skills".

Knowledge-centered culture - was measured using a 7-item measure adapted from (Donate and Guadamillas 2011, Lei et al. 2019). Respondents were asked to evaluate how much their organizational culture encourages KM-related activities at work. A sample item is "An effort is made in our organization to encourage employees to experiment and implement new ideas in their working day".

Employee intrapreneurial behavior – was measured using a 13-tem measure with tripartite components namely: proactiveness (4-items), risk-taking behavior (4-items), and innovativeness (5-items) adapted from (Farrukh et al. 2016, Muhammad Farrukh et al. 2021). Respondents were asked to evaluate how much they exhibit EIB in their work. A sample item is "I boldly move ahead with a promising new approach when others might be more cautious". All the measures were rated on a seven-point scale.

4 Analysis and findings

4.1 Sample distributions

The researchers obtained a total of 456 survey answers in which 50.9% are female and the rest are male employees. A total of 49.1% of the participants have bachelor's degrees, 27.6% have associate degrees, 11.2% have higher degrees and the rest have secondary school certificates. We capture participants age based on their generational classification as follows: 36% are classified as cohorts in generation-Y, 31.1% are classified as cohorts in generation-X, 23.7% are classified as cohorts in generation-Z and the rest are classified as baby boomers. In their organizations, ap-

proximately 43.9% reported one innovation, 37.1% reported two innovations, and the remaining reported over three innovations in a year.

4.2 Evaluation of the measurement model

To evaluate the research model, we employ the partial least squares (PLS) algorithms and structural equation modeling (SEM) using Smart PLS 3.0. The rationale is that PLS-SEM imposes less multivariate restrictions and/or distributions in comparison to covariance-based algorithms (Hair et al. 2020). The analytical strategy of PLS-SEM is two-phase by context: assessment of the measurement model and subsequently the structural model. In the former phase, the research model measure's reliability, and validity are scrutinized, while, in the latter phase, the structural model and the path significance are scrutinized for hypotheses testing (Sarstedt et al. 2017). In prior experiments, scholars suggested that second-order constructs such as HWPS and EIB can be modelled using the two-stage approach (Sarstedt et al. 2019). The rationale is that the two-stage approach helps reduce the number of testable paths in the model, making it more parsimonious from a methodological viewpoint. It manages the issue of collinearity and facilitates the generation of reliable and valid empirical evidence (Sarstedt et al. 2019). Thus, HWPS and EIB were first modelled using a two-stage approach, where the mean scores of the first-order constructs were computed and used as indicators of the second-order constructs.

The reliability of the measures was assessed using the traditional alpha ($C\alpha$), the contemporary composite reliability (CA) and Rho_A , in which all the values surpass the popular 0.70 threshold. Further, for construct validity assessments. The loadings and significance levels of the indicators surpass the 0.50 and 1.96 cutoff points and the weight coefficients were higher than 0. The measures average variance extracted (AVE) coefficients surpass the 0.50 threshold, which all together provide evidence of convergent validity (Hair Jr et al. 2021). Details are available in Table 1, figure 2 and 3. The measures Heterotrait-Monotrait ratio (HTMT) were less than 0.90 (Henseler et al. 2015) and the AVE square roots were above all the inter-correlations coefficients among the measures (Fornell and Larcker 1981). Altogether, this provides evidence of discriminant validity (see Table 2 and 3).

4.3 Common method biases

The issue of common method bias (CMB) occurs when data is cross-sectional and/or self-reported. In essence, CMB comprises the validity of the measures and affects the tested paths (Podsakoff et al. 2012). To limit the impact of CMB procedural and statistical controls were used. In

procedural control, survey participation was made anonymously, and confidentiality was promised. The demographic questions were situated at the end of the survey to reduce tension. While for the statistical control, Harman one-factor test was used, which show that only 24.66 percent of the total variance was explained, less than the 50

percent benchmark (Podsakoff et al. 2012). In addition, in Table 2, all the correlations coefficients were below the .90 thresholds and the variance inflation factor (VIF) values were less than the 3.5 thresholds (Kock 2015, Podsakoff et al. 2012). Thus, the researchers concluded that CMB is not a major risk for the current study.

Table 1: Measurement model metrics

Constructs/items	Loadings	Sig.	Weights	C α	RhoA	CA	AVE
High performance work systems				.833	.903	.886	.662
Job security	.687	7.439	.205				
Information sharing	.840	19.892	.317				
Training and development	.886	25.840	.433				
Participation in decision-making	.828	12.543	.253				
Knowledge-centered culture				.915	.930	.932	.664
Item1	.687	26.272	.162				
Item2	.797	12.909	.159				
Item3	.694	37.099	.156				
Item4	.839	34.781	.158				
Item5	.861	30.366	.145				
Item6	.798	35.279	.220				
Item7	.843	46.859	.224				
Employee intrapreneurial behavior				.883	.898	.927	.809
Innovativeness	.912	58.453	.419				
Proactiveness	.913	53.675	.306				
Risk-taking	.874	34.502	.388				

Table 2: F&L criterion

Measures	1	2	3	VIF
High performance work systems	(0.813)			1.000
knowledge centered culture	0.214	(0.815)		1.048
Employee intrapreneurial behavior	0.172	0.249	(0.900)	1.048

Table 3: HTMT criterion

Measures	1	2	3
High performance work systems	-		
knowledge centered culture	0.240	-	
Employee intrapreneurial behavior	0.178	0.257	-

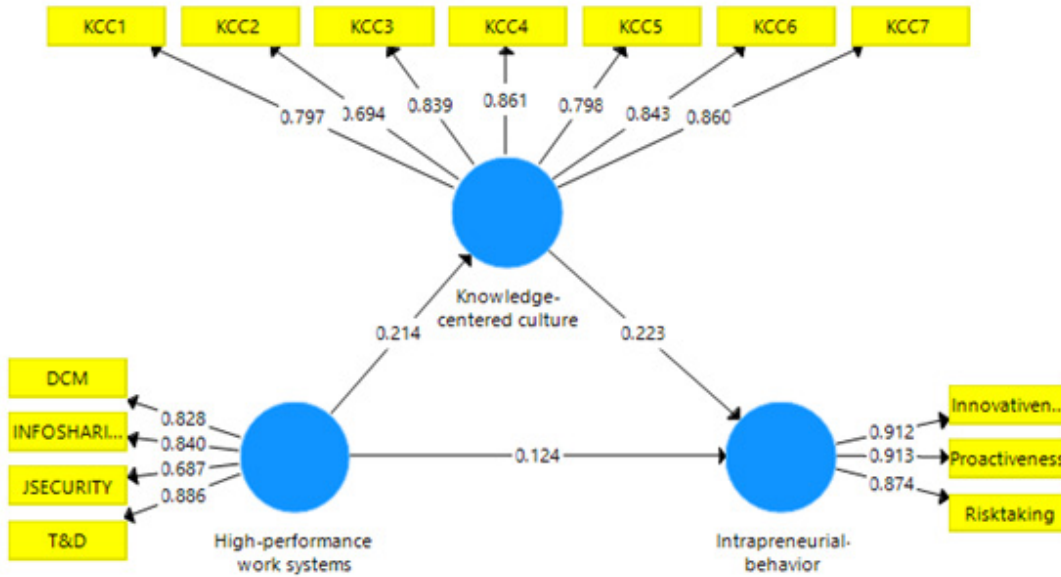


Figure 2: Measurement model

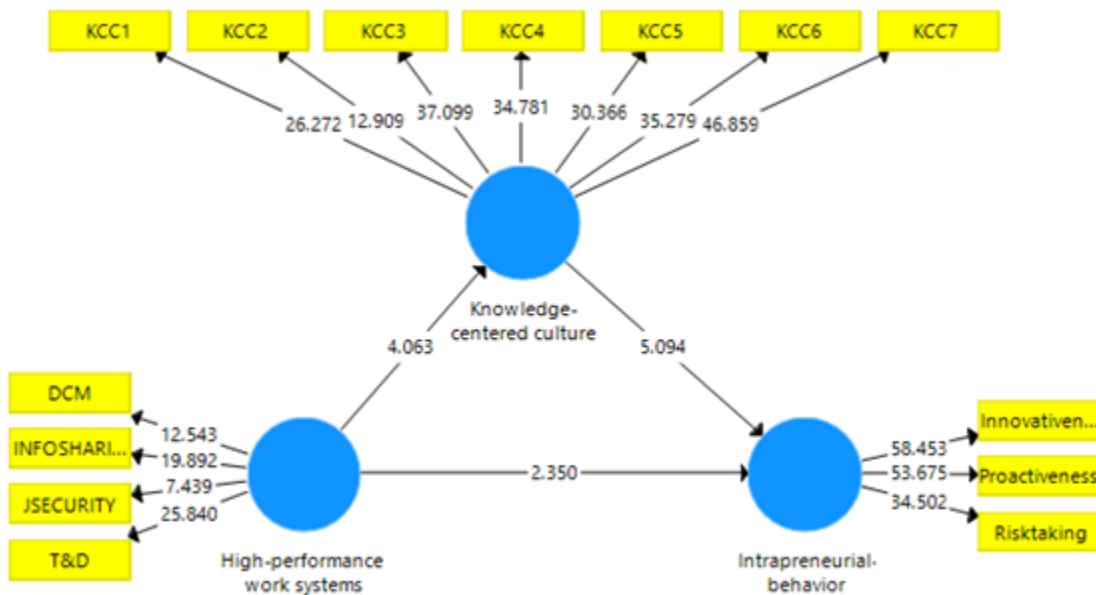


Figure 3: Structural model

4.4 Hypothesis testing and structural model

Following verification of the measurement model’s reliability and validity, the structural model was analyzed to confirm the causal links. To assess the results of the structural model, the researchers examine the path coefficients,

and significance level. Results in Table 4 confirm the evidence of direct and indirect causal relations. A significant effect of HPWS on KCC ($\beta = .214, t = 4.063, p < 0.01$) and on EIB ($\beta = .124, t = 2.350, p < 0.01$) emerged. Also, KCC had a direct and significant effect on EIB ($\beta = .223, t = 5.094, p < 0.01$). Therefore, all direct hypothesized relationships (H1–H3) are supported. Additional details are available in figures 2 and 3.

Table 4: Structural model results

	Relationships	Beta	SD	T-value	CI	Decision
	Direct effects					
H1	High-performance work systems -> Intrapreneurial-behavior	.124	.053	2.350	[.010-.220]	Supported
H2	High-performance work systems -> Knowledge-centered culture	.214	.053	4.063	[.101-.308]	Supported
H3	Knowledge-centered culture -> Intrapreneurial-behavior	.223	.044	5.094	[.130-.302]	Supported
	Indirect effects					
H4	High-performance work systems -> Knowledge-centered culture -> Intrapreneurial-behavior	.048	.016	2.989	[.021-.081]	Supported

As recommended by (Hair Jr et al. 2021), the indirect effect was diagnosed using the bootstrapping technique (n=5000) with a 95 percent bias-corrected confidence interval (CI). For the analysis of the indirect (mediation) effect, we used the decision tree proposed by (Zhao et al. 2010, Nitzl et al. 2016). Table 4 presents the outcomes of the indirect effect ($\beta = .048$, $t = 2.989$, $p < 0.05$) with CI [.021-.081]. This could be interpreted as KCC mediates the relational path between HPWS and EIB and given that the effect of HPWS on KCC was significant, a complementary mediation prevails. Therefore, the hypothesized indirect (mediation) relationship (H4) gained empirical support.

5 Discussion

5.1 Findings

EIB is seen by industry leaders as crucial factor and an enabler for organizational-wide entrepreneurial orientation that foster sustainable competitive advantage (Neessen et al. 2019, Mahmoud et al. 2020) in the tourism, travel, and hospitality industry. As a result, it is imperative to comprehend the variables that foster or are associated with increased EIB. Building on existing research gaps, we propose and test a model that postulates HPWS and KCC as key determinants for EIB. The findings illustrate that HPWS increases organizational KCC, and both HPWS and KCC influence the level of EIB exhibited. We also found that KCC mediated the positive association between HPWS and EIB. The results add to the KM and EIB literature by identifying new antecedent (i.e., HPWS) which very little insight exist in the literature.

5.2 Theoretical implications

This investigation contributes significantly to HPWS scholarship by advancing knowledge on its implications on both organizational climate and individual behaviors. The results offer several theoretical implications. First, past HPWS discoveries only show its positive impacts on knowledge sharing and knowledge helping behavior (Chuang and Liao 2010, Abbasi et al. 2021). Theoretically speaking, the research stresses the importance of HPWS in nurturing KCC and also adds to the limited research on the focal associations and variables. This study suggests that the components of HPWS are relevant and vital for building an organizational climate where KCC thrived. In other words, we have contributed to the void in the literature concerning the association between HPWS and KCC.

Second, even though several studies have explored the correlativity and association between HPWS and EIB, the focus was mostly on other industries and context such as high-tech industrial firms, banking, and financial services (M. Farrukh et al. 2021, Escriba-Carda et al. 2020). It also has been demonstrated that HPWS can offer a range of benefits to employees such as increased job satisfaction, commitment, psychological capital and the likes (A.M. Abubakar et al. 2019, Huselid 1995, E. Behraves et al. 2020, Abbasi et al. 2021, Mostafa et al. 2015). This paper responds to calls for more investigation to diversify and corroborate the applicability in other industries by focusing on tourism, travel, and hospitality organizations. Specifically, our paper is among the first to establish the causal link between HPWS and EIB in the tourism, travel, and hospitality industry context.

Third, this paper has resolved the puzzle and scholarly call for more investigation (Gürlek 2021, Gui et al. 2021) concerning whether KCC can foster innovation outcome at

individual level e.g., EIB. The results confirmed the positive effect of KCC on EIB, which contributes to theoretical underpinnings in the field. This underscores the importance of KM and knowledge creation in organizations that seek to encourage innovation and EIB among employees. Fourth, by pointing out the positive role of KCC as key driver to promote EIB and its mediative role on the relationship between HPWS and business entrepreneurial outcomes (i.e., EIB). The result highlights the importance of organizational culture as a mediator in the relationship between HR practices and employee behavior. This investigation contributes to the literature as it presents a unique attempt to showcase the complex mechanistic process by which organizational practice such as HPWS using the AMO framework facilitates KCC to foster EIB among tourism, travel, and hospitality employees.

5.3 Managerial and practical implications

Given the rise and competitive environment in the tourism, travel, and hospitality industry, particularly in light of globalization and the COVID-19 pandemic, managers are charged to develop strategies and tactics for competitive advantage. HPWS has been shown in the strategic HR literature to provide varieties of benefits to employees, including increased knowledge sharing and citizenship behavior, satisfaction, work commitment, job and organizational performance, psychological capital and future time perspectives (A.M. Abubakar et al. 2019, Huselid 1995, E. Behravesht et al. 2020, Abbasi et al. 2021, Mostafa et al. 2015). However, recent studies have begun to show the dark side and consequences of HPWS on work and employee outcomes (E. Behravesht et al. 2020, Wang et al. 2021). The current study demonstrates that despite these claims and evidence, HPWS is a medium that promotes KM initiatives and activities as well as EIB. Therefore, managers and firms can use our research findings to design and implement HR policies and practices that support HPWS to promote KCC and EIB. This can include investing in training and development programs, providing flexible work arrangements, and offering incentives and recognition for innovative and entrepreneurial behavior. It is important that managers exploit and use this opportunity in prudent way to leverage the positive outcomes and avoid the dark sides of HPWS.

Insights from this work appears to be relevant to practitioners in the industry, as it demonstrates that implementing HPWS is not all about modernizing or documenting HR practices, but rather a tool by which firms can use to attract, recruit, retain and upskill people and also to install an organizational culture where knowledge flow freely from one node to node (i.e., member). Specifically, managers and firms can leverage HPWS to enhance KCC climate, an indispensable element for establishing and sustaining

competitive advantage. Furthermore, HPWS can promote EIB by providing employees with the necessary resources, autonomy, and support to take risks, experiment, and pursue new ideas. In other words, firms operating in the industry can use HPWS to create a KCC climate that fosters innovation, creativity, and risk-taking, which can be translated into EIB. This can help firms be competitive and adapt to the dynamic market conditions.

5.4 Research limitations and possible avenue for exploration

Our research has some limitations. Although cautionary measures such as the procedural and the Harman one factor test, correlation matrix and VIF coefficient tests were operationalized to abate for the potential effect of CMB (Jordan and Troth 2020, Podsakoff et al. 2012). The research model was tested using self-reported survey data and cross-sectional design, this approach limited our ability to draw firm conclusions about the magnitude of the cause and effects (Jordan and Troth 2020, Podsakoff et al. 2012). Thus, it is recommended that future studies employ alternative designs and multiple data sources to establish the tested relationships more firmly. Second, we did not examine leadership in the model as it somewhat has effect on KCC (Gui et al. 2021), future investigations are advised to consider knowledge-driven leadership styles. Third, we are unable to generalize our findings to a wider scope because our responses were obtained from the service industry and is country specific, Jordan. Future investigations are advised to expand the scope and replicate the model in other contexts and country may generate fresh insights and/or confer generalization. Forth, knowledge-based HR practices, knowledge-based leadership, individuals' personality, and skills (Elayan et al. 2022, Farrukh et al. 2016), are associated with creativity and tendency to engage in innovation, future investigations that focus on these factors at individual level e.g., EIB may generate additional insights. Finally, another potential avenue for investigation is centered around the role of HPWS and KCC in fostering employees' skills such as Pi-shaped skills.

5.5 Conclusion

This study proposed a comprehensive conceptual model for illuminating the mechanism by which HPWS contributes to the KCC and eventually translate into a desired organizational behavior, such as EIB. The study findings highlight another important mechanism, namely the mediating role of KCC on the HPWS-EIB causal path. This work is, in summary, an additional step toward understanding how EIB can be stimulated in contemporary enterprises.

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Visoko zmogljivi delovni sistemi in intrapreneursko vedenje: posredniška vloga kulture, osredotočene na znanje

Ozadje in namen: Intrapreneursko vedenje zaposlenih je postalo strateško pomembno za uspešnost organizacije. Iz tega razloga sodobni menedžerji raziskujejo načine, kako bi le tega v organizacijah okrepili in ohranili. Namen te raziskave je preučiti vpliv visoko zmogljivih delovnih sistemov in kulture, osredotočene na znanje na intrapreneursko vedenje zaposlenih ter vpliv kulture, osredotočene na znanje na poti za doseganje intrapreneurskega vedenja in uvedbe visoko zmogljivih delovnih sistemov.

Metodologija: Predlagane hipoteze so bile preizkušene z uporabo pristopa modeliranja strukturne enačbe na podlagi variance na presečnih odzivih posameznikov, ki delajo v jordanskih turističnih, potovalnih in gostinskih podjetjih.

Rezultati: Po pričakovanjih so visoko zmogljivi delovni sistemi neposredno in pomembno vplivali na kulturo, osredotočeno na znanje na intrapreneursko vedenje zaposlenih. Posledično kultura osredotočena na znanje ni pomembno vplivala le na intrapreneursko vedenje zaposlenih, ampak je tudi posredovala pri povezovanju med tem in visoko zmogljivimi delovnimi sistemi.

Zaključek: Ta raziskava obravnava sklop kadrovskih pobud preko visoko zmogljivih delovnih sistemov in raziskuje temeljne procese, s katerimi se vzdržuje intrapreneursko vedenje zaposlenih. Za razliko od preteklih raziskav, ki so visoko zmogljive delovne sisteme povezovale z intrapreneurskim vedenjem zaposlenih, ta raziskava prikazuje, zakaj in kako se intrapreneursko vedenje izraža v arabskem kontekstu. Poleg tega ugotovitve raziskave zagotavljajo teoretično in praktično osnovo za intrapreneursko vedenje zaposlenih na sploh.

Ključne besede: *Visoko zmogljivi delovni sistemi, Vedenje znotraj podjetja, Kultura, Osredotočena na znanje, Jordanija*

Appendix

	High-performance work system (Sun et al. 2007)
1	Employees in this job can be expected to stay with this organization for as long as they wish.
2	Job security is almost guaranteed to employees in this job.
3	Employees in this job are often asked by their supervisors to participate in decisions.
4	Individuals in this job are allowed to make decisions.
5	Employees are provided the opportunity to suggest improvements in the way things are done.
6	Supervisors keep open communications with employees in this job.
7	I have enough information to do my job well.
8	Customers suggestions on how to improve service quality are shared with me.
9	Complaints or negative comments about this organization's service from external customers are shared with me.
10	I have the manuals and resource materials I need for the network systems I work with.
11	I have or have access to, the product and policy information I need to do my work.
12	I am given enough information to understand my role in this organization.
13	The training programs I went through in this organization effectively prepare me to provide high-quality customer service.
14	The organization provides me sufficient training to handle the introduction of new products and services.
15	Employees in my job category normally go through training programs every few years to improve our customer service skills.
16	The organization supports me in joining the customer service training program provided by the Headquarter.
17	I have a say in how much training I receive.

