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Human resource management in small and medium-sized enterprises: a performance model definition

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Abstract

Background: Nowadays, studying small and medium-sized companies, particularly with regard to the management of human resources that takes place in them, is particularly relevant. Effectively, knowing that about 99.8% of companies are small and medium-sized, contributing very significantly to high levels of employability, it is extremely important to understand the role that people management assumes in these organizations, as well as which are the factors, both internal and external, that exert the greatest influence on them.

Purpose: In this paper we investigate internal and external factors of small business likely to correlate with a more formal and structured human resource management.

Study design/methodology/approach A conceptual model was defined through the literature on human resource management and its consistency was tested through three methodological steps (exploratory interviews; readjustment of variables with the Delphi method; multivariate statistical tests). From a survey of 186 smaller firms in Portugal, we tested conceptual model by structural equation modelling.

Findings/conclusions: The analysis reveals that dimensions such as organizational structure, management and communication style, career management, organizational flexibility, organizational strategy and national culture are positively related to more formal and structured human resource management practices and policies.

Limitations/future research: Due to its complexity, both at the level of the conceptual analysis and the empirical level, this study presents some limitations, namely, and among others, the complexity of the number of dimensions and variables under analysis, and the complexity of the model being tested. A broader line of research could include collecting data from employee. This analysis would allow for a different perspective of the company's procedures and would broaden some issues that are less detailed in this study.

Keywords

Human Resource Management (HRM); Small and Medium-Sized Enterprises (SMEs); conceptual model; performance.

Introduction

Over the past decades, there has been a growing recognition of the role of small and medium-sized enterprises (SMEs) in global economies. These represent more than 99% of all businesses and, in the developed countries, more than 60% of the number of jobs (Hope et al., 2019; OECD, 2019), constituting a crucial source of skills, innovation and employment.

There is a wide variety of forms of implementation of HRM practices in SMEs (Cardon & Stevens, 2004; Cassell et al., 2002), with a tendency towards more informality and limited connection to business strategy (Cardon & Stevens, 2004; Kotey & Slade, 2005; Melo & Machado, 2013). There are substantial differences between large and small enterprises and consequently the adaptation of standard HRM model to SMEs has proven unsatisfactory (Cardon & Stevens, 2004; de Kok & Uhlaner, 2001; Ghobadian & Gallea, 1997). The specific circumstance of SMEs do not allow for the transfer of policies and practices from large enterprises. For example, practices such as formal recruitment systems require significant financial resources, which are not available to most SMEs. Certainly, SMEs with connections to a large enterprise are more likely to implement similar HRM practices (de Kok & Uhlaner, 2001), but only where organisational policies and resources are shared. Barber et al. (1999) suggests the use of existing models of large-business HRM by SMEs is not significant. Research in the last few years has contributed to a more concrete vision of the reality of SMEs (Aït Razouk, 2011; Torre & Solari, 2013), different from previous understandings (Wilkinson, 1999).

A stronger clarification of the role of HRM in SMEs, identifying possible organisational and environmental dimensions that may contribute to the development of a more structured and formalised HRM model is necessary. We contribute to that endeavour using the example of Portuguese SMEs, which are typical of SMEs elsewhere in Europe (Hope et al., 2019).

The paper takes the following form. First, we examine the extant literature and from that develop a theoretical framework. We explain how we applied that framework to our data collection and then present the findings. Finally, we discuss those findings and draw conclusions. Our main findings guide us to the identification of a set of critical

factors whose use is associated with more formal and structured HRM, that will assist in the development of HRM in SMEs.

1. Theoretical background

The context of HRM in SMEs is complex and it is difficult to find any clear and concrete answers, in the literature, to several important questions regarding the way that HRM operates. According to Harney & Alkhalaf (2020), as there are still relatively few studies that focus on the issue of HRM in SMEs, it is observed that in those where this issue is the focus of analysis, the supporting literature continues to be very fragmented and variable, with multiple definitions, explanations and methods.

There are points of contact whatever the context, such as, for example, the constant informality of HRM policies and practices. However, contexts vary: Tsai (2010) and Cunningham & Rowley (2010) highlight the reality of HRM in China. Identifying the main points of convergence and divergence between HRM policies and practices in the Western world and in Asia, Festing et al. (2013) review the existing relations between HRM and SMEs in Germany. Melo & Machado (2013) characterise HRM in SMEs in Portugal, detailing the policies and practices that are used by Portuguese enterprises and Ugheoke & Isa (2014), Galang & Osman (2014) and Mashavira, Guvuriro & Chipunza (2021) examine African and other Asian contexts.

Another approach is the constant search for differentiating factors of HRM in SMEs irrespective of context. Barrett & Meyer (2010) analyse perceptions of stakeholders; Hassan (2010) considers the relevance of quality assurance; Olander et al. (2011) seek to relate HRM in SMEs to knowledge management and Saridakis et al. (2013) to organisational commitment. And there have been attempts to evaluate the importance of HRM for the success of SMEs (Çalışkan, 2014). More recently, Fitriasari (2020) highlights the problem underlying the digital transformation at the HRM level in SMEs, which results in the emergence of new digital skills and abilities, as well as the adoption/introduction of digital tools in the work context. Based on resource-based theory and on the literature on proactivity, Zhang and Edgar, focusing on the context of SMEs, sought to study the effects of the HR system as an incorporation of HR practices in the capabilities of employees and how the proactivity of collaborators

helps explain this relationship. Bagis & Darmawan (2022) look to analyse the contribution of HRM to the business performance of SMEs, while Huang et al (2022) given the high level of unemployment, due to COVID-19, in the SME sector, highlight the need to incorporate ethical values and social responsibility in SME policies and practices.

Given the diverging and inconclusive character of the existing theory, even for the most basic aspects of the relation between HRM and SMEs, we ask: which internal and external factors influence the application of formal HRM in SMEs?

Fundamentally, we ask whether it is possible to define an HRM model for SMEs. The literature shows plenty of models that somehow seek to describe the critical factors of HRM (Brewster, 1993; Delery & Doty, 1996; Guest, 1987). However, none of them mention, or arguably relate to, small and medium-sized enterprises. We have used a series of studies to identify key features of HRM (Allen et al., 2013; Beer et al., 1999; Brewster, 1993, 2004; Cardon & Stevens, 2004;

Delmotte & Sels, 2008; Festing et al., 2017; Guest, 1997; Hendry & Pettigrew, 1986; Lengnick-Hall & Lengnick-Hall, 1988; Meyer & Smith, 2009; Nguyen & Bryant, 2004; Pearson et al., 2006; Sels et al., 2006; Sparrow et al., 1994; Wright & Snell, 1991; Harney, 2021; Burhan et al., 2020)). We accept that this set of studies does not represent the universe of studies undertaken about HRM, but they are reasonably consistent and a good representation of extant theories. These have served as a basis for the definition of the theoretical model to be used.

The objective of the analysis of these studies was to understand which dimensions and variables have been used by these authors to define HRM. As part of this stage we also conducted ten interviews with senior managers in SMEs from different sectors, to understand whether the possible internal and external factors we were identifying fitted their experience.

Putting the insights from all these studies together we developed Figure 1.