	Knowledge-centered culture (Donate and Guadamillas 2011, Lei et al. 2019)
1	Our organization has a common language to support knowledge exchange and sharing between employees and departments
2	An effort is made in our organization to encourage employees to experiment and implement new ideas in their working day
3	An effort is made in our organization to inform employees that mistakes are a learning consequence and are tolerated up to a certain limit
4	Culture is based on confidence and openness
5	The employees are encouraged to share knowledge at an informal level
6	The employees demonstrate responsible behavior and a high learning disposition
7	All organizational members perceive the same purpose and feel bound to it

	Intrapreneurial behavior (Farrukh et al. 2016, Muhammad Farrukh et al. 2021)
	<i>Risk-taking</i>
1	In my work, I will take calculated risks despite the possibility of failure
2	If large interests are at stake, I regularly go for the big win even when things could go seriously wrong
3	I boldly move ahead with a promising new approach when others might be more cautious
4	I would be willing to give up some salary in exchange for the chance to try out my business idea if the rewards for success were adequate

	<i>Proactiveness</i>
5	I take the initiative immediately even when others do not
6	Usually, I do more than I am asked to do
7	I am particularly good at realizing ideas
8	I believe in an idea; no obstacle will prevent me from making it happen
	<i>Innovativeness</i>
9	I often try to institute new work methods that are more effective for the organization
10	I attempt to convince people to support an innovative idea
11	I visualize concrete steps for action when I consider ways to make a new idea happen
12	I am particularly good at realizing ideas at work
13	In my work, I develop new processes, services or products

Leadership Styles and Generational Differences in Manufacturing and Service Organizations

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Background and purpose: The purpose of this study was to examine generational differences and leadership style preferences in service and manufacturing organizations in south-eastern (SE) Slovenia. The focus was on preferred leadership approaches and generational differences.

Methods: Quantitative research was conducted using the Multifactor Leadership Questionnaire (MLQ) to collect data on a sample of 208 employees in manufacturing and service organizations in SE Slovenia. The questionnaire was distributed online and responses were analysed using Kolmogorov-Smirnov test, Shapiro-Wilk test, and the Kruskal Wallis test.

Results: The results showed that the transformational leadership style was most preferred by the respondents, followed by the transactional and the least preferred was the laissez-faire style. A significant generational difference was found in the preference for the transactional leadership style, with Baby Boomers showing the highest preference and Generation Z the lowest.

Conclusion: Although the study was limited to SE Slovenia and generalizability is limited, the results suggest that organizations should provide leadership training adapted to generational preferences to promote effective leadership. Future research should consider longitudinal and sector-specific studies, as well as the inclusion of variables such as cultural background and organizational culture.

Keywords: Management, Generational cohort, Leadership style, Leadership, Employees, Organization

1 Introduction

Organizations face numerous challenges in a competitive global environment. Increasingly, organizations are becoming more age-diverse, managers are faced with leading teams composed of individuals from different generations, each defined with different experiences, perspectives, and expectations. The ageing process raises numerous questions about economic development, labour productivity, and global population trends. Individuals who work longer contribute more to economic activity,

facilitate knowledge transfer, provide valuable skills, and generate their income (Deller & Walwei, 2022, pp. 25-43). However, the challenge lies in leading and engaging multi-generational employees with different life perspectives, values, and needs without ignoring their uniqueness.

The impact of generational differences is felt in all segments of employee management and leadership styles in organizations, thus impacting the applicability and effectiveness of various leadership styles within organizations (Pary & Urwin, 2011, p. 80). This study aims to fill this gap by shedding light on the interaction between generational cohorts and leadership styles in service and manufactur-

ing organizations. In doing so, the results offer insights to guide leadership development and practices in age-diverse work settings.

2 Literature Review

2.1 Leadership styles

Fischer and Sitkin (2023) identify eight positive leadership styles (authentic, charismatic, consideration and initiating structure, empowering, ethical, instrumental, servant, and transformational leadership) and two negative ones (abusive supervision and destructive leadership).

A leadership style is a set of activities employed by a leader to influence interactions with colleagues (Faugier & Woolnoug, 2002, p. 28). Effective leadership styles enable employees to achieve high levels of performance with minimal disruptions across various situations. Although leadership styles depend on individual leaders, they are also strongly influenced by the manager themselves or predetermined by the organization in which they work (Heller & Wilpert 1977, p. 78).

In studying leadership styles, researchers have primarily focused on the manager's characteristics and behaviour, considering the impact of leadership styles on employee motivation and organizational performance (Chelladurai 1984, p. 27). The most prevalent leadership models include the personality traits (competencies) model of managers, the behavioural model of managers, the situational model, and other leadership styles such as transformational, transactional, and laissez-faire approaches (Howatson-Jones 2004, p. 21).

The concept of transformational leadership (Bass, 1997, p. 19) has gained widespread theoretical and practical acceptance (Avolio & Walumbwa, 2009, p. 421). Two types of transformational leadership are proposed: authentic and inauthentic, also referred to as pseudo-transformational or unethical leadership (Zhu, Avolio, Riggio, & Sosik, 2011, p. 802). The fundamental premise of authentic leadership is that authentic leaders respect their true values, beliefs, strengths, and weaknesses, effectively leading and following the organization by expressing their unique personal identity and style (Gardner, Cogliser, Davis, & Dickens, 2011, p. 1142). Authentic leadership is genuine, sincere, positive, trustworthy, and reliable (Chambers Clark, 2009, p. 19). Inauthentic leadership, on the other hand, is characterized by a lack of commitment to altruistic values and behavior that is inconsistent with these values. It is based on a flawed understanding of free choice, particularly for personal benefit rather than community benefit (Bass & Steidlmeier, 1999, p. 181).

Transactional leadership, conversely, relies on a system of rewards and punishments: employees are rewarded for their success and are either not rewarded or even pe-

nalized for their failures (Van Wart, 2003, p. 214). Transactional leaders lead with specific incentives and motivate employees by exchanging one thing for another. Leaders exchange rewards for employee compliance (Yukl, 1989, pp. 24–25). Transactional leaders establish a foundation for employee development through communication, clarifying desired goals and objectives, outcomes, and consequently rewarding employees upon their achievement (Sosik & Goldshalk, 2000, p. 365).

The laissez-faire leadership style is characterized by its highly inactive approach, as the manager avoids assuming responsibility and making decisions. Laissez-faire leadership is a style employed by managers who express passivity or indecisiveness concerning tasks and coworkers, or who intentionally deny responsibility for specific aspects of the leadership process. Managers recognize that their primary task is to resolve problems, scandals, and crises resulting from employees failing to adequately perform their duties (Van Wart, 2008, pp. 33–34). This style is associated with decision-making within a group framework (Grohar-Murray & Langan, 2011, p. 23).

The diversity and multigenerational composition of the workforce challenge management to identify and manage generational differences and to change work organization and management approaches to motivate employees to stay on the job (Mahmoud, Reisel, Grigoriou, Fuxman, & Mohr, 2020, pp. 1–2). According to Wolor, Nurkin, and Citriadin (2021, p. 105), the dominant individuals of Generation Y are image-conscious, highly creative, and technologically advanced. Mahmoud, Reisel, Grigoriou, Fuxman, and Mohr added that they are self-confident and can offer new suggestions and ideas to management (2020, p. 7). The authors also noted that the youngest Generation Z expects financial rewards for a job well done, is digitally and technologically savvy, and is not willing to sacrifice their time for the organizations at any cost (p. 6). Soumaki, Kianto, and Vanhala (2019, p. 7) found that Generation X and Y employees are individualistic and more likely to work in teams. Sampson (2020, p. 68) found that individual consideration and ethical leadership influence employee growth, success, and motivation (Valenti, 2019, p. 75). The process of developing an effective leadership theory involves recognising and transforming the various generational characteristics into leadership behaviours that are adapted to the characteristics of the new generations and contexts (Putriastuti & Stasi, 2019, p. 108).

2.2 Definition and Differences of Generational Cohorts

Generations are flexible social constructs and their boundaries evolve over time and space (Campbell, Campbell, Siedor, & Twenge, 2015, p. 325). Ažman, Ruzzier, and Škerlavaj (2014, pp. 43–44) argued that individuals are

often characterised by the traits attributed to their respective generational cohort. King, Murillo, and Lee (2017, p. 94) found that the attitudes, beliefs, and values of a particular generation play an important role in behaviour and attitudes toward work. According to Zemke, Raines, and Filipczak (1999, p. 30), generations are divided into: the Veteran Generation, (born between 1922 and 1943), the Baby Boom Generation, (born between 1943 and 1960), Generation X (born between 1960 and 1980), and Generation Y (born between 1980 and 1995). Dimock (2019, pp. 1-7) provided a similar classification and adds Generation Z (born between 1996 and 2010), which is already entering or has entered the workforce. After 2010, Generation Alpha has emerged, but is not yet in the labour force.

Coetzee, Ferreira, and Shunmugum (2017, p. 9) found that members of the Baby Boom generation had the highest levels of work engagement, which declined with each subsequent generation. Statnicke, Savanevičienė, and Šakys (2019, pp. 1631-1632) also found that Generation Z had the lowest work engagement of all generations. Busch, Venkitachalam, and Richards (2008, p. 55) emphasized that Generation Y is most prone to turnover and least committed to the organization. In the business world, Generation X members are satisfied, loyal, highly motivated, have respect for authority, and are able to work in the same position for many years (Serinikli, 2019, pp. 182-187).

Tang (2019, p. 24) suggested that generational boundaries are unclear, leading to inconsistencies between different understandings of generational boundaries. Costanza, Badge, Fraser, Severt, and Gade (2012, p. 391) argued that differences between generations are insignificant, while Rudolph, Rauvola, and Zacher (2017, p. 14) cautioned that generational divisions can be dangerous because they imply that individual characteristics are determined solely by generation. Similarly, Baum (2019, p. 2) challenged the notion that generations share common characteristics and values that define them and are evident in the workplace. Rather, there are individuals within generational cohorts who do not fit the general observations and characteristics of their generation (Urick, 2017, p. 5). Furthermore, attitudes, behaviours, beliefs, and values change predictably with age and not as a result of generational effects (Rudolph & Zacher, 2017, p.125).

People change throughout their lives, and these changes can be sudden or gradual, depending on environmental, geopolitical, societal, economic, technological, and organizational factors. Effective employee management involves monitoring these changes and adapting policies and practices to meet the needs of individuals and groups. Salvi, Ravid, and Constanza (2022, pp. 98-113) also noted that there is no evidence that these changes can be attributed to generational effects or that the currently conceptualized generations are functionally applicable in research or practice.

Despite these arguments, numerous studies have ex-

amined the influence of generations on workplace behavior (Becton, Walker, & Jones-Farmer, 2014; Lužar et al., 2023; Ng & Feldman, 2012; Popaitoon, 2022). A study by Urbancova et al. (2020, pp. 14-16) showed that age management has a positive impact on the strategic development of organizations, regardless of size and type. Age management can help organizations retain key personnel, attract external talent, increase employee motivation and performance, improve organizational climate and culture, and increase organizational prestige, leading to a competitive advantage. Integrating age management into organizations can facilitate intergenerational knowledge transfer, promote learning and development, and reduce employee turnover by improving self-esteem, motivation, and social status.

After a thorough literature review, we formulated the following hypothesis:

H1: Employees with diverse generations cohorts prefer a transformational leadership style.

3 Methods

The study was based on a quantitative research method using an online questionnaire.

The questionnaire consisted of two main sections: 1) demographic information and 2) leadership style preference measurement. The demographic information included questions regarding age, gender, job role, industry, and years of work experience.

The second part included the Multifactor Leadership Questionnaire (MLQ; Janet & Lidjan, 2013), which is a widely-used instrument for assessing leadership styles. The internal consistency coefficients of the MLQ ranged from 0.69 to 0.83 (Janet & Lidjan, 2013, p. 1). The questionnaire had 94 statements that were rated on a Likert scale (1 - strongly disagree, 2 - somewhat disagree, 3 - neutral, 4 - somewhat agree, 5 - strongly agree). The questionnaire was distributed online to 3,549 employees who were employed in various manufacturing and service organizations in south-eastern Slovenia. The respondents were asked to complete the questionnaire themselves and forward it to their respective employees or colleagues. The questionnaire was distributed to employees because their first-hand experience and direct impact of different leadership styles provide important insights into leadership preferences. Asking these employees to share the questionnaire with their colleagues was intended to provide a diverse and comprehensive data set. This "snowballing" strategy allowed for a more comprehensive understanding of leadership styles within organizations by including the views of a wider variety of roles and departments. A total of 208 respondents completed the questionnaire within the planned time frame. The demographic information of the respondents are detailed in the Results chapter.

Statistical analysis was performed using R and SPSS. We used the tests of normal distribution, specifically the Kolmogorov-Smirnov and Shapiro-Wilk tests. Depending on the results, also the Kruskal-Wallis test. Spearman's rank correlation coefficient was used to determine the correlation between variables.

Before distributing the survey, we conducted a pilot test with a sample of 11 respondents who were not included in the final survey. The pilot test was used to assess the survey's reliability and validity. Cronbach alpha, a measure of internal consistency, was 0.84, indicating a high level of reliability for the survey instrument. Therefore, no modifications were deemed necessary based on the pilot test results.

Data were collected through an online survey in south-eastern (SE) Slovenia, a region known for its high industrial activity (e.g., automotive and pharmaceutical industries). Subsequently, the collected responses were statistically analysed.

The study was conducted in accordance with the ethical guidelines for social science research. Participants were informed about the purpose of the study, the voluntary nature of their participation, and the confidentiality of their responses. Participants were also assured that they could withdraw from the study at any time without any consequences.

4 Results

4.1 Demographics

The questionnaire was fully completed by 208 individuals, 52.4% of whom identified themselves as female ($n = 109$). The educational level of the respondents varied: 33.65% had a professional bachelor's degree, 23.08% had an upper secondary education (European Qualifications Framework, EQF, level 4), 18.75% had a master's degree (EQF level 7), and 5.77% had EQF level 8. A small pro-

portion of respondents (4.33%) had an educational level below EQF level 4.

The generational cohort of respondents is shown in Table 1: 52.88% of respondents belonged to Generation X, 31.73% to Generation Y, 12.02% to Generation Z, and only 3.37% to Baby Boomers. None of the respondents belonged to the veteran cohort.

Of all respondents, 73 respondents (35.10%) held a leadership position, while 135 respondents (64.90%) did not.

4.2 Leadership style

We examined respondents' agreement with statements about transformational leadership styles (Table 2). Responses were given on a 5-point scale, with 1 indicating strong disagreement and 5 indicating strong agreement. On average, respondents most strongly agree with the statement that their leader makes them feel equal ($M = 4.67$; $SD = 0.660$). On average, respondents least strongly agree with the statements that their leader treats them as individuals with unique needs and qualities ($M = 2.89$; $SD = 1.320$) and that their leader lets them know who has power and trust ($M = 3.04$; $SD = 1.193$).

Results of the respondents' agreement with the statements related to the transactional leadership style are summarised in Table 3. Responses were given on a 5-point scale, with 1 representing "strongly disagree" and 5 representing "strongly agree". On average, respondents strongly agreed that the leader expresses satisfaction when the employee meets expectations ($M = 4.65$; $SD = 0.671$), that the manager supports the effort shown and is helpful ($M = 4.61$; $SD = 0.665$), and that the manager makes it clear what the employee can expect when the goal is achieved ($M = 4.58$; $SD = 0.691$). On average, respondents least agreed with the statement that a manager waits until something goes wrong before taking action ($M = 1.46$; $SD = 0.797$).

Table 1: Generational cohorts

Generational cohorts	Freq.	Percentage
Born before 1943 - Veterans	0	0.00 %
Born between 1943 and 1960 – Baby Boomers	7	3.37 %
Born between 1961 and 1980 - Generation X	110	52.88 %
Born between 1981 and 1995 - Generation Y	66	31.73 %
Born after 1995 - Generation Z	25	12.02 %
Total	208	100.00 %

Table 2: Results on Transformational Leadership Style

	Totally disagree	Almost disagree	Neither agree or disagree	Almost agree	Totally agree	Total	M	SD
Review critical assumptions to verify appropriateness	0	9	24	105	70	208	4.13	0.781
	0.00%	4.33%	11.54%	50.48%	33.65%	100.00%		
Talks about values and beliefs of the organization	3	19	53	82	51	208	3.76	0.972
	1.44%	9.13%	25.48%	39.42%	24.52%	100.00%		
Looks for different options in problem solving	1	2	7	58	140	208	4.61	0.651
	0.48%	0.96%	3.37%	27.88%	67.31%	100.00%		
Talks optimistically about the future	0	1	12	61	134	208	4.58	0.625
	0.00%	0.48%	5.77%	29.33%	64.42%	100.00%		
Enthusiastically talks about the goals that need to be achieved and the things that need to be done	1	3	16	79	109	208	4.40	0.736
	0.48%	1.44%	7.69%	37.98%	52.40%	100.00%		
Emphasizes the importance of goals	2	2	13	75	116	208	4.45	0.740
	0.96%	0.96%	6.25%	36.06%	55.77%	100.00%		
Spends time teaching and coaching	2	4	11	86	105	208	4.38	0.759
	0.96%	1.92%	5.29%	41.35%	50.48%	100.00%		
Sacrifices own benefit for the good of the group	6	9	38	70	85	208	4.05	1.013
	2.88%	4.33%	18.27%	33.65%	40.87%	100.00%		
Considers me as an individual and not just as a member of the group	1	3	19	59	126	208	4.47	0.761
	0.48%	1.44%	9.13%	28.37%	60.58%	100.00%		
Acts in a way that I feel respect for him/her	1	0	11	63	133	208	4.57	0.640
	0.48%	0.00%	5.29%	30.29%	63.94%	100.00%		
Considers ethical and moral principles in own decision making	4	4	27	65	108	208	4.29	0.904
	1.92%	1.92%	12.98%	31.25%	51.92%	100.00%		
Lets us know who has power and trust	29	36	60	63	20	208	3.04	1.193
	13.94%	17.31%	28.85%	30.29%	9.62%	100.00%		
Articulates a compelling vision of the future	1	4	28	81	94	208	4.26	0.800
	0.48%	1.92%	13.46%	38.94%	45.19%	100.00%		
Treats me as a person with different qualities, needs, and abilities	43	36	58	43	28	208	2.89	1.320
	20.67%	17.31%	27.88%	20.67%	13.46%	100.00%		
Prepares us to look at the problem from different lenses	2	3	19	84	100	208	4.33	0.781
	0.96%	1.44%	9.13%	40.38%	48.08%	100.00%		

Table 2: Results on Transformational Leadership Style (continues)

	Totally disagree	Almost disagree	Neither agree or disagree	Almost agree	Totally agree	Total	M	SD
Helps me to develop and progress	2	2	8	52	144	208	4.61	0.701
	0.96%	0.96%	3.85%	25.00%	69.23%	100.00%		
Suggests new ways of accomplishing tasks	4	2	13	58	131	208	4.49	0.816
	1.92%	0.96%	6.25%	27.88%	62.98%	100.00%		
Encourages group collaboration in achieving goals	2	3	11	58	134	208	4.53	0.748
	0.96%	1.44%	5.29%	27.88%	64.42%	100.00%		
Trusts us to achieve goals	5	4	3	45	151	208	4.60	0.822
	2.40%	1.92%	1.44%	21.63%	72.60%	100.00%		
Gives us a sense of being an equal conversational partner	2	2	4	47	153	208	4.67	0.660
	0.96%	0.96%	1.92%	22.60%	73.56%	100.00%		

Note: M – mean; SD – standard deviation

Table 3: Results on Transactional Leadership Style

	Totally disagree	Almost disagree	Neither agree or disagree	Almost agree	Totally agree	Total	M	SD
Doesn't get involved in solving problems until they become serious	40	47	36	61	24	208	2.91	1.323
	19.23%	22.60%	17.31%	29.33%	11.54%	100.00%		
Focuses his/her attention on irregularities, errors, exceptions, and deviations from the standards	53	46	48	44	17	208	2.64	1.289
	25.48%	22.12%	23.08%	21.15%	8.17%	100.00%		
Waits for things to go wrong before taking action	143	43	16	4	2	208	1.46	0.797
	68.75%	20.67%	7.69%	1.92%	0.96%	100.00%		
Sticks to the principle of "don't fix it until it's broken".	86	49	48	18	7	208	2.09	1.136
	41.35%	23.56%	23.08%	8.65%	3.37%	100.00%		
Waits until a problem becomes serious before addressing it	103	63	25	13	4	208	1.81	1.003
	49.52%	30.29%	12.02%	6.25%	1.92%	100.00%		

Table 3: Results on Transactional Leadership Style (continues)

	Totally disagree	Almost disagree	Neither agree or disagree	Almost agree	Totally agree	Total	M	SD
Focuses his/her attention on complaints and mistakes	68	62	32	33	13	208	2.33	1.255
	32.69%	29.81%	15.38%	15.87%	6.25%	100.00%		
Remembers every mistake made	50	65	61	24	8	208	2.40	1.090
	24.04%	31.25%	29.33%	11.54%	3.85%	100.00%		
Directs my attention to mistakes to meet standards	51	41	63	40	13	208	2.63	1.221
	24.52%	19.71%	30.29%	19.23%	6.25%	100.00%		

Note: M – mean; SD – standard deviation

Table 4: Results on Laissez-Faire Leadership Style

	Totally disagree	Almost disagree	Neither agree or disagree	Almost agree	Totally agree	Total	M	SD
Does not want to get involved in solving important issues	117	58	15	15	3	208	1.70	0.983
	56.25%	27.88%	7.21%	7.21%	1.44%	100.00%		
Is absent when I need him/her	158	33	12	3	2	208	1.36	0.741
	75.96%	15.87%	5.77%	1.44%	0.96%	100.00%		
Avoids making decisions	159	28	9	10	2	208	1.40	0.857
	76.44%	13.46%	4.33%	4.81%	0.96%	100.00%		
Responds with a delay in solving problems	143	47	8	7	3	208	1.46	0.839
	68.75%	22.60%	3.85%	3.37%	1.44%	100.00%		

Note: M – mean; SD – standard deviation

Table 4 summarises the results of respondents' agreement with statements about laissez-faire leadership style. Again, responses were given on a 5-point scale, with 1 indicating strong disagreement and 5 indicating strong agreement. On average, respondents strongly disagree that the leader does not want to get involved in solving important issues ($M = 1.70$; $SD = 0.983$) and strongly disagree with the statement that the leader is late in responding to problems ($M = 1.46$; $SD = 0.839$). On average, respondents disagree at all that the manager avoids making decisions ($M = 1.40$; $SD = 0.857$), and on average, respondents disagree at all that the manager is absent when needed ($M = 1.36$; $SD = 0.741$).