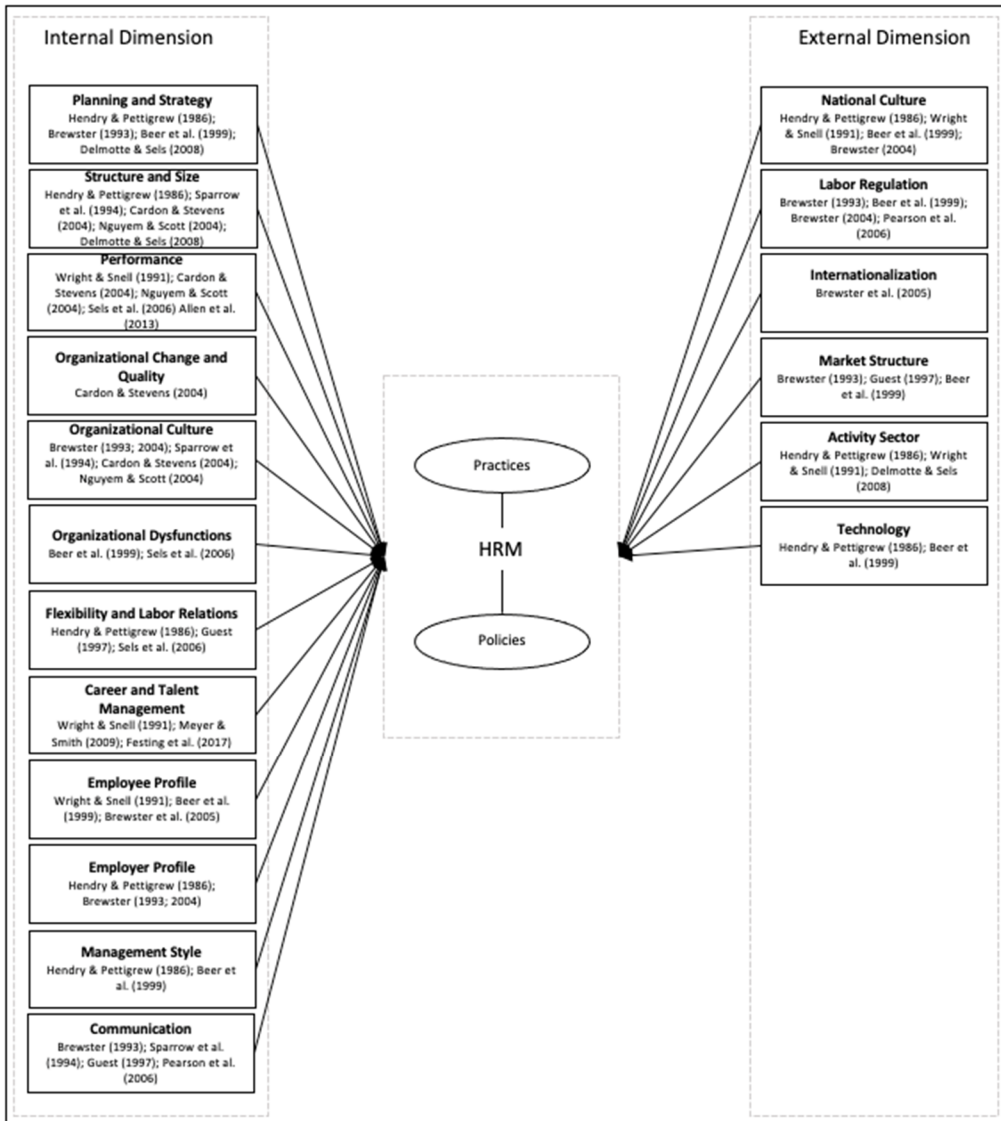


Figure 1 Proposed Theoretical Model
 Source: the authors

The aim of our research is to offer a new model of HRM in SMEs, via the identification of variables that influence their people management, to establish the relationships between organisational variables, external environment and HRM policies and practices. Thus, we test this integrated conceptual model of formal HRM in SMEs. The conceptual model proposed includes a wide set of dimensions and variables which may influence the development of HRM in SMEs.

2. Method

We tested this conceptual model via a three-stage empirical study. The first stage, as shown above, was to build the initial conceptual model based on

literature. Since the conceptual model proposed was complex, it was necessary to find a methodological alternative that allowed for clarification of the most relevant variables for each dimension. So in the second stage we adopted the Delphi method, sending a survey to a specific group of experts on HRM in SMEs (Hsu & Sandford, 2007; Hasson et al., 2000). A total of 22 academics of different nationalities took part three rounds of analysis with an acceptance rate of the variables of between 80 and 100%. And participation rates of between 16 and 40%. The last stage in the specification of the conceptual model implied the testing of a set of conjectures about what really matters and what really affects HRM in SMEs – a set of exploratory questions highlighting

possible relations between dimensions and variables. To do that we conducted the survey noted below. The factors found and selected were transformed into dimensions through the

calculation of the variable. Table 1 shows the dimensions and variables scrutinized in the various stages and which were used to characterise the conceptual model.

Table 1 Dimensions and variables used in the conceptual model

Dimensions	Items
Organisational Structure	1. Corporate organisation logic 2. Hierarchic structure 3. Number of employees
Planning	1. Planning design 2. Structural planning
Organisational Culture	1. Culture promotion activities
Quality Management	1. Quality assurance 2. Reasons for certification
Organisation Disfunctions	1. Analytical measures for turnover and absenteeism rates
Career	1. Career promotion practices
Organisational Flexibility	1. Role of HRM in flexibility 2. Schedule flexibility
Administration Profile	1. Level of education 2. Management style
Organisational Performance	1. Turnover 2. Long-term performance
Technology	1. Benefits from new technologies 2. Corporate management systems
National Culture	1. Unsuitability of management practices 2. Relation between management and national culture
Activity Segment	1. Type of activity segment
HRM Practices	1. Recruitment and selection 2. Training and development 3. Performance appraisal 4. Job design 5. Orientation and training of new hires 6. Incentives and rewards
HRM Policies	1. Role of HRM 2. Profile of the HR manager

Source: the authors

2.1. Sample and procedure

According to the European Commission, (2003/361/CE), an SME has < 250 employees, <= 50 million euros in turnover and <= 43 million euros in total balance. We sent a questionnaire by email to such firms in Portugal. A survey was the most adequate method for statistically testing our model. The email message contained a link to the study page which included the questionnaire to be filled in (Google Docs), information about the study and resumés of the research team – and indicated that the study results would be made available on the website so that companies would be able to trade their time completing the survey for results available to them at a later date.