Prior to calculating preferred leadership style by generational cohort, Kolmogorov-Smirnov and Shapiro-Wilk tests for normal distribution were performed and were statistically significant ($p \leq 0.05$).

Because leadership styles are not normally distributed, we used the Kruskal-Wallis nonparametric test, the results of which are presented in Table 5. The Kruskal-Wallis test is statistically significant ($p \leq 0.05$) only for the transactional leadership style, indicating that there are statistically significant differences in transactional leadership style by generational cohort. The transactional leadership style is most preferred by the Baby Boomer generation and least preferred by Generation Z, with preference for the transactional leadership style decreasing with younger generations. There are no statistically significant differences between birth cohorts for the other leadership styles ($p > 0.05$).

Table 5: Kruskal-Wallis test for leadership style by generational cohort

	Generational cohort	n	Mean range	Mean score (standard deviation)	Kruskal-Wallis test (p)
Transformational leadership	Born between 1943 and 1960 – Baby Boomers	7	120.29	4.40 (0.23)	0.528
	Born between 1961 and 1980 - Generation X	110	103.60	4.25 (0.44)	(0.913)
	Born between 1981 and 1995 – Generation Y	66	103.81	4.25 (0.47)	
	Born after 1995 - Generation Z	25	105.84	4.26 (0.49)	
	Total	208			
Transactional leadership	Born between 1943 and 1960 – Baby Boomers	7	166.86	2.95 (0.55)	8.046
	Born between 1961 and 1980 - Generation X	110	104.19	2.27 (0.62)	0.045
	Born between 1981 and 1995 – Generation Y	66	100.32	2.27 (0.62)	
	Born after 1995 - Generation Z	25	99.46	2.21 (0.57)	
	Total	208			
Laissez-faire leadership	Born between 1943 and 1960 – Baby Boomers	7	112.00	1.46 (0.53)	1.296
	Born between 1961 and 1980 - Generation X	110	107.84	1.52 (0.64)	(0.730)
	Born between 1981 and 1995 – Generation Y	66	98.17	1.44 (0.68)	
	Born after 1995 - Generation Z	25	104.40	1.43 (0.48)	
	Total	208			

5 Discussion and Conclusion

From the results presented in Tables 2, 3, and 4, respondents most preferred the transformational leadership style, followed by the transactional leadership style, and least preferred the laissez-faire leadership style. Transformational leaders are characterized by their ability to inspire and motivate their employees, emphasize values and beliefs, respond to individual needs, and foster a sense of collaboration and trust. These characteristics were highly valued by respondents, indicating that employees appreciate leaders who are proactive, visionary, and people-oriented.

While the transactional leadership style is not rated as highly as the transformational style, some aspects were still rated positively, such as satisfaction when employees meet expectations and clear goal setting. However, it is important to note that transactional leadership aspects that

focus on mistakes and errors or waiting for problems to occur before addressing them were not well received, suggesting that employees prefer a more proactive approach to problem solving and support from their leaders.

The laissez-faire leadership style was least preferred by respondents, with most respondents disagreeing with statements describing a leader who avoids making decisions, is absent when needed, and is not involved in solving important problems. This suggests that employees generally do not appreciate leaders who lack engagement and involvement in their work.

As shown in Table 5, there are statistically significant differences in preference for transactional leadership style by generation, with the Baby Boomer generation showing the highest preference and Generation Z showing the lowest preference. This may indicate that older generations are more accustomed to a transactional leadership approach, while younger generations are more likely to expect a

transformational style that emphasizes collaboration, trust, and individual consideration. The aim of our research was to investigate the differences between the different generations and preference of leadership style. We used existing questionnaires to survey employees in service and production organizations in SE Slovenia. Respondents cited transformational leadership as the most preferred leadership style, followed by transactional leadership, and preferred laissez-faire leadership the least. The results showed that there was no significant difference in the way respondents preferred to be led. There is a statistically significant difference in preference for the transactional leadership style across generations, with the Baby Boomer generation preferring it the most and Generation Z preferring it the least. This difference was not observed for transformational and laissez-faire leadership styles.

Most respondents prefer a transformational leadership style, followed by a transactional style, and the least preferred is the laissez-faire leadership style. Looking at the highest scoring responses, it appears that employees essentially prefer a combination of transformational and transactional leadership styles. The results of our study are consistent with Senica (2009, pp. 6-7), who suggested that the optimal profile of a leader is to cultivate a transformational leadership style to the highest degree, a transactional leadership style to a somewhat lesser degree, and a laissez-faire leadership style to the lowest degree possible. The preference for transactional leadership decreases with younger generations. As Baum (2019, p. 7) explained, to lead successfully, a leader seeks to identify the qualities and characteristics of each individual on their team and to apply and integrate different leadership styles based on insights and knowledge.

Based on the research findings we suggest that organizations train and educate leaders when to use specific leadership styles. Training should not be limited to traditional methods, but should also include reflection, shadowing, coworking programs and so on.

Considering that the characteristics of generational cohorts are strongly influenced by the specific environment in which they live, highlights the importance of research that is based on data from the local environment. Applying results from other environments may lead to biased conclusions. Because we did not find any research on a similar topic in Slovenia, our study makes an additional scholarly contribution and presents the perceptions and situation of employees in the service and production sectors in this area.

We limited our study to all service and production organizations in south-eastern Slovenia. The sample size does not guarantee proportional representation within each generational cohort and is a limitation in generalising to a broader population. A longer period than the 21-day survey could have helped increase the number of completed questionnaires; however, sufficient responses were received to

continue the study. The survey was conducted cross-sectionally, in the current situation and at the current time, and shows the perceptions of respondents at a particular point in time. A survey conducted at a different point in time or longitudinally may have yielded different results. Longitudinal research is needed to explore how preferences may change over time as individuals progress through their careers and as societal values evolve. Only three contemporary leadership styles were studied. Had several different leadership styles been included in the survey, the results on preferred leadership style may have been different. The use of self-report measures, such as the MLQ, may introduce response bias, as participants might respond in a socially desirable manner or may not accurately assess their own preferences. Future studies could include observational or behavioural measures to complement self-report data. The study focused on generational cohorts as the primary independent variable, which may overlook other important factors that influence leadership style preferences, such as individual personality traits, cultural background, and organizational culture. Future research should consider these additional factors when examining leadership style preferences. The sample was drawn from a diverse range of industries, which may limit the generalizability of the findings to specific sectors or job roles. Further research could focus on specific industries or professions to better understand the nuances of leadership style preferences within those contexts.

In reviewing the literature, we found that over the past two decades, much of the research has been conducted on the topic of age in the workplace. This is primarily due to demographic changes and the ageing population (Rudolph & Zacher, 2022). We suggest that researchers focus on the methodological gaps and understanding of age in the workplace as an equivalent or indicator of life and years of experience. In examining the work aspect of workers and ageing from a life span perspective, it would be instructive to bring together research fields and seek partnerships among psychologists, sociologists, economists, and other researchers to make more progress in this area.

Acknowledgment

This research was supported by the European Commission, Erasmus+ Program of the European Union [grant number 2019-1-SI01-KA202-060391] and Management of education and employability in knowledge society P5-0049 (A).

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Stile vodenja in generacijske razlike v proizvodnih in storitvenih organizacijah

Ozadje in namen: Namen te študije je bil preučiti generacijske razlike in preference stilov vodenja v storitvenih in proizvodnih organizacijah v jugovzhodni Sloveniji. Osredotočenost je na prednostnih pristopih vodenja in na generacijskih razlikah.

Metode: Izvedena je bila kvantitativna raziskava z vprašalnikom multifaktorskega vodenja (angl. MLQ - Multifactor Leadership Questionnaire) na zbranih podatkih vzorca 208 zaposlenih v proizvodnih in storitvenih organizacijah jugovzhodne Slovenije. Vprašalnik je bil razdeljen preko spleta, odgovori pa so bili statistično analizirani s Kolmogorov-Smirnovovim testom, s Shapiro-Wilkovim testom in s Kruskal Wallisovim testom.

Rezultati: Rezultati so pokazali, da transformacijski stil vodenja je bolj zaželen med anketiranci, sledi mu transakcijski, najmanj naželen pa je stil vodenja brez vajeti. Pomembna generacijska razlika je bila ugotovljena v prednostih do transakcijskega stila vodenja, pri čemer so Baby Boomerji izkazali najvišjo naklonjenost, generacija Z pa najmanjšo.

Zaključek: Čeprav je bila študija omejena na jugovzhodno Slovenijo in je posplošljivost omejena, rezultati kažejo, da bi morale organizacije zagotoviti usposabljanje vodenja, prilagojeno generacijskim preferencam za spodbujanje učinkovitega vodenja. Prihodnje raziskave naj upoštevajo longitudinalne in sektorsko specifične študije ter vključijo spremenljivke, kot sta kulturno ozadje in organizacijska kultura.

Ključne besede: *Management, Generacijska skupina, Stil vodenja, Vodenje, Zaposleni, Organizacija*

The application of the sensemaking perspective for the examination of employees' behavioural responses to the HR chatbot

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Background and Purpose: The emergence of new technologies affects different business areas, including HR activities. Employee communication is an HR activity that can be automated with the application of chatbots. Besides the numerous advantages these artificial entities offer, the challenges generated by them also need to be considered. One such challenge is user acceptance, which plays a substantial role in the implementation. This study aims to explore employees' behavioural responses to HR chatbots. Thus, we applied the sensemaking perspective, according to which new, unknown phenomena induce the need for interpretation in individuals that simultaneously shape individuals' behaviour toward the phenomenon.

Methodology: For data collection, we conducted semi-structured interviews that were analysed with interpretive phenomenological analysis (IPA). The sample consisted of 6 HR professionals and ten general users. The study took place at the Hungarian organisations of a multinational company.

Results: The analysis revealed that subjects who attributed positive meanings to the HR chatbot typically engaged in actions that aligned with organisational expectations, i.e., using the digital assistant became part of their routine. Interestingly, the closer HR professionals are to technology in their work activities, the more positively they perceive it. However, having ambivalent feelings towards technology resulted in occasional use or avoidance, while experiencing negative feelings led to the rejection of use.

Conclusion: We explored the different meanings employees attributed to the HR bot and their actions directed towards it both in the initial and transitional technology adoption phase. The results contribute to understanding how an HR chatbot can be successfully implemented in an organisation.

Keywords: HR chatbot, HR bot, Human-chatbot interaction, Chatbot, Sensemaking

1 Introduction

The emergence of new technologies affects several business areas, including HR departments (Ekka & Singh, 2022). One such technology is chatbots able to perform several HR activities, thereby increasing the company's efficiency through constant availability, quick responses, and relatively low implementation costs. Chatbots are

computer programs that can communicate with the user without human intervention based on pre-written scenarios and rules through a chat interface (Brandtzaeg & Følstad, 2017; Kenesei & Bognár, 2019). The key element of a chatbot's architecture is the response generation method, which can be rule-based (the chatbot works from predefined responses selected by pattern-matching algorithms), retrieval-based (using a neural network to generate the

most appropriate response), or generative (which uses natural language generation; Adamopoulou & Moussiades, 2020).

Regarding application possibilities in HRM, chatbots can be used for automating both external and internal organisational communication. Majumder and Mondal (2021) reviewed the various functionalities of HR bots, including candidate screening, employee onboarding and training, benefits enrollment, the automation of routine tasks, collecting feedback, and responding to FAQs. In recent years, scholars have studied how the use of chatbots affects HR functional areas. Mohan (2019) reviewed HR chatbots' benefits and challenges. Taule, Følstad & Fostervold (2020) considered how the characteristics of an organisation impact the implementation of an HR chatbot. Black and Van Esh (2020) focused on the usefulness of HR bots in the recruitment process. Majumder and Mondal (2021) provided an overview of the usefulness of chatbots in HRM. Vieru et al. (2022) examined whether AI-based chatbots can support human resources. Although a plethora of articles deal with the application possibilities of chatbots in HR, no study was hitherto conducted on how employees relate to HR bots. However, the human factor should also be taken into account in technology adoption (Kim et al., 2021) as it is influenced by users' cognitive and behavioural responses (Orlikowski & Iacono, 2001).

Based on the research gap identified in the literature, this study aims to explore how the perception of the HR chatbot affects employees' behaviour towards technology. To analyse this, we applied the sensemaking perspective first defined by Weick (1995), who stated that technology is equivocal and, therefore, may generate discrepancy among individuals. In order to diminish this discrepancy, individuals develop a need to find plausible explanations. The meanings attributed to an ambiguous phenomenon also shape individuals' actions. First, our goal was to examine the meanings attributed to HR chatbots - used for employee communication - by HR professionals whose roles and tasks are redefined due to virtual assistance (Mohan, 2019). We also attempted to discover the perspective of general users (i.e. employees whose professional activities are not influenced by the technology). The research questions are formulated based on the research gap using the sensemaking perspective:

What meanings do employees (HR professionals and general users) attribute to the HR chatbot used in their organisation?

How do these meanings affect the behaviour of employees (HR professionals and general users) towards the HR chatbot itself?

The empirical study took place at the Hungarian organisations of a multinational company. In the phase of data collection, 16 semi-structured interviews were conducted. For data analysis, the interpretive phenomenological analysis (IPA) was applied. The sample was divided

into two groups, including 6 HR professionals and ten employees (general users). We examined the meanings attributed to the HR bot in the initial and transitional technology adoption phase, similar to Hsiao et al. (2008). The study revealed the meanings attributed to the HR chatbot by employees and employees' actions towards the chatbot. Regarding the practical implications, the results help to understand how the intended, regular use of the HR bot can be achieved in the organisation.

The study is organised as follows. In Sect. 2, we deal with chatbot technology, the role of chatbots in HRM, and the sensemaking perspective. Section 3 presents the methodology used. The results are presented in Sect. 4, grouped according to HR professionals' and general users' perspectives. This part is followed by the discussion (Sect. 5), and in Section 6, we describe theoretical and practical implications as well as the limitations of the study and suggest future research.

2 Literature review

2.1 Chatbot technology

Certain concepts refer to the chatbot as an AI-based technology (Selamat & Windasari, 2021; Youn & Jin, 2021), others as a computer program (Sheehan et al., 2020; Suhaili et al., 2021). Some authors highlight the way a chatbot communicates (Ashfaq et al., 2020; Adamopoulou & Moussiades, 2020), while others focus on the goal of developing a chatbot, namely, the need to provide more accurate and personalised responses (Selamat & Windasari, 2021). We define chatbots based on Brandtzaeg and Følstad (2017) and Kenesei and Bognár (2019). Chatbots are computer programs that can communicate with the user without human intervention based on pre-written scenarios and rules through a chat interface. This definition does not exclude that the chatbot is AI-based, nor does it limit the concept of a chatbot to a group of agents operating on such a principle. It also does not detail how the chatbot communicates, but it does emphasise the automation of communication with the help of algorithms.

Adamopoulou and Moussiades (2020) group chatbots along seven dimensions: (1) the knowledge domain, (2) the service type, (3) the goals, (4) the response generation method, (5) the human aid, (6) the permissions, and (7) the communication channels. As a classification dimension, the knowledge domain refers to the information available to the chatbot. A generic chatbot can answer any user question. An open domain indicates that the chatbot works from multiple databases, while a closed domain refers to a specific area. Regarding the service type, chatbots that help a person as a friendly social actor by answering asked questions or book services represent the interpersonal category. The intrapersonal chatbot knows the user's personal needs

well and responds to them. Inter-agent service indicates that the chatbot can communicate with other chatbots. The goals of creating a chatbot can be to provide information, chat, entertain, and perform certain tasks, such as making a room reservation or to aid in searching a webshop. The chatbot's response generation method can be rule-based, retrieval-based or generative. Human aid as a grouping criterion indicates whether human intervention is required for a chatbot to function or whether the agent works autonomously. The chatbot can be open-source or commercial in terms of permission. Open source means that the code is available, so the developer has complete control over the interface design, while in the case of commercial platforms, the developer does not have complete control over the chatbot. Finally, the chatbot's communication channel can be text, voice, or video. Text-based chatbots can communicate with freehand text input or text bubbles. Many chatbots work in a hybrid way (i.e. they use multiple channels at once).

2.2 The application of chatbots in HRM

Chatbots can perform many HR activities, as stated by Majumder and Mondal (2021). Among recruitment and selection process activities, providing information on the organisation and the job to applicants, interview scheduling (Majumder & Mondal, 2021; Van Esch & Black, 2019; Gärtner & Kern, 2021; Mohan, 2019; Allal-Chérif et al., 2021), and interview conducting (Kurek, 2021) can be automated. Chatbots are available 24/7 and can communicate with all applicants at once. Therefore, their introduction allows for improving candidate experience by answering questions right away, adapting to potential candidates' preferred communication channels when contacting, and informing applicants about the status of their application throughout the entire recruitment process (Van Esch & Black, 2019; Venusamy et al., 2020). With the help of chatbots in pre-screening, candidates can participate in the interview in their own homes, in a safe environment (Majumder & Mondal, 2021). During pre-screening, a chatbot compares the answers given by candidates with the answers of the high-performing employees of the organisation (Black & Van Esch, 2020), analyses their sentence structure and vocabulary, which is combined with content analysis to determine the candidate's score rating (Black & Van Esch, 2020; Mohan, 2019). The chatbot thus allows HR to focus only on candidates who passed the pre-screening (Allal-Chérif et al., 2021). In addition, chatbots can also help in searching for talent (Gärtner & Kern, 2021). To improve candidate experience, evaluating their feedback and incorporating it into the recruitment process is extremely important, which is also made easier by implementing an HR chatbot (Majumder & Mondal, 2021).

The use of chatbots contributes to the strengthening of

employer branding by allowing the organisation to treat candidates for open positions in a unified manner, helping to differentiate the company (Majumder & Mondal, 2021), and conveying the message that the organisation is open to innovation. The employer brand can play a decisive role when an applicant has to choose between several job opportunities (Sivertzen et al., 2013). Applicant's interest in the organisation is often negatively affected by poor responsiveness and low interpersonal communication. However, chatbots can interact with all applicants and keep them informed (Allal-Chérif et al., 2021), thus creating a positive image of the organisation.

With the support of a chatbot during the onboarding process, new employees feel safe, as they can always turn to the chatbot with questions (Majumder & Mondal, 2021; Venusamy et al., 2020; Kurek, 2021). An onboarding chatbot also facilitates the social integration of new employees and the acquisition of knowledge about the job and the organisation (Kurek, 2021; Majumder & Mondal, 2021; Venusamy et al., 2020), providing step-by-step guidance for them when learning with the help of videos and tutorials. Chatbots can also accomplish knowledge measurement by gaining information about which learning modules employees have fulfilled based on the evaluation of responses (Mohan, 2019). By giving immediate feedback to employees on the outcome of their work, chatbots also support performance management (Majumder & Mondal, 2021).

With the automation of employee communication, chatbots relieve HR of a significant burden (Claus, 2019; Majumder & Mondal, 2021). Questions regularly asked by workers may arise in connection with leave, payroll, benefits, organisational procedures, regulations, career opportunities, and the skills required for filling in a position (Raj, 2019; Jitgosol et al., 2020). Employee interactions with HR chatbots can be stored, which helps to obtain information about the topics that concern employees the most (Kurek, 2021). For the measurement of employees' happiness index and level of commitment, chatbots can be applied for the prediction of potential workforce-related challenges, as well (Mohan, 2019).

As state-of-the-art research has pointed out, although HR chatbots have numerous application possibilities, the achievement of their regular use may generate challenges for the organisation in terms of user acceptance and the management of user expectations (Taule et al., 2020). Viveru et al. (2022) revealed that not only the individual's background and previous experiences in the HR management software field but also individuals' perception of HR tasks influenced their attitude towards the application of virtual assistants in trainee management software. Hence, employees' beliefs and previous experiences should be considered when implementing a chatbot. Moreover, Majumder and Mondal (2021) claimed that chatbot designers must understand the employees' needs and create innovative functions to provide a more user-friendly interaction

based on these needs. Fadhil and Gabrielli (2017) and Hristidis (2018) proposed the constant review, maintenance, and optimisation of HR bots. The results of Taule, Følstad & Fostervold (2020) confirmed that internal marketing of the chatbot is critical for implementation success. Mohan (2019) stated that KPIs should be defined to measure the HR chatbots' performance and contribution to a company's efficiency. As Nosrabadi et al. (2020) state, the application of AI can contribute to optimising employee lifecycle management from recruitment to offboarding. Generative, AI-based chatbots can provide customised interaction through learning from interactions (Jitgosol et al., 2019). I made them more anthropomorphic or helped with candidate pre-screening (Majumder & Mondal, 2021). However, AI-based technologies may raise ethical concerns regarding personal data storage or the automation of decision-making processes. To avoid the rejection of chatbot usage due to these issues, transparency of HR bots' functioning should be guaranteed.