We received 186 completed surveys. The large majority of the companies have 10-50 employees (64%); and only 2.7% of the companies have 201-250 employees. The average number of employees

is 53.94, and the most common value in the sample is 20 employees. The standard deviation shows that the values are very close to the mean and there is no significant dispersion at this level.

To handle the data collected in the questionnaires, the IBM SPSS 21 programme was used, which enabled univariate and multivariate data analysis.

2.2. Data analysis

Structural equation modelling (SEM) was used in the definition of the final model, using the IBM SPSS Amos programme. SEM enables the creation of variable models, latent and observed, and consequent understanding of the most significant relations between them. The SPSS Amos programme enables the testing of structural equations models through the analysis of regressions and factorial analysis, and the presentation of a set of measures for the adjustment

of the model, enabling the researcher to understand if the model is adequate or inadequate. The use of multivariate data analysis techniques enables the researchers to empirically test models that are complete and complex. SEM is widely used in social and behavioural studies is the (Hooper et al., 2008; McDonald & Ho, 2002), and can enable two types of analyses: exploratory structural analyses and confirmatory structural analyses (Marsh et al., 2014; Schreiber et al., 2006).

The analysis of the adjustment of the model is fundamental to deciding whether the model is well defined or whether it is necessary to use a modification of the initial model or to test alternative models. According to McDonald & Ho (2002) the adjustment indexes determine the quality of the adjustment of the model to the data. There is a vast set of adjustable ratios. The most well-known and used are chi-square tests RMSEA, CFI, AGFI, RMR and SRMR (P. Barrett, 2007; Hooper et al., 2008; Weston & Gore, 2006). For each of these adjustable ratios, there are positive and negative points and, therefore, authorities suggest an accurate analysis of a model should consider several adjustable ratios (Hooper et al., 2008; Hu & Bentler, 1999; Weston & Gore, 2006). To Hooper et al. (2008), after the analysis of

several empirical studies, the guidance for the conjugation of ratios should include the following points: $CFI \leq 0.09$; $RMSEA \leq 0.06$; and $SRMR \leq 0.08$.

3. Results

3.1. Model specification

The result of these three stages (interviews; Delphi method; and statistical tests) is that figure 1 was adapted as shown in Figure 2. Figure 2 presents variables and dimensions that we assume to be relevant for the scope of the study and which we designate as the adjusted theoretical model.

The specification of the model consists of the formal design of the theoretical model which seeks to test the research issues. The definition of the theoretical model being tested considers the results shown in exploratory interviews and in the statistical results for the questionnaire topics. The most consistent and statistically significant relations were considered in the construction of the model. Figure 2 represents the initial theoretical model tested in the SPSS Amos programme.

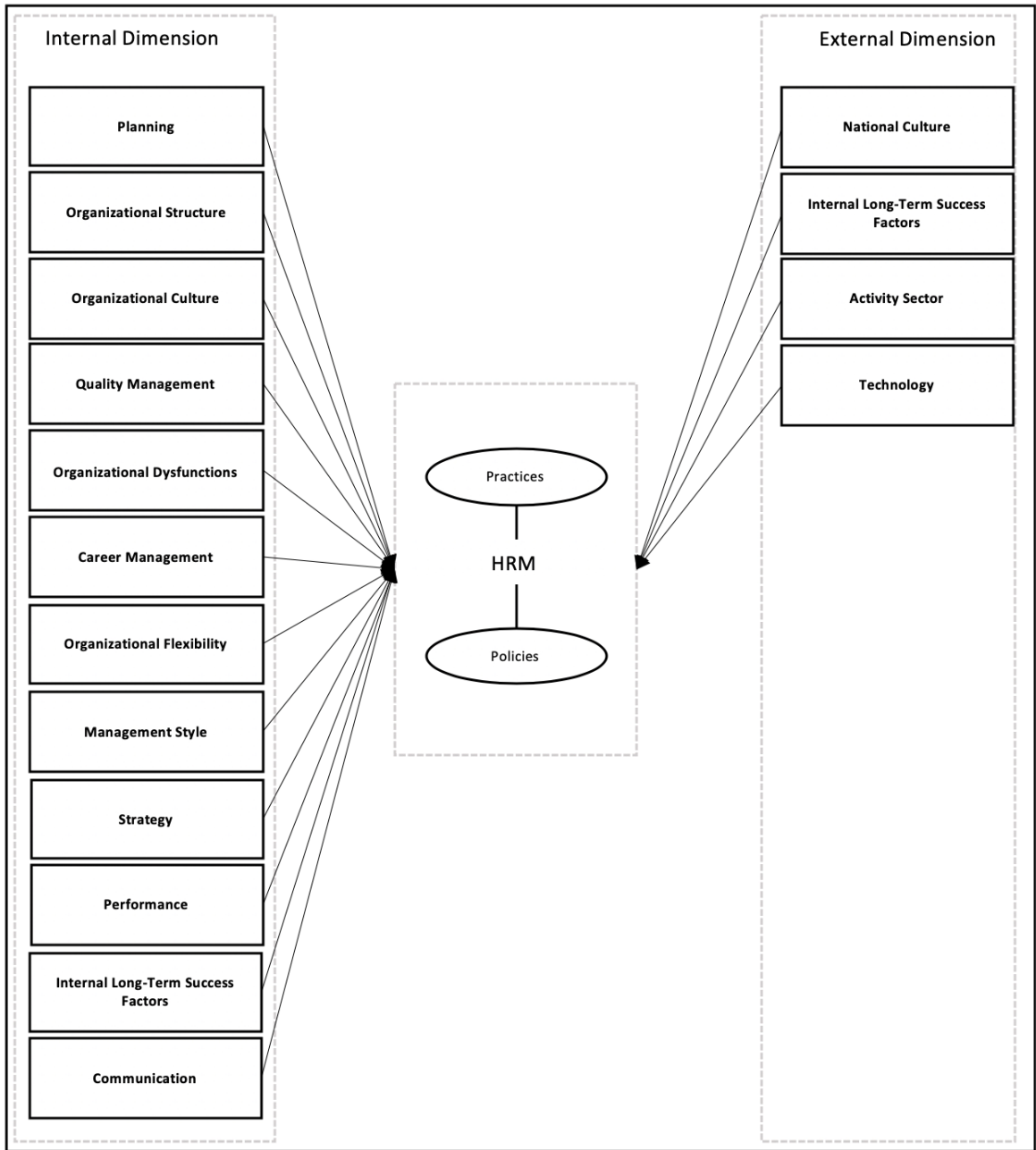


Figure 2 Adjusted Theoretical Model
 Source: the authors

3.2. Testing the model

The quality of adjustment was assessed by the factorial weights and the individual reliability of the items, and the significance of the causal trajectories was assessed with a Z-test to the critical ratios. The assessment of the assumptions was undertaken considering the multivariate normality factors, the absence of multicollinearity and the non-existence of outliers. The existence of outliers was evaluated by the square distance of

Mahalanobis (D^2) and the normality of the variables was assessed by the coefficients of asymmetry (Sk) with the reference value of <3 and kurtosis (Ku) with the reference value of <10 . To assess the absence of multicollinearity of the data, VIF statistics were used. VIF above 5 indicates possible problems with the presence of multicollinearity. These are considered as outliers, observations that present p_1 and p_2 below 0.05. It is expected that the p_1 values are small and the p_2 values are high. One observation with values below

Table 3 presents the standardised values estimated for the estimated model. The table is divided by structural model and measurement model. The structural model defines the causal relations and

the measurement model defines the way the latent variables are operationalised by the observed variables.

Table 3 Results of the contrast of the structural equations model

				Standardised coefficient	Standard error	Critical ratio	p
STRUCTURAL MODEL							
A1	HRM_practice	<----	info_sharing_12	.295	.034	4.051	***
A2	HRM_practice	<----	global_activ	-.267	.029	-3.994	***
A3	HRM_practice	<----	Career	.197	.044	2.673	***
A4	HRM_practice	<----	org_flex	.320	.017	4.299	***
A5	HRM_practice	<----	performance_11	.146	.041	2.176	***
A6	HRM_practice	<----	internal_com_3	.146	.011	2.282	***
A7	HRM_practice	<----	info_sharing_3	.177	.033	2.495	***
A8	HRM_practice	<----	Strategy	.263	.036	2.823	***
A9	HRM_practice	<----	national_cult	-.297	.021	-3.277	***
A10	HRM_practice	<----	performance_24	-.170	.047	-2.641	***
A11	HRM_practice	<----	num_employee	.143	.000	2.168	***
A12	HR_manager_1	<----	Career	.387	.081	4.790	***
A13	HR_manager_1	<----	num_employee	.003	.001	4.693	***
A14	role_HRM_2	<----	Career	.316	.093	3.393	***
A15	role_HRM_2	<----	man_style_17	.231	.073	3.167	***
A16	role_HRM_2	<----	Strategy	.247	.075	3.275	***
A17	role_HRM_2	<----	info_sharing_7	-.150	.068	-2.207	***
A18	role_HRM_2	<----	performance_5	.231	.077	2.987	***
MEASUREMENT MODEL							
HRM_practice_B	<----	HRM_practice	.697	--	--	--	
HRM_practice_A	<----	HRM_practice	.624	.128	7.881	***	
informal_manag	<----	national_cult	.854	--	--	--	
national_manag	<----	national_cult	.680	.154	4.714	***	
org_style	<----	Strategy	.869	--	--	--	
hierar_struct	<----	Strategy	.573	.114	5.325	***	