2.3 Technology and Sensemaking

According to Weick (1990), introducing a new technology may induce sensemaking because technology is equivocal and generates several plausible interpretations. The fragmented literature on sensemaking requires precise clarification of the definition. Contradictions appear as to whether sensemaking is merely an interpretation (Berger & Luckmann, 1967; Gioia, 1986; Gephart, 1993; Gioia & Thomans, 1996) or whether it also includes the action (Weick, 1995; Thomas et al., 1993; Taylor & Van Every, 2000; Cecez-Kecmanovic & Dalmaris, 2000; Klein et al., 2006; Seligman, 2006); and if it should have liaised with events causing ambiguity and discrepancy (Cornelissen, 2012; Maitlis & Christianson, 2014; Weick, 1995) or not (Gioia, 1986; Berger & Luckmann, 1967; Louis, 1980; Mandler, 1984); and if it should be understood as an individual process (Cornelissen, 2012; Maitlis & Christianson, 2014) or a result of social interaction (Berger & Luckmann, 1967; Balogun & Johnson, 2004; Gephart et al., 2010). The retrospective nature of sensemaking also appears in some concepts (Weick et al., 2005), but other research approaches suggest that sensemaking may also be prospective (Gioia et al., 1994).

We define sensemaking by Weick (1969, 1995), Louis (1980), Weick et al. (2005); Bogner and Barr (2000); Cornelissen (2012); and Maitlis and Christianson (2014) as follows. The sensemaking process is triggered by ecological changes that are new, unexpected, unknown, confusing, cause discontinuity, disruptive ambiguity and equivocality, thus forcing members of the organisation to retrospectively interpret the discrepant cues and stimuli from the environment in order to find a plausible yet not necessarily accurate explanation. As a result of this, individuals can

reduce and rationalise ambiguity and contradiction. Thus, their continuity becomes restored. Sensemaking goes beyond interpretation, as it also affects their actions and enactment by perceiving and responding to cues interrupting their continuity.

The sensemaking process starts when the perceived situation deviates from what is expected. At this point, individuals do not know exactly what is causing discrepancies, whether they need to act differently to reduce uncertainty, or whether this event caused only a momentary interruption in their activities. In this phase, individuals break down the event into smaller parts and organise them into their existing mental patterns to fit into their cognitive framework. Then, they notice the cues coming from the environment, which process is driven by their previously constructed mental models. They name the unknown cues and link them to their existing knowledge elements. Once individuals name the new stimuli, they try to find plausible explanations for the events. In this step of the sensemaking process, it is not the accuracy that matters but the acceptability, as the explanation seeks to allow the activity to continue, for which a reassuring explanation is sufficient. Sensemaking goes beyond the interpretation of the event ("What is the story here?"), as action ("What should I do?") is just as important to the individual. Interpretation and action are cyclical; the process is iterative, and sensemaking can begin and end with action (Weick et al., 2005, p. 410; Szóts-Kováts, 2012).

Sense made to technology influences its organisational implementation (Orlikowski & Iacono, 2001). In this study, we examine the phases of technology generated sensemaking process based on Hiso et al. (2008), who distinguished three stages. In the initial technology adoption phase, members become familiar with the technology, gain initial tangible experience, make primary sense of it, and decide whether to accept or reject it. The next stage is a period of transitional adoption, characterised by the new meanings given to the technology due to its use. Finally, in the post-adoption phase, technology becomes institutionalised and unnoticed in the organisation; it becomes meaningless to organisation members and is part of the organisational practices.

3 Methods

3.1 The Company

The research was conducted at the Hungarian organisations of a leading technology multinational company. The company decided to launch a rule-based HR chatbot that works from predefined responses using pattern-matching algorithms to help meet modern information retrieval needs by replacing existing corporate intranet pages. The HR chatbot was also introduced due to the need to signifi-

cantly reduce the number of inquiries received by the HR department.

3.2 The HR chatbot

Besides the chat function, the HR chatbot has a search function that helps find HR-related documents employees seek. The digital assistant became available in Hungary in 2021. Filling the chatbot with content is a constant challenge. It requires intense teamwork from HR professionals, as the chatbot's knowledge needs to be regularly updated based on changes in various policies and employee interactions with the chatbot. The HR chatbot development team reviews the chatbot usage reports monthly, along which the digital assistant can constantly be improved.

3.3 Sample

For data analysis, interpretive phenomenological analysis (IPA) was used. IPA suggests a sample size that “allows for detailed analysis and is still suitable for describing the similarities and differences between individual cases” (Rácz et al., 2016, p. 322). In accordance with this methodological recommendation, two small homogeneous groups of subjects were formed. The number of subjects in the sample proved to be sufficient, and theoretical saturation was achieved, as redundant information appeared during the conversation with the interviewees. The first group consisted of HR professionals (some of them are involved in the development of the HR chatbot) (6 subjects), and the other group included the general users of the HR chatbot, i.e. employees of the organisation (10 subjects). Regarding HR employees, 66% of the subjects (n=4) are between the age of 30-40, and 33% (n=2) are between 20-30 years old. All participants in the HR department are female. 40% of the general users (n=4) are between the age of 30-40, 30% of them (n=3) are between the age of 40-50, 2 participants are between the age of 20-30, and 1 subject (10%) is between the age of 50-60. 60% of the second group's subjects are male, and 40% are female.

The sample was selected on the recommendation of the company contact, considering the different perspectives of the two study groups: HR professionals are developing the chatbot, and the chatbot takes over some of their tasks, while the employees use the digital assistant, and hence they gain different experiences with the chatbot. In accordance with this, an important aspect of the sample selection was to find interviewees in different positions.

3.4 Data collection

Before the data collection process took place between September 2021 and March 2022, we conducted a pilot

interview with an HR professional whose responsibilities included the development of the chatbot. The purpose of the pilot interview was to review and supplement the questions in the preliminary interview outline, as suggested by Kallio et al. (2016).

As part of the data collection process, we conducted 16 semi-structured interviews on the MS Teams interface, spanning approximately one hour each. A literal transcript of the audio recordings was made with the subject's consent. We found that most subjects were open to interview as we entered the research field. Employees who had no experience with the chatbot, only tried it a few times or expressed a negative attitude towards technology felt uncomfortable at the beginning of the interview. In the case of these interviews, we took more time at the beginning of the conversation to create a climate of trust and to reassure that the subjects were not required to be technologically optimistic.

3.5 Data analysis

For data analysis, interpretive phenomenological analysis (IPA) was applied. This qualitative method aims to explore subjects' experiences in as much detail as possible and understand how the individual interpreted them. The IPA begins the data analysis with a literal transcript of the interview texts, in which the reactions given by individuals (e.g. laughter or silence) are also noted. The next step is to “immerse in the data” by reading the texts multiple times, during which the researcher “picks up the subjects' shoes”. The researcher “makes descriptive, explanatory, interpretive and conceptual notes on the right margin of the transcript” line by line (Smith et al., 2009, cited by Kassai et al., 2017: 31). In this phase, the dialogue occurs between the researcher's prior knowledge and what the interviewee says, to understand the subject's interpretations. The next step is to identify the emerging topics; that is, what the subject tells the interviewer is dismantled by the researcher from a different perspective than the point of view that appears in the interview. When creating the topics, it is not the vocabulary of the subject that is used but that of the researcher, which is written on the left margin of the transcripts. The researcher then can incorporate theoretical constructs not used by the interviewee. In the following phase, the researcher looks for connections between the topics and identifies the main topics that cover multiple sub-topics intending to explore patterns. Thus, IPA allows double interpretation, as the researcher interprets how the subjects interpreted their experience of the given phenomenon and then makes a conscious, systematic interpretation to identify the emerging topics (Rácz et al., 2016, p. 322).

4 Results

This chapter presents the results based on Kassai et al.'s (2017) suggestion for IPA research. We list the main and emerging topics in tables and present them one by one in detail, also assigning citations to them. Following the methodological recommendation of Hsiao et al. (2008), we first deal with the initial sensemaking processes, and then we focus on the transitional meanings shaped by the subjects' new experiences gained during the HR chatbot's use.

4.1 HR professionals

One of the research goals was to explore the initial and transitional meanings (and actions) attributed to the HR chatbot by HR professionals. As a result of the analysis, different meanings were identified that we present in the following chapters.

4.1.1 Distrust and Fear vs Privilege

HR professionals interpreted the introduction of the chatbot differently (Table 1). For some subjects, it was a surprising event. This novelty filled them with excitement and interest, as the appearance of the virtual agent gave them the feeling that the organisation was innovative, which also meant they had the privilege of using the technology:

“When I first opened it, I had such a futuristic feeling that it was unbelievable that such things could already happen in Hungary.” (HR professional 1)

This interpretation led subjects to explore the technology and made them willing to learn about its features and to incorporate the chatbot's usage into their daily routine.

The HR chatbot's organisational appearance also aroused mistrust in some subjects. This had different causes. On the one hand, there appeared doubts among individuals about whether the chatbot will be more useful than previously used technologies, which they have found to be cumbersome, slow to use, and therefore not worth using in their work. Distrust was also caused by a need for more knowledge about the use of technology, which led to the assumption that they were subject to a surveillance system that tracked their activities. Hence, they needed to be careful where they clicked and what they did. Experiencing the threatening sense of control led them to take action to resist the technology, not to use it:

“When a new system is introduced, no matter how digitalised we are, it is not necessarily a better solution than the previous ones.” (HR professional 2)

“I have not used the chatbot in a very long time. I was distant from it because; I am distrustful when I am online and in digital stuff like that; it was always my first thought, what to do if I click and do something? Who sees it, then? What are you doing there in the background? What will they now use it for?” (HR professional 3)

The digital agent also caused fear on the part of the HR staff, which, like distrust, resulted from a lack of information about the operation of the chatbot. The existence of uncertainty prompted subjects to find a plausible explanation. The subjects interpreted the chatbot as an automatic system, and this meaning led them to resist to use of the technology:

“I remember when I heard of it, and it was a little weird that it was really a robot, so it could send something by itself; I was more scared, too, and I said, if it is really necessary, I will use it, but I rather would not.” (HR professional 3)

Subjects also had two interpretations that did not trigger a sensemaking process. Such was the interpretation of the introduction of the chatbot as a task that did not create

Table 1: Initial sensemaking of HR professionals

Event interpretation	Attitude	Initial meaning	Initial action
novelty	positive, openness, excitement	privilege	discovery
distrust	negative	surveillance system	resistance
fear	negative	automatic system	resistance
a task	neutral	non-sensemaking	performing a task
task of others	neutral	non-sensemaking	ignorance

Source: own edition

Table 2: Transitional sensemaking of HR professionals

Main meaning	Sub-meaning	Action
strengthened of professional commitment	(1) tool of influencing (2) creation (3) learning (4) challenge	Enjoy the HR chatbot's development.
Google search engine	(1) search engine (2) HR's Google (3) the company's Google	promotion as a Google search engine to organisational members.
HR digital assistant	(1) future HR Assistant (2) help (3) transformation of work	directing users to the chatbot consistently
		directing users to the chatbot sometimes
project	(1) one project among the others (2) a clear task (3) leading project	performance of tasks related to the HR chatbot
tool of digitalisation	(1) strategic objective (2) positive change	actions that meet organisational expectations

Source: own edition

ambiguity and did not interrupt the continuity in their organisational existence, so they acted simply by completing the new task:

“I noticed that the chatbot was introduced, I did my job, and that is it.” (HR professional 4)

Some subjects interpreted the chatbot as a task of others that did not induce action towards the virtual agent. Its use was omitted:

“I did not particularly deal with it because I did not perform any task related to it. I did not feel the need to use it.” (HR professional 5)

4.1.2 Ambivalent feelings vs simple searching tool

The experience gained with the chatbot in the initial phase of technology adoption has shaped the meanings given to the digital assistant. The data analysis revealed that some subjects for whom the technology introduction did not generate a sensemaking process made sense of the chatbot. However, it has also become apparent that some HR professionals still do not interpret the chatbot as an ambiguous organisational phenomenon (“Well, the chatbot is really one project among the others.” – HR professional 4). Five interpretations were identified in the transitional technology adoption stage, including the strengthener of professional commitment, Google search engine, HR digital assistant, project, and digitalisation tool (Table 2), from

which three resulted from a sensemaking process.

Some HR professionals interpreted the chatbot's development as strengthening their professional commitment. This meaning has four sub-meaning, including (1) the impact on the employees (“I love working on the chatbot because the results of my work are immediately visible. Feedback also comes immediately from colleagues; they love it. We look at the statistics and will be very happy if our colleagues can find the information as soon as possible.” (HR professional 2), (2) creation (“Working on the chatbot is a good experience because we are shaping it, and it is creative compared to my other monotonous tasks. I never got bored of it. I really like doing it.” (HR professional 1), (3) learning, and (4) challenge as the development of the HR chatbot requires new skills. HR professionals with these positive interpretations enjoy the development of the chatbot, so their actions are congruent with the organisational goals related to the digital assistant.

Some subjects referred to the chatbot as a Google search engine. The chat function of the virtual agent became available in Hungary only in September 2021, and employees could use only its search functions for two years, which may explain this interpretation. Some HR professionals perceived the chatbot as HR's Google – highlighting that it belongs to the HR department – while for other subjects, the digital assistant meant the company's Google.

The third meaning we identified was the HR digital assistant. Some subjects see the chatbot as a future HR as-

sistant: “Maybe one day it will become an HR assistant. For now, it is a Google search engine. I would not say HR assistant yet because the chat is still a very fresh function” (HR professional 5). The second sub-meaning was the recognition of the help provided by the chatbot (“The chatbot is a help to us, I would rather say that. Someone who supports us in the background. But I would not personalise it.” (HR professional 6). A third interpretation was the transformation of work which induced ambivalent feelings because, despite its advantages, HR professionals also experience reduced interactions with the employees, posing a threat to their current job and forcing them to rethink their careers: “On the one hand, I am very happy to have the chatbot because I am more effective. On the human side, I weep because I really like interactions with the employees.” (HR professional 3)

Interpreting the chatbot as a digital assistant evoked different actions among the subjects. Some HR professionals consistently directed employees to the chatbot, while others’ reactions were inconsistent, and they only directed employees to the virtual agent when they were busy.

The experience gained while using the virtual assistant in the stage of transitional technology adoption did not induce a sensemaking process among HR professionals who interpreted the chatbot as a project and a digitalisation tool. Three sub-meanings were identified in relation to projects, including (1) just one project among the others, (2) a clear task and (3) a leading project. The tool of digitalisation interpretation has two sub-meanings: (1) a strategic objective and (2) positive change. The HR professionals having the earlier interpretations act according to organisational expectations as they accept the chatbot and regularly perform the related tasks.

4.2 General users

To consider another perspective in addition to that of HR professionals, our study also attempts to discover the meanings attributed to the HR chatbot by the general users (whose professional roles and tasks are not affected by the introduction of the technology). As a result of the analysis, more meanings emerged that are presented below.

4.2.1 Facilitating operation vs unrecognised tool

As a result of the interview, the analysis identified four different initial event interpretations, two of which (facilitating operation and digitalisation tool) did not lead to a sensemaking process (Table 3). The group of research subjects who interpreted the introduction of the HR chatbot as a joyful event had a positive attitude and were open to trying its functions. This resulted from finding the chatbot useful and interpreting it as a tool to facilitate their day-to-day operations. The expectations of these subjects coincided with their experiences related to the HR bot, so in this case, the sensemaking process could not be identified.

Some employees saw the chatbot’s introduction as a necessary organisational event: “These innovations are part of our lives, so the introduction of this interface also served this purpose” (Employee 4). This group of subjects experienced the appearance of the chatbot as neutral, and the lack of expectations about the chatbot resulted in no discrepancy, so they did not have to give a meaning to the virtual agent to reduce cognitive dissonance: “It did not affect me too much, I had no expectations (Employee 5). These organisational users interpreted the chatbot as a digitalisation tool and integrated its use into their routine.

Certain subjects of the group did not recognise the importance of the chatbot as they thought that the digital assistant was just another useless tool: “Well, the introduction of the chatbot did not affect me well because when a new tool or any new thing gets into our lives, it usually means technical problems arise, and it causes stress about the device. When I found out they were introducing it, I thought it was something stupid again.” (Employee 3). This negative interpretation resulted in the avoidance of use.

Among some subjects, the introduction of the chatbot induced mistrust because they had negative beliefs about robots and AI, which led to being interpreted the chatbot as a test system: “I do not really like the fact that I am the subject on which these things are tested, and this system learns through me.” (Employee 7). Employees who did not trust the chatbot were afraid of it and refused to use it.

Table 3: Initial sensemaking of employees

Event interpretation	Attitude	Initial meaning	Initial action
joy	positive, openness	facilitating operation	trying its functions
necessity	neutral	digitisation tool	use
non-recognition	negative	another useless tool	avoidance of use
distrust	negative	becoming a test subject	rejection of use

Source: own edition

4.2.2 Self-service vs self-service rejection tool

In the case of some subjects, no attitude change occurred towards the chatbot, which led to the absence of sensemaking processes. These employees interpreted the technology as a search page which had three sub-interpretations, including (1) a collection page, (2) search engine or a (3) intelligent website: "Search engine, more like a search website. A bit like Google. That sounds a little silly, but it is like that." (Employee 5) "I would compare the chatbot to a smarter website. I do not see anything special in it" (Employee 4). These interpretations caused the rejection of chatbot use. As a result of the analysis, three meanings were identified during the transitional technology adoption stage, including the self-service system, the operation facilitating tool and the HR assistant (Table 4).

Interpreting the chatbot as a self-service system carries conflicting sub-meanings. Some employees see the HR chatbot as a tool to support self-service, while in the case of others, it enhances the rejection of the technology. Subjects rejecting the use of chatbots are impatient and unmotivated to learn the digital assistant's features: "I think we are still thinking it is easier to ask someone than to search for something for hours." (Employee 8). Employees with positive interpretations feel empathy with HR professionals and are proactive, so they try out the chatbot's functions and learn its operation: "I have tried the chatbot once before but with success, rather less. But I am an experienced Google user, so I approached it this way. I did not formulate complete sentences but rewrote the keywords that seemed relatively simple; if there were no results, I typed in a different word." (Employee 2)

Table 4: Transitional sensemaking of employees

Main meaning	Sub-meaning	Action
self-service system	(1) self-service support tool (2) self-service rejection tool	(1) regular use (2) rejection of use
operation facilitating tool	(1) time-saving tool (2) a tool to help you become more competent	regular use
Search page	(1) collection page (2) search engine (3) intelligent website	rejection of use
HR Assistant	(1) rudimentary tool (2) a tool to assist in private matters (3) a tool to help with HR topics	(1) occasional use (2) special use (3) rejection of use

Source: own edition

The chatbot is perceived as an operation-facilitating tool by employees who feel that the virtual agent saves them time and provides them with information that makes them more competent in the eyes of their colleagues. These positive meanings shape the actions taken towards the chatbot in a way that the subjects turn to the digital assistant when they need information quickly and incorporate its use into their day-to-day work to keep them up to date, making their work more professional: "It is good that as soon as you click on it, the answer comes right away, you did not have to wait. The answers made sense and were helpful." (Employee 9)

The interpretation of the chatbot as an HR assistant has three sub-meanings. A group of subjects reduced the uncertainty caused by the virtual assistant by defining it as a rudimentary technology. These employees recognised the chatbot's organisational role but added that "it provides limited assistance", thus retaining the option to contact human HR professionals.

Some employees saw the chatbot as a tool to assist in private matters. This meaning stemmed from comparing the virtual agent to human HR professionals and finding the advantage that it is more comfortable for them to ask questions from the digital assistant in some sensitive matters, such as termination, loans or cafeteria. Interpreting the chatbot as a rudimentary technology has resulted in its occasional use, while its perception as a tool to assist in private matters has resulted in the special use of technology: "If someone is interested in terms of termination, they did not have to speak about this with his/her supervisor, or with HR which is more comfortable." (Employee 10)

The third sub-interpretation of the HR assistant meant a tool to help with HR topics. In this case, no sensemaking process has occurred, the employees realised the fact that the chatbot was introduced, but they did not start to use it: "The HR chatbot is an assistant that basically provides information on HR topics to users, in a user-specific way. I do not use this service." (Employee 1)

5 Discussion

The aim of this study was to explore employees' behavioural responses to the HR chatbot used for internal organisational communication. Taule, Følstad & Fostervold (2020) claimed that user acceptance is crucial in successfully implementing HR chatbots. Our findings contribute to understanding what emotions and attitudes lead to the willingness or rejection of technology usage. Distrust and fear stemming from the interpretation that chatbots are surveillance systems resulted in the avoidance of use, while having the feeling of privilege, becoming more competent and experiencing the possibility of self-service led to the regular use of the HR bot.

Vieru et al. (2022) found that the perception of HR tasks also influences individuals' attitudes towards virtu-

al assistants. Our results showed that it is very important for HR professionals to experience that other employees can count on them, so they interpret their role as a helper. Therefore, they prefer personal interactions and direct employees to the HR chatbot only when they have no time to help them.

Fadhil and Gabrielli (2017) and Hristidis (2018) proposed the ongoing review and maintenance of HR bots. Our research findings revealed that this activity is one of the favourite tasks of HR professionals because they can be creative and feel their impact in terms of what answers the chatbot gives.

Taule, Følstad & Fostervold (2020) highlighted the role of internal marketing in achieving the regular use of HR chatbots. Our study also confirms this statement, as general users missed the detailed information about the functioning of the chatbot, which led them not to use it. In addition, the lack of transparency about the chatbot's operation contributed to employees' distrust and fear that held them back from trying the HR bot.