*** Statistically significant at $p < 0.01$

Source: the authors

Analysis of table 3 and figure 3, verifies that all the regression values for one variable above the other are significant. Thus, we can define the following relations:

A1. Information sharing about the company's financial situation is positively associated ($\beta = 0.295$; $p < 0.01$) with HRM practices.

A2. Companies with activity abroad have a negative association ($\beta = -0.267$; $p < 0.01$) with HRM practices.

A3. Career management practices are positively associated ($\beta = 0.197$; $p < 0.01$) with HRM practices.

A4. HRM's most structured role in organisational flexibility is positively associated ($\beta = 0.320$; $p < 0.01$) with HRM practices.

A5. The valuation of corporate relations with technological and scientific institutions and support institutions, in terms of long-term success, has a positive association ($\beta = 0.146$; $p < 0.01$) with HRM practices.

A6. Valuation of the intranet as an internal communication tool is positively associated ($\beta = 0.146$; $p < 0.01$) with HRM practices.

A7. Information sharing about the performance of each company employee is positively associated ($\beta = 0.177$; $p < 0.01$) with HRM practices.

A8. The logic of the organisational structure and the company's mode of operation is positively associated ($\beta = 0.263$; $p < 0.01$) with HRM practices.

A9. The less formal practices influenced by national culture have a negative association ($\beta = -0.297$; $p < 0.01$) with HRM practices.

A10. Companies seeing community funding as relevant for long-term success to the detriment of other factors is negatively associated ($\beta = -0.170$; $p < 0.01$) with HRM practices.

A11. The number of employees in the company is positively associated ($\beta = 0.143$; $p < 0.01$) with HRM practices.

A12. Career management practices are positively associated ($\beta = 0.387$; $p < 0.01$) with the presence of a HRM specialist.

A13. The number of company employees is positively associated ($\beta = 0.003$; $p < 0.01$) with the presence of an HRM specialists.

A14. Career management practices are positively associated ($\beta = 0.316$; $p < 0.01$) with HRM's role in attracting, developing and retaining employees.

A15. Management by goals is positively associated ($\beta = 0.231$; $p < 0.01$) with HRM's role in attracting, developing and retaining employees.

A16. Organisational structure and the company's mode of operation has a positive association ($\beta = 0.247$; $p < 0.01$) with HRM's role in attracting, developing and retaining employees.

A17. Information shared at the level of each role is negatively ($\beta = -0.150$; $p < 0.01$) with HRM's role in attracting, developing and retaining employees.

A18. The identification of HRM as a success factor in the long-term is positively associated ($\beta = 0.231$; $p < 0.01$) with HRM's role in attracting, developing and retaining employees.

From the analysis of Table 4 it can be verified that all the variances are adequate and with statically significant values.

Table 4 Variance coefficients of the structural equations model

	<i>Estimate</i>	<i>Standard error</i>	<i>Critical ratio</i>	<i>p</i>
national_cult	.836	.201	4.158	***
Strategy	.320	.066	4.818	***
Career	.129	.013	9.760	***
num_employee	.927	.100	9.618	***
info_sharing_12	.215	.022	9.704	***
global_activ	.243	.025	9.618	***
org_flex	.909	.093	9.781	***
performance_11	.128	.013	9.618	***
internal_com_3	.572	.163	9.618	***
info_sharing_3	.219	.023	9.677	***
performance_24	.087	.009	9.618	***
man_style_17	.178	.018	9.668	***
info_sharing_7	.244	.025	9.642	***
performance_5	.177	.018	9.642	***

***Significant at 0.01

Source: the authors

Results indicate that the variable 'HRM practices' is explained by the predictors proposed in the model, with 91% of its variance explained. 'The role of HRM' presents an explained variance of 25% and the 'profile of the HR manager' an explained variance of 20%.

3.3. Model interpretation

Figure 3 represents the existing relations between internal and external dynamics and the more formal HRM model.

Internal factors

Role of organisational flexibility in HRM in SMEs. According to Ruiz-Santos et al. (2003), companies need to be flexible in order to cope with the external environment. HRM has a role in the effective development of organisational flexibility. The absence of structured HRM makes the application of strategies such as versatility of roles more difficult. The model proves that there is a relation between organisational flexibility and more formal HRM practices. The companies that value the role of HRM in organisational flexibility also value best practices in HRM. One possible

interpretation for this relation is the fact that companies are better prepared for flexibility in terms of roles, for example, with the support of a more formal HRM function.

The role of size in HRM in SMEs. Literature suggests that the variable 'size' predicts the existence of a specialist HRM function in SME (de Kok & Uhlaner, 2001; Kotey & Sheridan, 2004). An empirical study undertaken by de Kok & Uhlaner (2001) demonstrated the importance of the size of the company as an indication of formal HRM development. The results of our model are consonant with this literature. Companies with a larger number of employees tend to use formal HRM practices more, as well as having an HR manager with responsibility for implementing the HRM policies.

Perception of the role of HRM for the long-term success of the company. All our organisations want long-term success, but this is only slightly connected to strategy and long-term planning. Companies with a more formal and structured HRM identify HRM as a success factor of the company in the long-term or, to put it another way, there is a valuation of people in the definition of the strategy and planning in the long-term for companies with a more structured HRM.

Role of organisational communication in HRM in SMEs. We find evidence of the importance of internal communication for companies using HRM policies and practices that are more formal, particularly the valuation of information sharing with employees about the company's financial situation; in the valuation of information sharing about the performance of each company employee; and in use of the intranet as a privileged instrument for internal communication.

The influence of management style in HRM in SMEs. According to Mukhtar (2002), the owner/manager's style of management may perform a fundamental role in the way decisions are taken and in the way strategies are defined. In small enterprises, the objectives of the business are inseparable from the personal objectives of the owners/managers. This influences the type of management practices and the type of organisation implemented in the company (Kotey & Slade, 2005). In the model definition and testing, it was possible to find some indications of the role of management style in our SMEs. For example, it was possible to relate some practices (the importance of teamwork, promotion of autonomy and accountability, participation of employees in the definition of business strategy, merit valuation,

among others) to the management style. However, we cannot confirm most of the variables defined in the theoretical model with the HRM policies and practices adopted in the companies. It is only possible to highlight, with statistically relevant data, that the companies that invest in management by goals tend to have as their HRM purpose, 'to attract, develop and retain employees'.

The role of career management in HRM in SMEs. HRM has a relevant role in the application of career management practices and policies (Baruch, 2003; Hall & Moss, 1998; Orpen, 1994). According to these authors, HR managers are the ones who identify, analyse and guide jobs and, consequently, career management. Our model confirms this assumption. The companies that value career management practices have HR managers, use HRM best practices and define the role of HRM as 'to attract, develop and retain employees'. Companies with structured and formal HRM management use career management practices, such as information about vacancies in the company or in other companies from the same group, and training as an integral part of career development and career counselling. These results partly confirm the results presented in the operationalisation of the variables for the proposed model. Pearson's R correlation coefficient proved a moderate relation between 'career management practices' and 'HRM integrative practices' ($r = 0.470$; $p > 0.01$) and a moderate relation between 'career management practices' and 'career incentives' ($r = 0.414$; $p > 0.01$).

Influence of structural and organisational management on HRM in SMEs. SMEs show few hierarchical levels and show evidence of informality. In the operationalisation of the variables for the proposed model, it was possible to confirm a positive relationship between the company structure and HRM practices. The results from the R of Pearson were statistically relevant (between 0.236 and 0.387; $p > 0.01$) and prove this relationship. The results suggest that the companies that value the logic of organisational structure and the company's mode of functioning, based on: a) free initiative and creativity, b) valuing the work environment; c) mechanisms for the integration of new members; d) team work; e) compromise of the managers with the company; f) valuation of work practices; and g) valuation of the hierarchical demarcation, use HRM practices that are more formal and which define the role of HRM as 'attracting, developing and retaining employees'.