6 Conclusions

This paper explored the meanings attributed to the HR chatbot and the employees' actions towards it. Regarding HR professionals, in the phase of initial technology adoption, we identified the following meanings: privilege, surveillance system, and automatic system. The first meaning led subjects to discover the functions of the HR bot, while the latter two resulted in rejection. In the transitional stage, the HR bot was interpreted as a tool that strengthens professional commitment, a Google search engine and HR digital assistant. In the first case, individuals enjoyed the development of the chatbot. The second meaning promoted the chatbot as a Google search engine for general users, while the third led to two different actions. HR professionals who found the chatbot helpful directed employees to it consistently, but those who had negative feelings (because they experienced the transformation of their work) directed employees to the chatbot only when they were busy, thereby reinforcing the norm that the use of the chatbot is not obligatory in the organisation.

General users attributed the following meanings to the chatbot in the initial technology adoption phase: another useless tool, becoming a test subject. The first meaning led to avoidance, while the second was the rejection of technology. The following meanings emerged in the transitional technology adoption stage: a self-service system, an operation facilitating tool and an HR assistant. Two contradictory behavioural responses were associated with the first meaning: those of regular usage and the rejection of usage. Users who considered the chatbot as a tool that facilitates operation used it regularly. At the same time, the interpretation as an HR assistant resulted in occasional, casual use or the rejection of use.

Table 5: Interpretation of events and actions

Interpretation of the event	Attitude	Action	Example
Experiencing equivocality	positive	regular use	tool for self-service
	negative	rejection of use	rejecting self-service
Experiencing obviousness	neutral	use	project
	neutral	avoidance of use	a tool to help with HR topics

Source: own edition

Our research has shown that the HR chatbot has yet to arrive at the post-adoption phase in the organisation. By comparing the perspective of the two study groups, we identified the reason for that. As mentioned above, HR professionals need to have personal interactions with the employees, as this way, they can feel that their colleagues can count on them (an important element of their professional identity). General users have social needs; therefore, they also prefer personal interactions. In addition to this, they find it easier the call HR rather than make efforts to learn how the HR chatbot operates. Hence, the needs of the two study groups coincide regarding social interactions, hindering the appearance of the use of the HR chatbot in the organisational routines.

6.1 Theoretical implications

6.1.1 HR chatbots from the sensemaking perspective

Several studies applied the sensemaking perspective for examining technology adoption (Prasad, 1993; Hsiao et al., 2008; Siino & Hinds, 2004; 2005; Gretzel & Murphy, 2019). However, research has yet to be conducted on sensemaking processes generated by HR chatbots used for employee communication. Our results contribute to sensemaking literature by exploring different meanings attributed to HR bots.

6.1.2 Obviousness and the success of technology implementation

Technology is equivocal in nature and, therefore, may generate sensemaking processes (Weick, 1995). The research results showed that equivocality does not necessarily generate negative emotions among individuals since some positive meanings (e.g. a tool for strengthening professional commitment and a self-service system) were also identified and resulted in the active use of the HR chatbot.

Besides equivocality, obviousness has also appeared among some subjects, which caused opposite actions: the

regular use of the chatbot, and its avoidance or rejection, which means that the lack of experiencing discrepancy does not necessarily contribute to the easier implementation of technology (Table 5).

6.2 Practical implications

The results can be useful for managers and HR professionals when considering the implementation of a digital assistant. The analysis revealed that subjects who associated positive meanings with the HR chatbot typically engaged in actions that matched organisational expectations, i.e., using the digital assistant became part of their routine. Interestingly, the closer HR professionals are to technology as they work, the more positively they perceive it. Therefore, HR professionals' acceptance may be increased by assigning tasks related to the chatbot.

Ambivalent feelings about the technology resulted in occasional use or avoidance, but experiencing negative feelings led to the rejection of use. The avoidance of technology also stemmed from the need for more information. Some of the subjects formulated the need for being provided with more information about the HR chatbot's operation. Companies must provide enough information about the technology, which is advisable to do through the following steps. First, clear communication is required regarding the use of the chatbot (stating that the application of the HR bot is obligatory, not optional). Second, individual assistance should be provided for workers who have difficulties in terms of the chatbots' use. In addition, the HR department should send e-mails more times about the HR bot's introduction and functioning – including data storage and anonymity information – and must consistently direct the users to the chatbot to reinforce the new norms. Workshops must be held for organisation units' leaders who must also dedicate time to presenting the HR chatbot to their teams, focusing on companies' real goals related to the chatbot. The transparency they provide may dispel the fear among workers (i.e. if the HR bot is used for surveillance). If their negative feelings cannot be handled, even so, it should be taken into consideration whether employees have distrust towards the organisation itself. It would

also help to have the first impressions about the technology if the chatbot wrote a letter to the employees about their presence in the organisation. In the beginning, communication needs to be intense and consistent about the technology, but through this, the uncertainty among employees may be reduced, and the chatbot may become part of the routine, which can lead the organisation in the post-adoption phase (Hsiao et al., 2008).

6.3 Limitations

One of the limitations was that we needed to conduct a longitudinal study. Therefore, the turning points leading to the post-adoption stage of the technology (i.e., the phase when the technology becomes meaningless and the organisation will be part of routines) could not be identified. Also, longer-term fieldwork would have allowed us to observe whether, with the development of the chatbot, the demand from organisational users to satisfy their social or the need for anthropomorphic characteristics appears. Data was collected from one company that did not allow the comparison of subjects' perspectives from different organisations.

6.4 Future research

Further research may reveal meanings attributed to chatbots in organisations where users cannot decide about the use of the technology, which may change their attitudes towards technology. It may also be interesting to examine what sensemaking processes are induced by more anthropomorphic chatbots. Also, a longer-term study would have allowed us to observe whether, with the development of the chatbot, the demand from organisational users to satisfy their social needs or the need for anthropomorphic characteristics do appear.

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Preučevanje vedenjskih odzivov zaposlenih, z vidika smiselnosti, na klepetalnega robota s področja kadrovskega managementa

Ozadje in namen: Pojav novih tehnologij vpliva na različna poslovna področja, vključno s kadrovsko dejavnostjo. Komunikacija zaposlenih je kadrovska dejavnost, ki jo lahko avtomatiziramo z uporabo klepetalnic. Poleg številnih prednosti, ki jih ponujajo te umetne entitete, je treba upoštevati tudi izzive, ki jih ustvarjajo. Eden od takšnih izzivov je njihovo sprejemanje s strani uporabnikov, ki igra pomembno vlogo pri implementaciji. Namen te raziskave je raziskati vedenjske odzive zaposlenih na klepetalnice. V raziskavi smo uporabili smiselno perspektivo, po kateri novi, neznan pojav v posameznikih vzbudi potrebo po interpretaciji, ki hkrati oblikuje posameznikovo vedenje do pojava.

Metodologija: Za zbiranje podatkov smo izvedli polstrukturirane intervjuje, ki smo jih analizirali z interpretativno fenomenološko analizo. Vzorec je sestavljalo šest kadrovikov in deset splošnih uporabnikov. Raziskava je potekala v madžarskem multinacionalnem podjetju.

Rezultati: Analiza je pokazala, da so udeleženci raziskave, ki so klepetalnemu robotu pripisovali pozitivne pomene, običajno izvajali dejanja, ki so bila v skladu s pričakovanji organizacije, tj. uporaba digitalnega pomočnika je postala del njihove rutine. Zanimivo je, da čim bolj so kadroviki, pri svojem delu, povezani s tehnologijo, bolj pozitivno jo dojemajo. Ambivalentni občutki do tehnologije pa so povzročili občasno uporabo ali izogibanje klepetalnicam, medtem ko so negativni občutki povzročili zavračanje njihove uporabe.

Zaključek: Raziskali smo različne pomene, ki jih zaposleni pripisujejo kadrovskim klepetalnicam, in njihova dejanja, usmerjena proti njim, tako v začetni kot prehodni fazi sprejemanja tehnologije. Rezultati prispevajo k razumevanju, kako je mogoče klepetalnice uspešno implementirati v organizacijo

Ključne besede: *Klepetalnice, Klepetalnice s področja kadrovskega managementa, Klepetalni robot, Interakcija človek-klepetalni robot, Smiselnost*

The Mediator Role of The Organizational Culture in The Relationship between Charismatic Leadership and Corporate Reputation

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Background and purpose: This study aims to reveal the mediating role of organisational culture in the relationship between charismatic leadership and corporate reputation.

Methodology: The universe of the study consists of health sector workers working in Istanbul. The analysis of the data obtained from the survey application of the data collected from 405 employees in the five-point Likert scale was carried out with SPSS 26.0 program, and a 95% confidence level was studied. Frequency and percentage statistics for categorical variables, mean, standard deviation and minimum and maximum statistics for numerical variables are given. In the study, the mediation model was tested with Procees Hayes Regression. Non-hierarchical clustering was used to divide the sample into groups using scale scores, and the Chi-square test was used to relate demographic characteristics with the determined groups.

Results: According to the analysis results, it was concluded that organisational culture has a mediating role in the effect of charismatic leadership on corporate reputation. The results of the mediation role model are mediated by organisational culture in the effect of charismatic leadership on corporate reputation. According to the clustering analysis results, corporate reputation, charismatic leadership, and organisational culture scores are statistically significant variables for clustering.

Conclusion: Together with these results, it is thought that drawing attention to the charismatic leadership behaviours in the health sector and arranging the organisational culture in a way to adapts to it positively affect the corporate reputation perception of the enterprises in line with the proposed solutions and attracts attention will make a positive contribution for both employees and individuals who will prefer health enterprises.

Keywords: *Charismatic leadership, Corporate reputation, Organisational culture, Health enterprises*

1 Introduction

The distinguishing feature of successful and effective organisations is the formation of their own cultures. Therefore, today's complexity and uncertainty reveal the importance of organisational culture. Organisations increase their competitiveness by adapting to uncertainties, changes, and competitive environments by developing an open

and simple organisational culture accepted by employees (Yazıcı, 2022). Organisational culture also positively affects organisational performance and employee motivation (Ouchi, 1981; Schein, 2009). Since organisational culture is important for the institution's life, determining the factors that create and affect the organisational culture is an important requirement for the organisation's effectiveness.

Organisational culture generally represents the routine activities in an organisation (Lundy & Cowling, 1996). More specifically, shared values within an organisation are the set of assumptions and behaviours that employees adopt (Deshpande & Webster, 1989; Martins & Terblanche, 2003). Organisational culture can be seen as the knowledge, habits, behaviours, and values created by the organisation for the compliance and application of all organisational members in achieving the organisation's goals (Srimulyani & Hermanto, 2022; Yazıcı, 2022). This is compatible with the explanation that organisational culture includes the manifestation of symbols, models, and beliefs (Ashrah et al., 2014). Organisational culture should be considered as a lens that helps to understand and diagnose the effectiveness of an organisation's project. Therefore, considering organisational culture and subculture characteristics seems important to implement policies, guidelines, and programs regarding the quality of life in these contexts (Paz et al., 2020).

Over the past decade, numerous theoretical models and empirical studies have been used to determine the personality traits of various types of leaders, and it has been concluded that charismatic leaders can achieve a higher level of development by applying their values and models (De Hoogh et al., 2005). Charisma, the ability to predict future events, is divinely inspired in Greek (Karim, 2016). Charismatic leaders are rare and unusual. Charisma as a trait or a personal quality is a process of charismatic leadership, and charismatic leadership is the dark side of leadership (Judge et al., 2006; Sparks, 2014; Karim et al., 2019). Max Weber coined charisma to describe a form of influence not based on tradition or authority but on people's perceptions that their leaders have extraordinary abilities (Yukl, 1998).

Charismatic leadership is based on the fact that the followers have a need, goal, or desire that is not met by the current order, and their submission to the leader will lead to the realisation of their goals or desires. Charismatic leaders are representatives of innovative and radical change (Conger, 1999). Charismatic leaders have the characteristics of individuals with distinctively dominant tendencies, self-esteem, and correctness of their views (Nikezić et al., 2013; Abbasiyannejad et al., 2015). Charismatic leadership is encouraging certain behaviours in others through personality strength, persuasion, and communication. Charismatic leadership inspires followers to do something or do something better. Charismatic leadership shows its effect by strongly connecting the followers' self-concepts to the mission expressed by the leader (Ansar et al., 2016).

Charismatic leadership is a set of strong and trainable skills (Antonakis et al., 2011). Charismatic leadership, leader effectiveness (Lowe et al., 1996; Awamleh & Gardner, 1999), followers' task performance and attitudes (Kirkpatrick & Locke, 1996; Meslec et al., 2020), organisational performance (Howell & Frost, 1989; House et al., 1991; Waldman et al., 2001; Wowak et al., 2016), job sat-

isfaction and performance of followers (Lester et al., 2002; Den Hartog et al., 2007). More importantly, charisma is not innate; it can be trained and developed (Antonakis et al., 2012). When the findings are evaluated collectively, it shows that charismatic behaviours create the theoretical charismatic effects on the followers as mentioned above as dependent variables; they get higher performance ratings, they have more satisfied and more motivated followers, and they are seen as more effective leaders by their superiors and followers compared to other people in leadership positions.

Corporate reputation refers to a cumulative business evaluation over a long period (Fombrun, 1996; Gioia et al., 2000). Corporate reputation is a phenomenon that organisations want and strive for to be recognised and to have a positive place in the memories of stakeholders (Nguyen & LeBlanc, 2001). Corporate reputation is an intangible part of the company cluster or its resources (Schweizer & Wijnberg, 1999).

Corporate reputation is an important factor for competitiveness and an important managerial goal in many cases (Balmer & Gray, 2003; Ettenson & Knowles, 2008; Maden et al., 2012). While corporate reputation helps to manage positive relations with customers (Helm, 2007), it affects customers' purchasing decisions as an indicator of service and product quality (Fombrun, 1996). Corporate reputation also fosters a positive relationship with employees and increases employee loyalty by providing a positive identity for them (Fombrun & Shanley, 1990; Balmer, 1995; Van Riel, 1995; Van Riel & Balmer, 1997).

Since charismatic leadership generally shapes the values, beliefs and behaviours of employees in an organisation, the leader's vision and charisma inspire and motivate employees (Ly, 2020). However, corporate culture is needed for these values and beliefs to be effectively communicated and sustained throughout the organisation. Because corporate culture helps to align the behaviours of employees with the vision of the charismatic leader (Pathiranjana et al., 2020), although charismatic leaders have a significant impact on an organisation, their tenure may be temporary or subject to change. Organisational culture serves as a stabilising force by institutionalising the values and beliefs the charismatic leader advocates. When the leader's influence wanes or is replaced by new leadership, the corporate culture can sustain the desired values and behaviours and thus protect the corporate reputation in the long term (Crayne & Medeiros, 2021).

Corporate culture is also important in shaping external perceptions of the company. A strong and positive culture, aligned with the charismatic leader's vision, can be a powerful asset in building a positive corporate reputation (Yue et al., 2020). When employees consistently adopt desired values and behaviours, this can be reflected in their interactions with customers, partners, and stakeholders, resulting in a positive reputation for the organisation (Pfajfar

et al., 2022). Relying solely on charismatic leadership for organisational reputation can create a potential risk. The organisation's reputation may suffer if the leader leaves or faces difficulties. However, by developing a strong organisational culture that goes beyond any individual leader, reputation becomes less dependent on the charisma of a single person. This reduces the risk associated with leader change or fluctuations in leadership effectiveness (Klein et al., 2023).

In summary, the mediating role of organisational culture in the charismatic leader relationship is vital because it contributes to a strong and lasting reputation for the organisation by helping to translate the leader's influence into sustainable values, congruent behaviours, external perceptions, and reduced leader dependency. In light of the above information, this study aims to reveal the mediating role of organisational culture in the relationship between charismatic leadership and corporate reputation, collect the necessary data, and present it to the literature.

2 Theoretical Framework

2.1 Organisational Culture and Charismatic Leadership

Culture and leadership are two sides of the coin because while leaders create groups and organisations, they also create a culture. After creating the culture in the organisation, it determines the leadership criteria and who can be a leader (Schein, 2004; Streimikiene et al., 2021). Although culture has different effects on the emergence and performance of different types of leaders, an important aspect of organisational culture is to enable us to draw some general conclusions about the emergence and performance of leaders. Organisational culture is a key factor influencing an organisation's charismatic leadership. There are five mechanisms by which a leader's assumptions and values become clear to followers. These five mechanisms are (1) what the leader pays attention to, what he measures and controls, (2) how the leader responds to critical events and organisational crises, (3) role modelling, teaching, and coaching, (4) criteria for awarding and distributing status, (5) are recruitment, selection, promotion, retirement and exclusion criteria (Schein, 1992; Ozgenel, 2020). These constructs are associated with behaviours in the second stage of the charismatic leadership process described by Conger & Kanungo (1987).

At the organisational level, a strong organisational culture encourages the emergence and performance of leaders while hindering the emergence and performance of leaders who advocate culturally inconsistent visions (Mumford et al., 2009; Ahamad et al., 2022). Research on culture has shown that the organisation's leader influences a new culture. On the other hand, leaders who entered organisations

with an established culture did not affect the culture equally. This indicates that an established culture has begun to define leadership. In this sense, a charismatic leader can be the key to cultural change if it emerges under appropriate conditions (Bell, 2013; Attieha & Zouhairi, 2021). Charismatic leaders allow their followers to act freely in achieving their goals while at the same time controlling them. Charismatic leaders provide internal integrity with institutional values to create an organisational culture in their followers (Yazıcı, 2022).

Leaders are accepted as a critical variable in determining the success or failure of organisations (Schein, 2004; Hakovirta et al., 2023). Leadership is not just about visions, transformations, and actions. Leadership empowers others (Antonakis et al., 2004; Hajiali et al., 2022). Leaders also make it possible to achieve organisational harmony (Antonakis, 2006; Snell et al., 2022). Therefore, the leaders' qualities in the institution's top management reflect the organisational culture. In particular, the approaches, values, attitudes, and behaviours of senior managers with leadership characteristics in organisations to general and business life are identified with the organisation and turn into organisational values and principles over time. Just as culture affects leaders, leaders also affect culture. In other words, organisational culture is largely fed by leaders, and organisational culture can also influence the development of leaders. The cultures of effective organisations are created by their leaders, and leaders build a culture that supports the vision (Bass & Avolio, 1993).

2.2 Organisational Culture and Corporate Reputation

Organisational culture and corporate reputation are closely related and interconnected, as they are among the intangible assets of an organisation and provide a competitive advantage (Isci et al., 2016). Organisational culture is a team spirit-oriented value system that includes innovation, competitiveness, results, goal orientation, and sustainability (Robbins & Judge, 2018). All these features of organisational culture contribute to the correct understanding and practical definition of corporate culture, which is not an abstract and difficult concept but a practical and dynamic tool that an organisation can use to carry out its regular activities (Homburg & Krohmer, 2011; Victoria et al., 2021).

Corporate reputation is a synthesis of an organisation's stakeholders' views, perceptions, and attitudes, including employees, customers, suppliers, investors, and society (Post & Griffin, 1997; Ledi & Xemalordzo, 2023). Corporate reputation is a perceptual representation of an organisation's past actions and future expectations (Fombrun, 1996; Nardella et al., 2023). In particular, corporate reputation's leadership and vision dimension includes the per-

ception of leaders as visionary managers (Fombrun et al., 2015). Leadership, directly related to corporate reputation, also serves as a lever for a positive organisational culture. The more important the vision, which is one of the important elements of organisational culture, is for the organisation, the more important it is to have managers equipped to put this vision into practice (Meng & Berger, 2013). Senior managers of organisations are people with high visibility in society. Senior managers represent organisations before stakeholders. Therefore, the leadership behaviours exhibited by the managers play an important role in the organisation's personalisation and affect the perception of the organisation's corporate reputation among the stakeholders. Organisations thought to be managed by people with a vision are valued more by stakeholders (Brady, 2005; Karami & Gorzynski, 2022). To create a positive perception of corporate reputation, managers who exhibit leadership behaviours compatible with a strategic perspective supported by appropriate processes and capabilities are needed (Verhezen, 2015).

2.3 Charismatic Leadership and Corporate Reputation

There is a close relationship between corporate reputation and the leader's reputation. The importance of leadership is emphasised in annual surveys of corporate reputation measurement tools such as Reputation Quotient and Fortune's AMAC (Fombrun et al., 2000; Rantanen et al., 2020). Successful companies rely on leaders with power, creativity, and vision to enhance their reputation (Lee, 2004; Fries et al., 2021). Senior managers and employees, who are the most determinant of strategic decisions and corporate results, take decisions to support or defend corporate reputation and act as protectors and supporters of such reputation. A leader's effectiveness is often synonymous with reputation rather than any objective outcome criterion. Maintaining and improving corporate reputation is a top priority for senior managers. Still, there needs to be more emphasis on how companies can develop better practices to protect their reputations. This means that corporate reputation management must become a top priority for leadership (Wessels, 2003). However, despite the undoubted contribution of leadership, the fact that corporate reputation management is a global issue and responsibility should be addressed.

Charismatic leadership is based on values, morals, beliefs, symbolism, and emotions (Antonakis et al., 2016). Charismatic leaders successfully link their future-focused vision for the organisation to an emotionally salient change for subordinates, emphasising the activities necessary to achieve their desired results (Bedell-Avers et al., 2008; Lovelace et al., 2019). If the group is committed to achieving set goals, they use a vision-based approach to

deliver their message to large audiences, providing a sense of meaning and the promise of a better tomorrow. Charismatic leaders express a sense of vision and mission, show determination and communicate high-performance expectations (Waldman et al., 2001; Gebert et al., 2015; Zhang & Wei, 2021).

Meta-analytical studies have also revealed a positive link between charismatic leadership and corporate reputation (Lowe et al., 1996; De Groot et al., 2001). Previous research has suggested that the communication of an optimistic, enthusiastic, and reassuring organisational vision encourages followers to achieve goals (Conger & Kanungo, 1998; Shamir et al., 1993; Mohamed & Otman, 2021) and that the charismatic leader is a highly effective speaker (Bryman, 1992). There is a consensus among leadership theorists that organisational vision is the primary source of charisma, and most research on leadership communication has been developed on visionary or charismatic conversations (Tichy & Devanna, 1986; Conger, 1989; Holladay & Coombs, 1993; Awamleh & Gardner, 1999).

To manage corporate reputation, it is necessary to first understand the components that make up a corporate reputation and which of these components are more effective on social stakeholders. Components of corporate reputation; emotional appeal, products and services, vision and leadership, work environment, financial performance, and social responsibility (Fombrun et al., 2000; Cravens et al., 2003; Van Riel & Fombrun, 2007; Song et al., 2019). Emotional attraction, feeling good about the institution, liking and respecting the institution, and having a great deal of trust in the institution expresses emotional attraction towards the institution. Identification with the institution, loyalty to the institution, consistent behaviour of the institution in its activities, and as a result, gaining stakeholder support and trust indicate emotional attractiveness (Boztepe, 2014).

Products and services, standing behind products and services, developing innovative products and services, offering high-quality products and services, and presenting the real value of products and services are indicators of an institution's performance in terms of products and services (Şatır & Erendağ Sümer, 2008; Abbas, 2020). The leadership and vision dimension of corporate reputation emphasises the influence of the leader on corporate reputation. The leader is the visible face of the enterprise in society. The presence of a strong leader positively affects the reputation of the business. The financial performance dimension shows the profitability of the business, the possibility of growth in the future, and how it is perceived as an investment tool. The fact that the profitability of the business is high and it is seen as a low-risk investment tool strengthens the corporate reputation. With dimension of the working environment, it is meant the quality of management and employees in the enterprise and the suitability of the enterprise to work (Fombrun & Van Riel, 2003;

Pişkin & İlgün Kamanlı, 2020).

Working environment, having a good and effective management approach, working to create a good corporate impression, creating an impression of an institution with good employees, being in contact with all stakeholders, and creating new communication strategies to maintain and strengthen this communication (Agnihotri, 2014). Financial performance, a strong record of profitability, dealing with low-risk investments, having strong expectations of continuing to grow in the future, and tending to be superior to competitors are indicators of an institution's financial performance (Roberts & Dowling, 2002; Fang et al., 2022). Social responsibility, being sensitive to the environment, taking into account the expectations of society, and acting effectively in responding to these expectations constitute the indicator of the social responsibility of an institution (Schwaiger, 2004; Cheema et al., 2020). Social responsibility is one of the important parameters of corporate reputation. The fact that the institution is sensitive to social problems in the society in which it exists and operates and that it acts in the least harmful thought while performing its activities ensures that the institution has a positive reputation in society.

3 Methodology

This study was carried out to examine the mediating role of organisational culture in the relationship between charismatic leadership and corporate reputation in health institutions in Istanbul. Since the data used in this study are primary data collected to enrich the literature in the field of

organisational behaviour, a survey was conducted through a questionnaire. The mediation model was tested with Process Hayes Regression (model 4). Non-hierarchical clustering (K-Mean) was used to divide the sample into groups by using the scale scores, and the Chi-square test was used for the relationship between the determined groups and demographic characteristics.

3.1 Research Hypotheses and Model

The hypotheses and research model of this study, which was conducted in line with the mediating role of organisational culture in the relationship between charismatic leadership and corporate reputation, are explained below.

Hypothesis 1: There is a positive relationship between charismatic leadership and corporate reputation.

Hypothesis 2: Organisational culture has a mediating role in the relationship between charismatic leadership and corporate reputation.

Hypothesis 3: Organisational culture differs significantly according to demographic variables.

Hypothesis 4: Charismatic leadership differs significantly according to demographic variables.

Hypothesis 5: Corporate reputation differs significantly according to demographic variables.

The model of the research regarding the mediating role of organisational culture in the relationship between charismatic leadership and corporate reputation is shown in Figure 1 below.

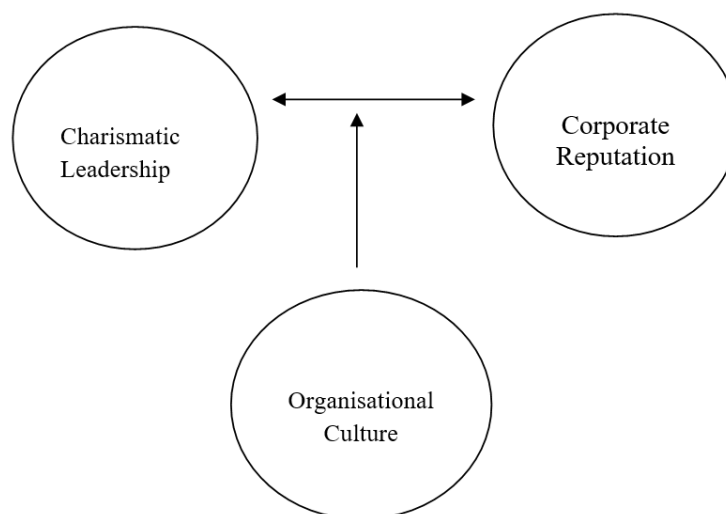


Figure 1: Research Model

3.2 Data Collection

The universe of this study consists of health sector workers in Istanbul. The confidentiality of all participants was ensured, and they were free to terminate their participation at any time. The questionnaire consists of four parts: demographic information, charismatic leadership, corporate reputation, and organisational culture. Items were measured using a five-point Likert scale ranging from (1) "Strongly disagree", (2) "Disagree", (3) "Undecided", (4) "Agree", and (5) "Strongly agree". Demographic information in the study; Consists of five questions: gender, age, marital status, educational status, and the length of time worked in the institution. In the study, the charismatic leadership scale developed by Conger & Kanungo (1994) and used by Özdemir & Pektaş (2020) was used. The charismatic leadership scale consists of six dimensions (defining and explaining the vision, showing environmental sensitivity, exhibiting unusual behaviours, taking personal risks, being sensitive to member needs, and not maintaining the current situation) and 25 items.

In the study by Fombrun et al. (2000) and used by Gül & Avcı (2018), the corporate reputation scale was used. The corporate reputation scale consists of six dimensions (attractiveness, product and service, financial performance, leadership and vision, working conditions, and social responsibility) and 19 items. However, in this study, the leadership vision dimension of the corporate reputation scale was used. Assuming that the questions in the leadership and vision sub-dimension of the corporate reputation scale can be associated with the questions in the charismatic leadership and organisational culture scales, this sub-dimension was examined. The organisational culture scale developed by Denison and used by Kızıloğlu (2017) was used in the study. Denison's organisational culture scale includes four main organisational culture dimensions (participation, consistency, mission, and external adaptability).

Three sub-dimensions have been determined for each main organisational culture dimension, and there are 12 sub-dimensions in total on the scale. For each sub-dimension, three questions were determined to measure these dimensions. There are 36 questions for 12 dimensions in total. Collecting the questionnaires from the target sample took three months, with 405 completed responses returned and approved. Thus, the total sample size of this current study was 405 individuals. Table 2 shows the demographic information of the participants.

3.3 Data Analysis

The analysis of the data was made with the SPSS 26.0 program, and it was studied with a confidence level of 95%. Frequency and percentage statistics for cate-

gorical variables, mean, standard deviation and minimum and maximum statistics for numerical variables are given. In the study, the mediation model was tested with Proces Hayes Regression (model 4). Non-hierarchical clustering (K-Mean) was used to divide the sample into groups by using the scale scores, and the Chi-square test was used for the relationship between the determined groups and demographic characteristics.

4 Analysis

One procedure to examine the conformity of the scores obtained from the scales to the normal distribution is to calculate the skewness and kurtosis values. The kurtosis and skewness values obtained from the scale scores between +3 and -3 are considered sufficient for normal distribution (Hopkins & Weeks, 1990). Accordingly, it was accepted that the scores of corporate reputation, charismatic leadership, and organisational culture showed normal distribution (Skewness/Kurtosis coefficients are in the range of -3:+3). Parametric methods were used in the analysis.

Cronbach's alpha coefficient varies between 0-1, according to the evaluation criteria, "the scale is not reliable if it is 0.00-0.40, the scale is low reliability if it is 0.40-0.60, the scale is highly reliable if it is 0.60-0.80, and the scale is highly reliable if it is 0.80-1.00" is expressed (Nunnally, 1967). Accordingly, the reliability of corporate reputation, charismatic leadership, and organisational culture scales are very high (Cronbach Alpha>0.800).

Mediation with Process Regression

The indirect effect is the product of the effect (a) of the independent variable (X) on the mediating variable (M) and the effect (b) of the mediating variable (M) on the dependent variable (Y) (a.b). According to the modern approach, In the mediating effect model given, if the indirect effect of X (a.b) is significant as a result of the bootstrap test, the mediation model is considered to be validated. No other tests are needed.

Unlike the Baron and Kenny method, according to the modern approach (Hayes, 2018);

- The total effect (c) need not be statistically significant. Although the total effect is not statistically significant, there may be mediation models whose mediation effect is significant.
- The effect of the independent variable (X) on the mediating variable (M) (a) need not be statistically significant by itself.
- While the effect (ca) of the independent variable (X) is kept under control, the effect of the mediator variable (M) on the dependent variable (Y) alone (b) need not be statistically significant.

Table 1: Descriptive Statistics of Institutional Reputation, Charismatic Leadership, Organizational Culture Scales, Reliability Analysis Results

	Min	Max	Mean	Std Error	Skewness	Kurtosis	CA
Corporate Reputation	3	15	12.27	2.60	-0.93	0.71	0.952
Vision Setting, Explanation	12	30	24.58	4.80	-0.69	-0.04	0.973
Demonstrating Environmental Sensitivity	8	35	28.81	5.53	-1.02	1.45	0.968
Exhibiting Unusual Behaviors	3	15	12.07	2.52	-0.80	0.64	0.932
Taking Personal Risks	4	20	15.99	3.77	-1.11	1.14	0.961
Demonstrating Sensitivity to Member Needs	3	15	12.15	2.71	-1.09	1.34	0.963
Failure to Maintain Current Status	2	10	7.99	1.82	-1.07	1.35	0.895
Charismatic Leadership	41	125	101.59	19.58	-0.78	0.56	0.986
Participation	18	45	36.03	7.42	-0.51	-0.50	0.957
Consistency	9	45	35.78	7.89	-0.73	0.29	0.958
Rapport	14	45	35.98	7.58	-0.66	0.03	0.957
Mission	18	45	35.90	7.32	-0.42	-0.55	0.949
Organisation Culture	63	180	143.69	29.57	-0.53	-0.31	0.988

CA: Cronbach Alpha

- It is not appropriate to describe only qualitative judgments and mediation models using the terms partial mediation and full mediation. It is more appropriate for the scientific approach to report the findings related to the mediation model numerically by calculating the direct effect (c'), indirect effect ($a.b$) and total effect ($c=c'+ab$) values instead of partial mediation and full mediation expressions. Direct effect (c') and total effect ($c=c'+ab$) may not be statistically significant; the insignificance of direct effect and total effect does not eliminate the existence of indirect effect ($a.b$) and does not invalidate the mediation model.
 - Decisions about whether the indirect effect, direct effect, and total effect values are statistically significant should be tested and interpreted with the bootstrap confidence interval (if this is not possible, the Monte Carlo confidence interval), the findings obtained from the bootstrap confidence interval calculations instead of the Sobel test in determining the significance of the indirect effect should be used. In the modern approach, whether the indirect effect ($a.b$) is significant is seen as a much more important issue. Modern approach; Baron and Kenny do not look for conditions related to the successive steps of the method and argue that even if these conditions are not met, there may be a mediating effect (indirect effect; $a.b$) (Fritz & MacKinnon, 2007; Hayes, 2018; Hayes & Rockwood; 2017; Preacher & Selig, 2012; Williams & MacKinnon, 2008).
- In addition, in the modern approach, it is recommended to test the indirect effect with the bootstrap technique, which produces stronger and more valid results than the Sobel test.
- In the bootstrap technique, a new observation set different from each other is created by repeating the observations in the original data set, and statistical calculations are made with these new data sets (Efron, 1987). In this method, more reliable results are obtained by correcting the bias and skewness related to the distribution. In bootstrap analysis, generally, bias-corrected and accelerated bootstrap confidence interval (BCA CI) values are reported (Efron & Tibshirani, 1994). In the modern approach, it is decided whether there is a mediating effect or an indirect effect ($a.b$) by looking at the values in the 95% confidence interval (CI) obtained as a result of the bootstrap analysis. Accordingly, if the lower and upper confidence interval values corresponding to the indirect effect ($a.b$) value do not include the zero (0) value, the indirect effect is considered significant, and it is understood that the mediation effect occurs. One of the additional methods used to talk about the mediation effect is the VAF (Variance Accounted For) value (Chang et al., 2019; Sarstedt et al., 2014; Klarner et al., 2013).

Non-Hierarchical Clustering

It is a guiding research method for summarising and describing large and complex data in multidimensional space. The primary purpose of clustering analysis is to group individuals or objects in line with their similarities, taking into account their basic characteristics (Kalaycı, 2005). In cluster analysis, distance measures, correlation measures or similarity measures of categorical data are used to determine the similarities between the observed individuals or objects by calculating the values of all variables. Cluster analysis groups very similar individuals or objects in the same cluster according to predetermined selection criteria. As a result of the analysis, while the individuals or objects that make up a cluster are similar to each other, they will not be similar to the individuals or objects of other clusters. For this reason, while the clusters are homogeneous within themselves, there will be heterogeneity among the clusters. In the hierarchical clustering method, it is assumed that there are n clusters. As a first step, the two closest clusters are combined. In the second step, the number of clusters is reduced by one, and the renewed distance matrix is found. These two steps are repeated $n-1$ times. Clusters are determined.

5 Results

51.9% of the employees are males, 36.3% are 32-48 years old, 55.6% are married, 56.3% are undergraduate graduates, and 37.0% have been working in their institution for 0-3 years.

In the study, the mediating role model of organisational culture in the effect of charismatic leadership on corporate reputation was tested. The dependent variable is corporate reputation, the independent variable is charismatic leadership, and the mediating variable is organisational culture. According to the results, the independent>mediator model ($F=1668.908$; $p=0.000<0.05$), the independent/intermediary>dependent model ($F=916.770$; $p=0.000<0.05$) and the independent>dependent model ($F=1398$), 786 ; $p=0.000<0.05$) is statistically significant. Charismatic leadership has a positive and statistically significant effect on organisational culture ($B = 1.355$; $p=0.000<0.05$) and organisational culture on corporate reputation ($B = 1.355$; $p=0.000<0.05$). The total effect ($B = 0.117$ [0.111-0.123]), direct effect ($B = 0.061$ [0.048-0.073]) and indirect effect ($B = 0.056$ [0.025-0.080]) of charismatic leadership on corporate reputation is statistically significant. Since the indirect effect is significant, the mediation effect can be mentioned. $VAF=0.056/0.117=0.478$ was calculated. Accordingly, organisational culture partially mediates the effect of charismatic leadership on corporate reputation.

Table 2: Distribution of Demographic Characteristics

		N	%
Gender	Male	210	51.9
	Female	195	48.1
Age	18-24	108	26.7
	25-31	90	22.2
	32-48	147	36.3
	48 +	60	14.8
Marital Status	Married	225	55.6
	Single	180	44.4
Educational Status	Associate	45	11.1
	Undergraduate	228	56.3
	Postgraduate	132	32.6
Length of Work	0-3 year	150	37.0
	4-10 year	126	31.1
	11-20 year	84	20.7
	20 years +	45	11.1

Table 3: Mediation Role Model Results

Tested way	Effect				Model	
	B	Std error mean	t	%95 CI (B)	R ²	F
Charismatic Leadership> Organisational Culture	1.355*	0.033	40.852	1.290-1.421	0.805	1668.908*
Organisational Culture > Corporate Reputation	0.042*	0.004	9.900	0.034-0.050	0.820	916.770*
Charismatic Leadership > Corporate Reputation						
Total Impact	0.117*	0.003	37.400	0.111-0.123	0.776	1398.786*
Direct Impact	0.061*	0.006	9.488	0.048-0.073	x	X
Indirect Impact	0.056*	0.014	x	0.025-0.080	x	x

*p<0.05 significant effect, p>0.05 no significant effect; Process (model4 ; n=2000 Bootstrap)

Table 4: Cluster Analysis Results

	Cluster1	Cluster2	F	p
Corporate Reputation	9.15	13.45	478.208	0.000*
Vision Setting, Explanation	19.30	26.57	340.975	0.000*
Demonstrating Environmental Sensitivity	22.70	31.11	344.897	0.000*
Exhibiting Unusual Behaviors	9.22	13.14	380.802	0.000*
Taking Personal Risks	11.97	17.51	304.071	0.000*
Demonstrating Sensitivity to Member Needs	9.24	13.24	310.112	0.000*
Failure to Maintain Current Status	6.27	8.64	205.991	0.000*
Charismatic Leadership	78.70	110.22	431.232	0.000*
Participation	26.29	39.71	760.905	0.000*
Consistency	25.41	39.69	760.004	0.000*
Rapport	26.05	39.72	744.940	0.000*
Mission	26.42	39.48	699.230	0.000*
Organisation Culture	104.17	158.61	841.209	0.000*

*p<0.05 significant variable, p>0.05 not significant variable; Cluster analysis (K avg)

Cluster analysis was applied by making use of the employees' corporate reputation, charismatic leadership, and organisational culture variables. The analysis focused on 2 clusters. The results of the 3 clusters were also examined, but one of the clusters was not considered appropriate since very few employees were included. K-Mean was used as the method. According to the results of the analysis, overall corporate reputation, charismatic leader-

ship, and organisational culture scores are statistically significant variables for clustering ($p=0.000<0.05$). When the averages of the clusters were examined, it was observed that the existing features were low in Cluster1 and high in Cluster2. There are 112 (27.4%) employees in Cluster 1 and 294 (72.6%) employees in Cluster 2.

There was no statistically significant correlation between the cluster of employees and their gender ($X^2=0.297$;

Table 5: The Relationship between the Identified Cluster and Demographic Characteristics

		Cluster1		Cluster2		χ^2	p
		n	%	n	%		
Gender	Male	60	54.1	150	51.0	0.297	0.586
	Female	51	45.9	144	49.0		
Age	18-24	3	2.7	105	35.7	130.927	0.000*
	25-31	0	0.0	90	30.6		
	32-48	78	70.3	69	23.5		
	48 +	30	27.0	30	10.2		
Marital Status	Married	87	78.4	138	46.9	32.257	0.000*
	Single	24	21.6	156	53.1		
Educational Status	Associate	3	2.7	42	14.3	86.288	0.000*
	Undergraduate	33	29.7	195	66.3		
	Postgraduate	75	67.6	57	19.4		
Length of Work	0-3 year	12	10.8	138	46.9	65.243	0.000*
	4-10 year	33	29.7	93	31.6		
	11-20 year	42	37.8	42	14.3		
	20 years +	24	21.6	21	7.1		

* $p < 0.05$ significant relationship, $p > 0.05$ no significant relationship; Chi-square test

$p = 0.586$). Employees' age ($X^2 = 130.927$; $p = 0.000 < 0.05$), marital status ($X^2 = 32.257$; $p = 0.000 < 0.05$), education status ($X^2 = 86.288$; $p = 0.000 < 0.05$) There is a statistically significant correlation between working time in the institution ($X^2 = 65.243$; $p = 0.000$). The age of employees in Cluster1 is higher, while employees in Cluster2 are lower. The rate of being married is higher in Cluster1 and the rate of being single in Cluster2. While the rate of postgraduate graduates is higher in Cluster 1, the rate of associate graduates is higher in Cluster 2. In Cluster1, the working time in the organisation is higher, and for Cluster2, the working time is lower.

6 Discussion

This study is one of the few studies investigating the relationship between charismatic leadership, corporate reputation, and organisational culture. The most important finding of the study is that organisational culture mediates the effect of charismatic leadership on corporate reputation. The mediating role of organisational culture may depend on certain contextual factors. For example, certain dimensions of organisational culture may enhance or weaken the impact of charismatic leadership on corporate reputation in different situations. The specific nature and characteristics of culture, together with external factors,

may influence the strength and direction of the relationship.

Among the results of the study, charismatic leadership was found to be significant in both organisational culture and corporate reputation. These findings show that charismatic leadership is an important factor in shaping organisational culture and corporate reputation. In addition, there are findings similar to our study in the literature. Avolio et al. (1991) examined the effect of charismatic leadership on organisational performance and found that charismatic leadership is positively related to organisational culture, which in turn affects corporate reputation. House et al. (1991) investigated the relationship between charismatic leadership and organisational culture in a multinational organisation. They found that charismatic leadership has an important effect on shaping the organisational culture, and this, in turn, affects the reputation of the organisation.

Walumbwa et al. (2008) investigated the effects of transformational leadership (including charismatic leadership as a component) on organisational culture and corporate reputation. The findings revealed that transformational leadership is positively related to both organisational culture and corporate reputation. Kalshoven et al. (2011) investigated the impact of charismatic leadership on organisational culture and corporate reputation in the context of the Chinese business environment. The results showed

that charismatic leadership positively affects organisational culture, which in turn increases corporate reputation. Sosik & Cameron (2010) examined the relationship between charismatic leadership, organisational culture, and perceived corporate reputation. The findings showed that charismatic leadership is positively related to both organisational culture and corporate reputation.

According to another finding of our study, age, marital status, educational status, and working time in the organisation are important factors in understanding how employees are clustered according to these variables. According to the results of the clustering analysis using the corporate reputation, charismatic leadership, and organisational culture variables of the employees, all corporate reputation, charismatic leadership, and organisational culture scores are statistically significant variables for clustering. This shows that these variables play an important role in distinguishing different clusters within the employee population. However, the analysis also shows that there is no statistically significant relationship between employee cluster and gender. This means that gender does not contribute significantly to the formation of clusters based on corporate reputation, charismatic leadership, and organisational culture. On the other hand, there are statistically significant relationships between the clustering of employees and their age, marital status, educational background, and working time in the organisation. These variables affect the clustering patterns, indicating that employees with different age groups, marital statuses, educational backgrounds, and working time in the organisation tend to be associated with different clusters based on corporate reputation, charismatic leadership, and corporate culture.

Jung & Avolio (2000) investigated the relationship between age, culture, and leadership effectiveness and suggested that the effectiveness of leaders may vary among different age groups due to generational differences and changing experiences. Another study by Uzonwanne & Nwanzu (2017) examined the impact of marital status on leadership styles and behaviours and found that married individuals may exhibit different leadership characteristics compared to single individuals. House et al. (2002) investigate the relationship between educational background and leadership effectiveness in different cultures and suggest that higher levels of education may positively affect leadership skills and behaviours. Mukherjee & Sen (2022) focus on the impact of CEO tenure on corporate reputation and show that longer CEO tenures can contribute to increased reputation due to the stability and knowledge they bring to the organisation.

In the study, which deals with the creation and management of the corporate reputation of 4 and 5-star hotels in Athens, as well as the role of leadership in corporate reputation, it has been concluded that the level of corporate reputation will increase as the level of charismatic leadership increases (Stavrinoudis & Chrysanthopoulou,

2015). In a study conducted on the employees of public institutions in Malaysia, it was seen that the stronger the leaders exhibit charismatic leadership communication, the better the perception of the reputation of the public institution will be (Jamal & Bakar, 2015). In a study examining the effect of charismatic leadership characteristics of school principals on the institutional reputation of schools according to the opinions of teachers, it was found that there was a positive and significant relationship between the charismatic leadership characteristics of school principals and the institutional reputation of schools (Demir & Yirci, 2021).

Since the health sector is an important service sector, it is one of the sectors where the perception of corporate reputation is felt intensely by stakeholders. To increase the corporate reputation perceived especially by external stakeholders, it is necessary to evaluate and try to increase the corporate reputation perceived by internal stakeholders. In sectors such as the health sector, where customer satisfaction must be high for success, it is extremely important to create a desirable organisation.

7 Conclusion

The aim of this study, which was conducted on 405 health sector employees in Istanbul, is to reveal the mediating role of organisational culture in the relationship between charismatic leadership and corporate reputation. However, the leadership and vision dimension of the corporate reputation scale was used in this study. Assuming that the questions in the leadership and vision sub-dimension of the corporate reputation scale can be associated with the questions in the charismatic leadership and organisational culture scales, this sub-dimension was examined.

According to the results of the mediating role model, organisational culture mediates the effect of charismatic leadership on corporate reputation. According to the clustering analysis results, corporate reputation, charismatic leadership, and organisational culture scores are statistically significant variables for clustering. These results of the study seem to be consistent with similar studies mentioned before. With these results, it is thought that the study will draw attention to charismatic leadership behaviours in the health sector, and in line with the proposed solutions, it is thought that regulating the organisational culture in a way that will adapt to this positively affect the perception of corporate reputation of the enterprises in line with the proposed solutions will contribute positively for both employees and individuals who will prefer health enterprises.

Practical Implications

Recognising the impact of charismatic leadership on organisational culture and corporate reputation, organi-

sations can prioritise leadership development programs that emphasise the development of charismatic leadership qualities. Organisations can focus on creating a strong and positive organisational culture that is aligned with the desired corporate reputation. This alignment can be achieved by promoting shared values, norms, and behaviours among employees. Understanding the mediating role of organisational culture enables organisations to manage their corporate reputation more effectively. They can leverage charismatic leadership and culture-building initiatives to shape external perceptions and enhance their reputation.

Theoretical Implications

This study highlights the interaction between charismatic leadership and organisational culture and provides insights into the integration of leadership and cultural theories. It deepens our understanding of how leadership influences culture and how culture influences organisational outcomes. The findings contribute to mediation theory by demonstrating the mediating role of organisational culture. This extends the theoretical understanding of the mechanisms through which charismatic leadership influences organisational reputation. The study may shed light on boundary conditions where the mediating role of organisational culture is more or less evident. It paves the way for further research to explore the contextual factors that regulate the relationship between charismatic leadership, organisational culture, and corporate reputation.

Work Limitations

Findings may be limited to specific sectors, organisational contexts, or cultural settings. Replicating the study across different organisations and contexts would help to establish the generalisability of the findings. The study may have relied on cross-sectional data or correlational designs that limit the ability to determine causality with certainty. Longitudinal or experimental designs may provide stronger evidence of causal relationships between charismatic leadership, organisational culture, and corporate reputation. Measurement of variables such as charismatic leadership, organisational culture, and organisational reputation may be subject to measurement biases or limitations. The use of multiple data sources and validated measurement scales may increase the robustness of the study.

Future Research

Future research on the mediating role of organisational culture in the relationship between charismatic leadership and corporate reputation could focus on several key areas

as to deepen our understanding. For example, conducting longitudinal studies can provide insights into the dynamic nature of the relationship between charismatic leadership, organisational culture, and corporate reputation over time. Examining these variables at multiple points in time allows researchers to capture causal directionality and potential reciprocal effects between them. Investigating the mediating role of organisational culture in different cultural contexts can contribute to a more comprehensive understanding of the relationship. Comparing findings across cultures may shed light on the extent to which the mediating effect of organisational culture may differ or remain consistent in different settings. Given the multi-level nature of organisations, future research could investigate how charismatic leadership influences organisational culture and subsequently affects organisational reputation at different levels, such as individual, team, and organisational levels. Understanding the cascading effects between these levels may provide a more nuanced understanding of the mediating role of organisational culture. Investigating the underlying mechanisms through which organisational culture mediates the relationship between charismatic leadership and corporate reputation is crucial. For example, future research could explore how specific cultural dimensions (e.g., values, norms, communication patterns) serve as mediators and shape the impact of charismatic leadership on corporate reputation. Examining the boundary conditions that influence the relationship between charismatic leadership, organisational culture, and corporate reputation can improve our understanding of when and under what conditions this relationship is strengthened or weakened.

Factors such as industry type, organisational size, and environmental turbulence may moderate this relationship and should be considered in future studies. Future research could explore alternative mediation models to better understand the mediating role of organisational culture. For example, examining whether organisational culture partially or fully mediates the relationship between charismatic leadership and corporate reputation may provide a more nuanced understanding of the underlying processes. Combining qualitative and quantitative research methods can provide a more comprehensive understanding of the mediating role of organisational culture. Qualitative methods such as interviews or case studies can complement quantitative analyses, providing rich insights into the experiences and perceptions of individuals within the organisation.

Overall, future research should seek to deepen our understanding of the complex interplay between charismatic leadership, organisational culture, and organisational reputation. By considering these pathways, researchers can contribute to theory development, provide practical insights for organisations and contribute to a broader understanding of leadership and organisational dynamics.

Acknowledgements

No funding or grants were used in this study.

Appendices

This article is an original work that has not been published in any journal.

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Mediatorska vloga organizacijske kulture v razmerju med karizmatičnim vodenjem in ugledom podjetja

Ozadje in namen: Pričujoča raziskava ugotavlja posredniško vlogo organizacijske kulture v razmerju med karizmatičnim vodenjem in ugledom podjetja.

Metodologija: V raziskavi so sodelovali delavci zdravstvenega sektorja, ki delajo v Istanbulu. Analiza podatkov, pridobljenih z uporabo ankete s petstopenjsko Likertovo lestvico, zbranih od 405 zaposlenih, je bila izvedena s programom SPSS 26.0, preučevana je bila 95-odstotna stopnja zaupanja. Podane so frekvenčne in odstotne statistike za kategorične spremenljivke, povprečje, standardni odklon ter minimalne in maksimalne statistike za numerične spremenljivke. V raziskavi smo mediacijski model testirali s procesom Hayes Regression. Za razdelitev vzorca smo uporabili nehierarhično združevanje, test hi-kvadrat pa je bil uporabljen za povezavo demografskih značilnosti z določenimi skupinami.

Rezultati: Rezultati raziskave so pokazali, da ima organizacijska kultura posredniško vlogo pri v razmerju med karizmatičnim vodenjem in ugledom podjetja. Rezultati analize grozdenja so pokazali, da so ugled podjetja, karizmatično vodenje in rezultati organizacijske kulture statistično pomembne spremenljivke za grozdenje.

Zaključek: Glede na rezultate raziskave lahko zaključimo, da opozarjanje na karizmatična voditeljska vedenja v zdravstvenem sektorju in ureditev organizacijske kulture na način, da se temu prilagaja, pozitivno vplivata na percepcijo korporativnega ugleda podjetij. Rezultati predstavljajo pomemben prispevek za zdravstvena podjetja.

Ključne besede: *Karizmatično vodenje, Korporativni ugled, Organizacijska kultura, Zdravstvena podjetja*

Does Individual IT Experience Affect Shadow IT Usage? Empirical Evidence from Universities with Legal Entities in Indonesia

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Background and purpose: Employee dissatisfaction with extant technology is one of the causes of shadow IT use. The selection of alternative technologies is determined by individual IT knowledge. In this study, we intend to examine the relationship between individual IT experience and the use of shadow IT in Indonesian higher education through two job characteristics, namely task identity and autonomy.

Methods: This study collects and analyses data from 301 respondents at Indonesian universities with legal status using a quantitative methodology. The direct relationship in the research model was investigated using Smart-PLS data analysis.

Results: The results of the study indicate that individual IT experience strongly supports the use of shadow IT by tertiary institutions with legal entities employees in Indonesia, either through task identity or job autonomy.

Conclusion: In order for employees to feel satisfied, the organization must prioritize employee IT experience and the information technology requirements they require to complete their work. This can be accomplished by involving employees in the development of information technology.

Keywords: *Individual IT Experience, Task Identity, Autonomy, Shadow IT*

1 Introduction

“Shadow IT” (SIT) refers to the growing practice of using IT resources outside of the official company infrastructure to get work done (S Haag & Eckhardt, 2014; Kopper, 2017; Silic, Barlow, & Back, 2017). Excel spreadsheets, apps that are integrated into organizational systems (SIT can be on company-owned devices, personal devices, or in the cloud), and apps used to complete daily work are all examples of SIT (Orr et al., 2022), or software used for routine tasks (Raković, Sakal, Dakić, & Đurković, 2022; Raković, Sakal, Matković, & Marić, 2020).

The majority of prior SIT research has focused on the

“negative” side of SIT, such as security issues, undermining legitimate systems, and compromising organizational data flows (Silic, Silic, & Oblakovic, 2016), whereas the positive side of SIT is increasing productivity when used properly (Steffi Haag, Eckhardt, & Bozoyan, 2015). The advantages of SIT can be viewed from two perspectives: the end user and the IT industry. End users are frequently constrained by the limitations of the organization’s existing software solutions. Therefore, in order to complete the mission, the user develops his own application and employs SIT. This allows end users to complete their tasks more swiftly and efficiently. On the other hand, the use of SIT by employees provides the IT department with factual information regarding the employees’ requirements

(Đorđević Milutinović, Raković, & Antić, 2023).

Employee dissatisfaction with the organization's information system (IS) led to the widespread adoption of SIT (de Vargas Pinto, Beerepoot, & Maçada, 2022). According to Hauff, Richter, and Tressin (2015), job satisfaction is influenced by job characteristics, which are skill variation, task significance, task identity, autonomy, and feedback, according to Hackman and Oldham (1976). These characteristics can be used as predictors for the use of technology and alternative solutions; these factors influence the use of workarounds and SIT (De Vargas Pinto, Carlos, & Maçada, 2020).

In addition to dissatisfaction, employee expectations regarding the organization's technology also influence the use of SIT. According to Ortbach, Walter, and Oksuz (2015), employees' expectations of technology used in the workplace are influenced by their daily experiences; consequently, it encourages them to use technology that is familiar, easy to use, and friendlier, even if the organization does not recognize the technology as valid (Mallmann & Maçada, 2016).

Based on this, job characteristics influence the use of SIT (de Vargas Pinto et al., 2022); employee satisfaction at work, according to Vaezi, is the primary determinant of usage habits and behavior; dissatisfaction with existing IS aspects can influence changes in habits and user behavior; the more satisfied users are with the available IS, the less likely they are to use SIT (Vaezi, Mills, Chin, & Zafar, 2016). Specifically, task identity and autonomy are two characteristics that contribute positively to employee job satisfaction because they encourage employees' development at work (Jiang, Di Milia, Jiang, & Jiang, 2020). However, we believe that there are additional variables that influence the use of SIT, namely individual IT experience, which, according to Zhou (2015), is the employee's personal experience in the field of information technology, which also affects the success or failure of the performed duties (Zhou, Li, & Lam, 2009). This is due to the fact that employee experience with IS affects the successful use of IS and influences employee intentions and behavior (Benlian, 2015; Taylor & Todd, 1995).

This study is predicated on the premise that individual IT experience influences or contributes to the organization's extensive use of SIT. This occurs due to employee dissatisfaction with SI or the technology supplied by the organization; the selection of alternative IT resources is based on the individual's IT experience. Therefore, empirical evidence is required to demonstrate that individual experience influences the use of SIT, which is mediated by the task's identity and autonomy. This appears to be one of the few empirical studies indicating the intrinsic factor of individuals with a role.

This research was conducted at tertiary institutions with legal entities in Indonesia. The higher education or-

ganizations were chosen because they functioned as warehouses for the most diverse data sets, including intellectual property, personal information, finances, donors, students, and employees, etc. Moreover, the use of SIT in tertiary institutions exhibits distinct trends and patterns relating to its shape, function, and security risk. (Orr et al., 2022), In addition to the requirement that universities in Indonesia disclose academic and non-academic data on both individuals and institutions, this allows employees to utilize IT resources not provided by the university. Whether they are aware of it or not, the academic environment, particularly higher education, has the potential to use SIT in their daily activities. Orr et al. (2022) stated that the use of SIT in an academic setting is concealed, occasionally conceals actual problems, and creates security issues. (Orr et al., 2022). This was confirmed by Rakovic et al. (2020), who stated that the lack of user awareness made the use of SIT problematic for organizations (Rakovic, Duc, & Vukovic, 2020).

2 Literature Review

This paper presents a systematic literature review process based on the "input-processing-output" approach proposed by Yair Levy and Timothy J. Ellis (2006). These actions are taken: (1) Literature Review: Inputs; (2). Literature Review: Processing; (3) Literature Review: Outputs (Levy & Ellis, 2006). A keyword-based search strategy was carried out using online scientific databases Scopus, with the keywords Individual "IT Experience", "Task Identity"+"job characteristics", "Task Autonomy"+"job characteristics", and "Shadow IT" in the last 10 years. The table 1 shows the search results.

Table 1 displays the total number of keyword queries at each input-process-output stage. At the intake stage, there are 341 articles discussing related research. Individual "IT Experience" (59), "Task Identity"+"job characteristics"(68), "Task Autonomy"+"job characteristics" (14), and "Shadow IT"(200). At the process stage, articles that have been screened are further reviewed according to the steps in literature review processing (1) Know the literature (2) comprehend the literature (3) cognitive construct level (4) theory: definition and use IS literature (5) Analyze the literature (6) Synthesize the literature (7) Evaluate the literature. At this point, it has produced 92 articles pertaining to the issues addressed in this study. In the literature: output phase, it was determined after a more in-depth analysis that 40 documents, the attached catalog of journals, were reviewed (Appendix A).

In addition, forward and backward analysis is conducted to ensure that all needs and criteria are met. Forward analysis consists of reviewing the references enumerated in the article, whereas backward analysis consists of reviewing the article references resulting from the keyword

Table 1: Search result from database scopus

Keywords	Input	Process	Output
Individual "IT Experience"	59	5	4
"Task Identity"+"job characteristics"	68	28	7
"Task Autonomy"+"job characteristics"	14	7	2
"Shadow IT"	200	52	27
Total	341	92	40

searches described previously (Levy & Ellis, 2006), The search yielded thirteen articles. We attach the title of the article search results to in Appendix B.

2.1 Individual IT Experience, Task Identity, and Autonomy

Since previous expertise with computers has been linked to success or failure in computer-related tasks, it is acceptable to assume that employees are capable of judging technology's fit based on their own experience because they utilize technology as a tool in their jobs. (Zhou et al., 2009). The IT experience effects the behaviour and control of users (Liu & Wang, 2014), According to IS studies, prior experience is crucial for acquiring the requisite skills and knowledge. According to Walsh et al., the use of IT is a social phenomenon resulting from an acculturation process, which is a cultural learning process resulting from IT experience. The more requirements are met, the more independent IT usage becomes. (Abubakre, Zhou, & Zhou, 2022).

The IT experience, training, and user participation had nearly double the impact on technology acceptance as cognitive style or personality characteristics (Marler & Dulebohn, 2015). When a person is required to participate in activities that test or push the limits of his talents and abilities, that activity nearly always results in the individual having the perception that the task is meaningful to him or her (Avgerinos & Gokpinar, 2018). In addition, there is now a substantial body of research demonstrating that the experience individuals have with their day-to-day work has a direct impact on their engagement levels and personal performance (Krishnan et al., 2015).

According to Hofmans et al., it is believed that task identity determines the degree to which an individual considers his work as meaningful, which has significant implications for the level of intrinsic drive, i.e., experience (Hofmans, Gelens, & Theuns, 2014). Coelho and Augusto assert that task identity inspires employees to work wisely by fostering the perception that their job is relevant and worthwhile. So, the degree of identification with the task and the work as a whole may influence the propensity to

depart from practice (de Vargas Pinto et al., 2022). A professional may be able to swiftly and instinctively identify a solution to a new challenge if he or she has years of expertise solving comparable difficulties. Common graphical user interfaces across software packages assist the intuitive testing or 'playing' of new software packages by a user (Deng, Doll, & Truong, 2004). These factors led to the formulation of the following hypotheses:

H1 : Individual IT experience is positively related to Task Identity

Autonomy is "the extent to which work affords significant independence, interdependence, and discretion to individuals in scheduling work and determining the processes to be employed to carry it out."(Karimikia, Singh, & Joseph, 2021). It is crucial to comprehend how varying amounts of task autonomy affect the performance of individuals. Depending on the sequence and prior experiences with the task, task autonomy may create diverse interpretations, leading to a variety of creative outcomes (Chang, Huang, & Choi, 2012). Moon et al. explain The manner in which preceding tasks were completed influences the behavior and strategy employed for subsequent activities (Moon et al., 2004). Previous work experience, as well as creative context and task features, influence the employee's habitual or automatic processes. Individuals must have relevant work experience or skills to profit from task autonomy. To profit from task autonomy, individuals require work experience or pertinent abilities. People who are given task autonomy at the outset demonstrate much lower levels of creativity than those who are given explicit instructions given the same amount of time (Chang et al., 2012). According to this explanation, the accomplishment of past tasks influences the task autonomy of employees.

H2: Individual IT experience is positively related to Autonomy.

2.2 Task Identity, Autonomy, and Shadow IT Usage

From the user's perspective, one of the factors contributing to the rise of SIT is the disparity between user expectations and the technology available to complete the

work. (de Vargas Pinto et al., 2022). According to Rakovic et al. (2020), SIT should not be viewed as deviant within an organization; employees' use of SIT is motivated by a desire to increase work efficacy; in other words, SIT is a need felt by employees (Đorđević Milutinović et al., 2023). Technology can create uncertainty in the workplace, particularly if it substantially deviates from employee habits (Venkatesh, Bala, & Sykes, 2010). Job happiness rises when individuals can identify their task and have greater autonomy in accomplishing it. Both of these factors contribute to greater job satisfaction (Jiang et al., 2020).

The characteristics of task identity and autonomy can predict job happiness. Task identity motivates people to perform efficiently, and employees perceive their work to be important and valuable. Also, task identification involves the completion of work from beginning to end and the development of work results (De Vargas Pinto et al., 2020). This is confirmed by Jiang, who demonstrates that persons who accurately define their jobs and obtain autonomy in accomplishing tasks are more satisfied with their work and develop more effectively at work. The motivational role of job features, particularly task identity and autonomy, has afforded employees opportunities to meet their psychological demand for professional development and job pleasure (Jiang et al., 2020). On this basis, we propose the hypothesis that task identity has a favourable impact on shadow IT usage.

H3: Task Identity is positively related to Shadow IT Usage.

De Vargas argued that the behaviour of using shadow IT is closely related to employee decisions in adapting and carrying out tasks differently than planned by the organization, and this decision is related to aspects of autonomy in decision-making that are influenced by various organizational conditions; therefore, the use of a workaround or shadow IT is dependent on the degree of autonomy in the assigned job (de Vargas Pinto et al., 2022).

Similarly, subpar employee performance is influenced by the degree of job autonomy and the technology employed; for instance, employees who have greater autonomy in completing their work have the option to use alternative technologies to complete their tasks. (Karimikia et al., 2021). Hence, we provide the following hypotheses

H4: Autonomy is positively related to Shadow IT Usage.

2.3 Individual IT Experience and Shadow IT Usage

The phenomenon of SIT usage is a result of employee routines and behavior; they prefer to utilize familiar technology. The disparity between the technologies provided by the IT department and the tasks of the employees prompts them to seek out alternative technologies; the selection of these technologies is influenced by the employ-

ees' personal experiences; consequently, the technologies selected tend to be more familiar, user-friendly, and intuitive. (Mallmann & Maçada, 2016).

Harrison and Rainer argued that training has an impact on the acceptability and utilization of IT, but that the experience and age of users are more critical determinants. An employee's perception of his or her own IT skills influences the efficacy of training and the frequency of IT use (Gallivan, Spittler, & Koufaris, 2005). This view aligns with Wang's, which states that the nature of our occupations and the work experiences of our employees are substantially influenced by ICT use (Wang, Liu, & Parker, 2020).

Benlian claimed that the level of expertise in using IT applications has varying effects on the efficacy of using IT features; users with more experience have a deeper understanding of the applications utilized and benefit from experience when doing tasks. Capabilities in the area of information systems are developed when people increase their knowledge and proficiency in the subject through practice and experience. (Benlian, 2015).

Workers who have utilized information and communication technologies for personal purposes may anticipate a similar experience at work. IT department-unrecognized personal devices and applications are utilized as a result of dissatisfaction with the organization's infrastructure (Weiß & Leimeister, 2012). Consequently, the following hypotheses were developed:

H5: Individual IT experience is positively related to Shadow IT Usage.

On the basis of the preceding discussion, a conceptual model was created to determine the relationship between Individual IT Experience and SIT Use, as well as whether Task identity and autonomy serve as mediating variables between Individual IT Experience and SIT Use. Figure 1 depicts the conceptual model that governed this study and the relationship between the research hypotheses and the conceptual model.

3 Methodology

The purpose of this exploratory study is to investigate the relationship between individual IT experience and the use of SIT via task identity and autonomy. The investigation was conducted in the education sector at Indonesian tertiary institutions, particularly those with legal entities. Higher education institutions with legal status are state universities in Indonesia that have autonomy in their management, according to the mandate of Law Number 12 of 2012 concerning higher education in Indonesia. Higher education institutions with legal entities are expected to become financially independent higher education institutions and become world class universities, and are expected to be able to implement their research results for use in society. Universities with legal entities are considered higher quality universities than other universities in Indo-

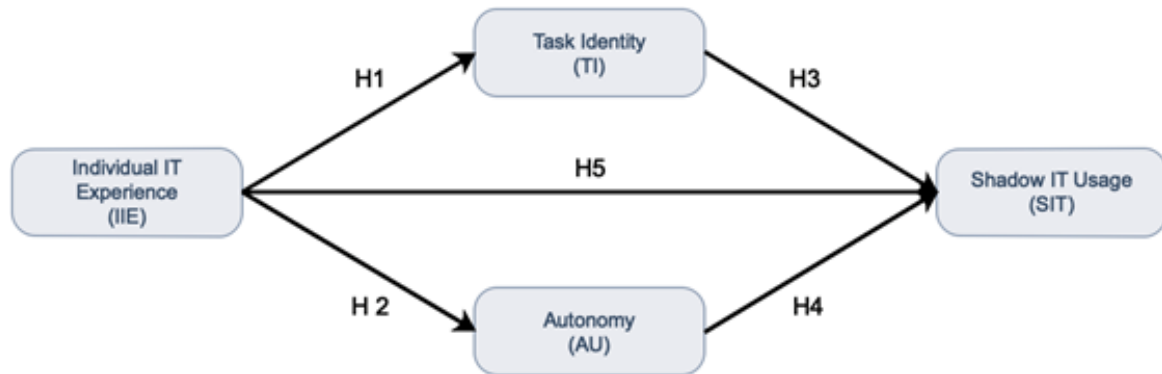


Figure 1: Conceptual research model

Table 2: Participant Demographics

Education Background	Employment Experience							Grand Total
	0-5 years	5-10 years	10 - 15 years	15-20 years	20-25 years	25-30 years	> 30 years	
High School	15	37	26	14	9	21	9	131
Under Graduate	6	17	16	17	9	15	6	86
Master Degree		3	10	4	2	2	4	25
Doctoral degree	4	14	10	15	5	8	3	59
Grand Total	25	71	62	50	25	46	22	301

nesia (Frymaruwah, Dewata, Nadzri, & Periansya, 2022; Hardiyanto, Siregar, & Wijayanto, 2017). There are currently 21 universities in Indonesia with legal status as tertiary institutions¹.

Using convenience sampling, the survey was disseminated to employees of tertiary institutions with legal entities. As its name implies, convenience sampling is a technique for collecting data from consenting participants (Sekaran & Bougie, 2016). Convenience sampling is employed when budgetary and time constraints are taken into account (Saunders, Mark; Lewis, Philip; Thornhill, 2019). This study’s sample characteristics are geared toward respondents with prior work experience, particularly experience working with IS.

The SMART PLS program was chosen to analyze the collected data, because of its capability to perform structural equation model (SEM) analysis (Joseph F. Hair, Hult, Ringle, & Marko Sarstedt, 2017).

3.1 Questionnaire Design

The questionnaire is utilized to collect data for assessing the model developed for this study. It is presented in electronic format and utilizes the questionnaire from previous research. The questionnaire consists of four sections: the first section addresses individual IT experience and is adopted from Garland and Noyes (2004) (Garland & Noyes, 2004); the other three sections, namely task identity, autonomy, and use of SIT, are adopted from de Vargas Pinto’s research (de Vargas Pinto et al., 2022), all questionnaires were modified to their original version.

Due to the questionnaire’s initial English construction, it was translated into Indonesian.

Before distributing the questionnaire to the respondents, we conducted a pilot test with 34 participants to determine the instrument’s reliability. The results of the pilot test were analyzed with SPSS v25 software. Using Cron-

¹ University of Indonesia (UI), Bandung Institute of Technology (ITB), IPB University (IPB), Gadjah Mada University (UGM), Sepuluh Nopember Institute of Technology (ITS), Padjadjaran University (Unpad), Diponegoro University (Undip), Universitas Airlangga (Unair), Universitas Brawijaya (UB), University of Sumatera Utara (USU), Hasanuddin University (Unhas), Sebelas Maret University (UNS), Indonesia University of Education (UPI), Universitas Negeri Malang (UM), Andalas University (Unand), Universitas Negeri Padang (UNP), Universitas Negeri Semarang (Unnes), Universitas Negeri Surabaya (Unesa), Universitas Syiah Kuala (Unsyiah), Indonesia Open University (UT), Universitas Negeri Yogyakarta (UNY).

bach's alpha coefficient, an if-item-deleted test was conducted to determine how closely the questionnaire items were arranged. Cronbach's alpha coefficient is one of the most widely used methods for measuring the internal consistency of a multi-item scale. Each item is correlated with every other item in the sample of related constructs, and the average of these correlations is used as an indicator of reliability. And it was determined that the Cronbach alpha values of all questionnaire questions exceeded the minimum acceptable level of 0.70. Consequently, the instrument and each group of queries pertaining to a single variable demonstrated adequate internal consistency (Collis & Hussey, 2014).

This study's questionnaire contained a total of 21 question items, including 7 individual IT experience variables, 5 task identity items, 5 autonomy items, and 4 SIT use items. All items use a five-point Likert scale, with 1 indicating strongly disagree and 5 indicating strongly agree.

3.2 Data Collection

November and December of 2022 were spent collecting data in Indonesia. Employees at universities with legal entities in Indonesia were the focus of the survey because they are the ones who interact with the use of IS and, as specified, manage data to be reported to the government. Using our own network, we directly contact employees and ask them to participate in this study.

Google Forms distributed questionnaires were disseminated to 301 respondents from 20 colleges and universities with legal entities. Participating in this research were educators and educational personnel. In this study, the majority of respondents were between the ages of 41 and 50 (40%); the majority of respondents came from the Indonesia University of Education (42.5%), Universitas Brawijaya (11.6%), and IPB University (7%). 44% of respondents with a bachelor's degree as their most recent degree were followed by 29% with a master's degree as their most recent degree.

In the first section of the questionnaire, demographic questions including university of origin, age, gender, occupation at work, last education, employment status, and length of service were addressed. Table 1 presents the demographic information of our respondents.

3.3 Data Analysis

In this study, we followed Hair's recommendation and evaluated two separate aspects of the study: the model itself and the methods used to estimate and test hypotheses based on the structural model (Joseph F. Hair et al., 2017). SmartPLS 3.2.7.9 was then utilized to conduct the Confirmatory Factor Analysis and SEM.

Convergent validity was evaluated by calculating the AVE, CR, and Item Factor Loadings, all of which are displayed in Table 2. Twenty-two such markers were used in this investigation. Research into factor loadings is the first order of business; these must be greater than 0.70 (Joseph F. Hair et al., 2017). Two indicators, TI 1 (0.677) and SIU 4 (0.308), failed to meet the parameters established by the measures and are therefore banned. All CR values were above 0.500, and most were close to 0.700, indicating high levels of internal consistency in the reflective design.

All values greater than 0.5 are displayed in the measurement results, as the AVE is used as a reference in convergent validity assessments. This demonstrates that the model's convergent validity conditions are met across all constructs.

Discriminant validity is another type of test that is performed. The goal is to determine whether a given construct is sufficiently distinct from others to account for occurrences that are not adequately captured by existing constructs (Joseph F. Hair et al., 2017). The cross-loading value shown in Table 3 is used in the test that combines the Fornell and Lackers tests. Each construct correlates most strongly with itself, and to a lesser extent with the other constructions. As a result, we have obtained discriminant validity.

Measurement results showed that each construct had a value less than 0.85 (see table 4), passing both the Fornell-Larcker criterion test and the heterotrait-monotrait ratio test (HTMT), which tests discriminant validity. This study provides sufficient evidence of convergent and discriminant validity.

The path coefficient is then used to assess the research hypothesis, which completes the structural model evaluation process. Figure 2 shows the result of the subsequent computation; in particular, it shows the result of the calculation conducted by SmartPLS utilizing bootstrapping.

Results from testing the model indicate that it is able to estimate 18.6% of the variance in autonomy, 28% of the variance in task identity, and 50.8% of the variance in shadow IT usage. All of the path coefficients are statistically significant, as shown above.

Based on the findings of the calculations of the five submitted hypotheses, all five were supported. To conclude that the link under investigation is significant at a 5% level, the p value must be less than 0.05 when a 5% significance threshold is used as illustrated in Table 5.

The first hypothesis demonstrates that autonomy at work has a favourable impact on the usage of shadow IT, while the second hypothesis, which evaluates the relationship between individual IT experience and job autonomy, also demonstrates positive and significant outcomes. Individual IT experience has a beneficial influence on the usage of shadow IT, as confirmed by Hypothesis 3. Individual IT experience influences the adoption of shadow IT positively, as supported by Hypothesis 4. The fifth and

Table 3: Result of The Measurement Model

Construct	Code	Items	Item loading	CR	AVE
Individual IT Experience	IIE1	I am able to utilize e-mail	0,823	0,938	0,687
	IIE2	I am able to browse numerous websites on the internet.	0,757		
	IIE3	I am proficient in word processing software (word processor) (e.g., Microsoft Word, Open Office, Writer).	0,893		
	IIE4	I am proficient with worksheet programs (e.g., Microsoft Excel, Calc Spreadsheet, etc.).	0,885		
	IIE5	I am proficient with presentation software (e.g., Microsoft Power Point, Impress Libre Office).	0,835		
	IIE6	I can locate files on the computer.	0,879		
	IIE7	I understand how the organization's information system operates.	0,710		
Task Identity	TI1	Based on the outcomes of the task, I am able to recognize the efforts made to complete it	*	*	*
	TI2	I finish work from beginning to end.	0,794	0,906	0,707
	TI3	I am accustomed to doing my work in an organized and neat manner	0,846		
	TI4	The outcomes of the work I perform are a reflection of the work's process	0,856		
	TI5	I approach my work in a methodical and structured manner	0,865		
Autonomy	AU1	I have the freedom to schedule my job	0,758		
	AU2	I can determine when and how work is completed	0,709		
	AU3	I am authorized to make plans to fulfil the allocated assignment.	0,839		
	AU4	I can choose the best approach to take to complete the task.	0,814		
	AU5	I am permitted to pick how to finish the assignment.	0,827		
Shadow IT usage	SIU1	I use internet-based application services such as Google Drive, Dropbox, OneDrive, WhatsApp, Skype, and Zoom	0,860	0,911	0,772
	SIU2	I use internet-based application services such as Google Drive, Dropbox, OneDrive, WhatsApp, Skype, Zoom, and others to share work and interact with co-workers, clients, and colleagues from other firms.	0,900		
	SIU3	I communicate with co-workers, clients, and colleagues from other firms using internet-based application services like Google Drive, OneDrive, WhatsApp, Skype, and Dropbox.	0,876		
	SIU 4	I use a non-IT-approved personal device for work.	*		

final hypothesis, Hypothesis 5, demonstrates a favourable correlation between task identity and the usage of shadow IT. On the basis of the calculated results of the five offered hypotheses, they were supported.

Following the hypothesis test, the analysis of the Coefficient of Determination (R²) is conducted. The Coefficient of Determination (R²) indicates the quality of the updated model by reflecting the extent to which the dependent variable is explained by the independent variables. The R² values for endogenous idea autonomy, usage of shadow IT,

and task identity are 18.5%, 50.8%, and 28.0%, respectively. Cohen advises evaluating the R² values for endogenous latent variables in the social and behavioural sciences as follows: 26% for a considerable effect, 13% for a moderate effect, and 2% for a weak effect. Hence, the R² values are good, despite the modest effect size (Cohen, 1988). According to Cohen, the construct of autonomy has a small impact, whereas the notions of using shadow IT and task identity have a substantial impact. We comment on the significance of these findings in the following section.

Table 4: Fornell-Larcker Criterion

	Autonomy	Individual IT Experience	Shadow IT usage	Task Identity
Autonomy	0,791			
Individual IT Experience	0,431	0,829		
Shadow IT usage	0,476	0,665	0,879	
Task Identity	0,536	0,529	0,537	0,841

Table 5 : Heterotrait-Monotrait Ratio (HTMT)

	Autonomy	Individual IT Experience	Shadow IT usage	Task Identity
Autonomy				
Individual IT Experience	0,472			
Shadow IT usage	0,539	0,749		
Task Identity	0,611	0,583	0,619	

Table 6 : Results of Hypothesis Testing

Hypothesis	Relation	t-statistics	p-values	Decision
H1	Individual IT Experience → Task Identity	7,131	0,000	supported
H2	Individual IT Experience → Autonomy	5,738	0,000	supported
H3	Task Identity → Shadow IT usage	3,398	0,001	supported
H4	Autonomy → Shadow IT usage	2,662	0,008	supported
H5	Individual IT Experience → Shadow IT usage	9,433	0,000	supported



Figure 2 :Measurement model

4 Discussion

This research aims to obtain a better understanding of the individual IT experience factors that influence the use of SIT in the workplace. Individual IT experience has a direct effect on the use of SIT, according to the conclusion test's findings. Based on the findings of the analysis, we discovered the following:

First, the findings indicate that individual IT experiences have a favourable impact on job autonomy and task identity. This verifies the opinion of Kahn and Robertson, who assert that training and experience will have a direct effect on the qualities of the work despite the absence of a causal relationship between the two variables (Kahn & Robertson, 1992). The importance of experience, according to Kahya, is dependent on the complexity of the task; an increase in work experience leads to greater employee knowledge and performance, and vice versa (Kahya, 2007) and Motowidlo and Van Scotter (1994) also argue that employee task performance is significantly related to experience and competence (Johari & Yahya, 2009). People with expertise will have trust in how technology is used to their profession, whereas those with little experience will have less confidence. On the basis of this, Thompson et al. suggested that experience positively affects its application

through task adjustments. And it is predicted that experienced users would be able to incorporate technology into their work so that it has a greater impact (Thompson, Higgins, & Howell, 1994). This is consistent with the findings of Thomas et al., who found that experience with earlier activities provides mental support for the current activity (Thomas, Newstead, & Handley, 2003). In the field of education, Karsten's research indicates that prior experience with computers is required for effective use of computers while attending lectures in tertiary institutions; lack of experience in the computer field discourages students and even causes them to avoid using computers. (Karsten & Roth, 1998). This is supported by Thomson, who asserts that experience is an essential construct in attitude and behaviour research, and whose research demonstrates that experience influences the use of computers, despite the fact that it is not a predictor of computer use (Thompson et al., 1994).

Second, the findings of testing the third hypothesis which is Task Identity is positively related to Shadow IT Usage reveal that task identity influences SIT usage positively. This contradicts the findings of De Pinto's research, which indicated that work characteristics, task identification, and skill diversity have no significant effect on completion problems or the usage of SIT. This is due to the

fact that when work is completed from beginning to end, it does not require staff to seek other alternatives. (de Vargas Pinto et al., 2022; De Vargas Pinto et al., 2020).

Third, in accordance with De Vargas Pinto's research, which states that the characteristic of "autonomy" has a positive influence on the completion of work and the methods used, so that employees tend to look for alternative solutions by using SIT, the study's findings indicate that employees who are given autonomy at work provide opportunities for employees to use SIT to complete their work. (De Vargas Pinto et al., 2020).

Fourth, the findings demonstrate that individual employee experience has a favourable effect on SIT usage. These results support de Vargas Pinto's assertion in his research that technology adoption is frequently carried out by employees, particularly when the organization cannot provide a system or technology that feels right in completing their tasks, so that employees prefer to use alternative technologies in completing the tasks they have been assigned (De Vargas Pinto et al., 2020). This is supported by Scalabrin's research, which indicates that employees perform daily tasks based on their own knowledge and experience, as well as what they perceive to be correct and their own needs. (Scalabrin Bianchi, Vaquina, Pereira, Dinis Sousa, & Dávila, 2022). In contrast to Zhou's et al. research, which indicates that the IT experience of employees does not have a substantial impact on the suitability of activities supported by IT, this study's findings indicate that IT experience does not affect the suitability of tasks supported by IT (Zhou et al., 2009).

This study examines the research model intended to substantiate the role of individual IT experience in the use of SIT in Indonesian universities with legal entity status. The results of the calculations indicate that all hypotheses are accepted. This research was conducted at tertiary institutions with legal entities in Indonesia; despite its limitations, it is applicable to other tertiary institutions with the same characteristics, namely higher education institutions with autonomy in academic and non-academic fields.

5 Conclusion

The model presented in this study provides a comprehensive conceptual framework with a solid theoretical foundation that contributes to a better comprehension of the effect of individual IT experience on SIT usage via task identity and autonomy. The results of the study indicate that employee experience, particularly in the areas of task identity and job autonomy, substantially influences the use of SIT. Despite the fact that our research focuses on individual IT experiences and their influence on the use of SIT in tertiary institutions with legal entities environment, we hope that it can be generalized to university employees at other institutions, given that the process and work con-

ducted are typical.

In order for employees to feel facilitated, the organization must consider a lacking link between the IT department's application offerings and the employees' preferences for completing tasks with familiar IT resources. Understanding that employee experience influences job characteristics can help organizations design and investigate the IT resources required by employees from a practical standpoint. Changes in employee technology have the potential to impact job characteristics and employee performance.

When constructing organizational IT resources, organizations must take into account employee suggestions based on their experience providing IT resources. We believe that the time employees spend performing routine tasks has characteristics that influence their routines. The practice of employees completing work without meeting their requirements strengthens the practice of utilizing SIT. Organizations implementing IT resources, such as information systems, should not only rely on organizational policies, but also consider employees' routines and past experiences.

6 Research Originality/value

This research provides valuable insights for organizations, particularly in finding out the factors that cause the use of SIT in the daily work of employees at tertiary institutions with legal entities in Indonesia. Thus, the results of this study are not only valuable for researchers but also provide information for organizations regarding the use of SIT in the work environment. There is a possibility of differences in data or findings when applied in other environments or countries, which therefore needs to be proven.

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Ali posameznikova IT izkušnja vpliva na uporabo senčne IT? Empirični dokazi z univerz v Indoneziji

Ozadje in namen: Nezadovoljstvo zaposlenih z obstoječo tehnologijo je eden od vzrokov za uporabo senčne IT. Izbor alternativnih tehnologij je odvisen od informacijskega znanja posameznika. V raziskavi preučujemo razmerje med posameznikovo izkušnjo z IT in uporabo senčne IT v indonezijskem visokošolskem izobraževanju prek dveh značilnosti delovnega mesta, in sicer identitete nalog in avtonomije.

Metode: V raziskavi smo analizirali podatke 301 anketiranca na indonezijskih univerzah z uporabo kvantitativne metodologije. Neposredna povezava v raziskovalnem modelu je bila raziskana z analizo podatkov Smart-PLS.

Rezultati: Rezultati študije kažejo, da posamezne izkušnje z IT močno podpirajo uporabo senčne IT s strani terciarnih ustanov z zaposlenimi v visokem šolstvu v Indoneziji, bodisi prek identitete nalog ali avtonomije dela.

Zaključek: Da bi se zaposleni počutili zadovoljne, mora organizacija dati prednost IT izkušnjam zaposlenih in zahtevam informacijske tehnologije, ki jih potrebujejo za dokončanje svojega dela. To lahko dosežemo z vključevanjem zaposlenih v razvoj informacijske tehnologije.

Ključne besede: *Individualna IT izkušnja, Identiteta naloge, Avtonomija, Senčna IT*

AUTHOR GUIDELINES / NAVODILA AVTORJEM

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