External factors

External Factors in HRM in SMEs. In the study of external factors considered relevant for the success of a company in the long-term, the importance of the relation between companies and technological and scientific institutions stands out. It is possible to prove that the companies that identify the relation with technological and scientific institutions as being fundamental for the long-term success of the company have HRM practices that are more formal and structured. This relationship is positively associated ($\beta = 0,146; p < 0,05$).

4. Discussion and conclusions

The aim of the study was to test a model to enable us to improve our understanding of the influence of the internal and external dynamics of SMEs on the practices, role and formalisation of their human resource management. This results in a broader research project which seeks to study the informal and formal side of HRM and the relationship with other organisational dimensions.

SMEs represent more than 90% of global companies. Despite the important role they perform in the global economy, there remains a shortage of research into SMEs generally, and their HRM in particular. Scientific advances in the management of large companies may not easily be transferred to SMEs. However, researchers (Cunningham, 2010; de Kok & Uhlaner, 2001; Kotey & Sheridan, 2004; Melo & Machado, 2013; Tsai, 2010) have begun to deepen our understanding of the relationship between SMEs and HRM and the differences between HRM in large companies and HRM in SMEs (Cardon & Stevens, 2004; Kotey & Sheridan, 2004).

Multivariate tests, structural equation models and case studies have highlighted the internal and external factors associated with HRM practices, such as, information sharing about financial situation and employee performance; valuing the internal communication tool (for example, the intranet); career management practices (special emphasis on training in career development and new workers integration); logic of organisational structure and company functioning, initiative/creativity boosting practices; working environment valuation; integration mechanisms' workers; team work practices; managers' commitment towards the team; people as a success factor in the long-term; existence of an HR manager; and the value of the local corporate context.

Communication is a requirement for social and organisational life (Cunha et al., 2007). Much of the time spent in organisations is spent communicating. It is through oral and written communication that managers try to influence their employees. So, communication is a preponderant factor for organisations generally (Cheney, 1983) and specifically for SMEs. However, in practice, the external communication of many SMEs in Portugal remains limited. There are still many SMEs that have no website or even email for external contact. The perception is that the internet is marginal for the company's business and investment will not bring positive results (Vescovi, 2000). Internally, information sharing about the company's financial situation and the employees' performance are examples of how communication can be strategic; the key to the creation of a strong HRM system (Stanton et al., 2010).

For an SME, being flexible to better manage the interface with an ever uncertain external environment (Ruiz-Santos et al., 2003; Temtime & Pansiri, 2006) is fundamental to its success (Fiegenbaum & Karnani, 1991; Gupta & Cawthon, 1996). The lack of resources, informality (Bacon & Hoque, 2005), and the need for continuous market' readjustment (Levy & Powell, 1998) makes SMEs adept at organisational flexibility. HRM assumes a prominent role, since it may improve the practices associated to organisational flexibility, as shown in this research. In SMEs, the business goals are inseparable from the personal goals of the owners/managers (Kotey & Slade, 2005) – they present personal features which may affect the propensity for business planning (Richbell et al., 2006). Therefore, a management style that is focused on management by goals and on the identification of people as a success factor in the long-term enables a better balance between personal goals and business objectives.

The competitiveness of SMEs is based on internal elements supported by resources and capacities that are difficult to copy, such as technological innovation, flexibility, organisational structure and HRM (Bacon et al., 1996; Wagar, 1998). The design of organisational structure is a mix between deliberate and unconscious choices and emerging developments (Meijaard et al., 2005); and the type of structure is determined by the size of the company, technology, the environment and the strategy (Cunha et al., 2007) and the allocation of work (Meijaard et al., 2005). Since SME frequently have informal structures, administrative and accounting

procedures are insufficiently developed (Lloyd-Reason & Mughan, 2002). Therefore, as defined in the proposed theoretical model, the identification of the efficiency of the organisational structure is a key success factor in the long-term. The mode of functioning of the company, associated with the practices that stimulate free initiative and creativity, valuation of the work environment, work practices, teamwork and the managers' commitment to the company allows for the enhancement of the use of HRM policies and practices that are more strategic for SMEs.

The research focused on the Portuguese context, which, culturally, is part of the Latin cluster (Hofstede & Hofstede, 2010). Institutionally, Portugal has been classified – by authors who show good understanding of socioeconomics but not much of geography - as a Mediterranean country (Amable, 2003). Such national differences have a clear connection to HRM practices amongst larger organisations

(Wood, Brewster & Brookes, 2014). We suspect that national differences will have an impact on SMEs too but, as our survey only covered Portuguese companies, we are unable to comment further. In the Portuguese context, it has not been possible to confirm any cultural connection of the link between the role of HRM in 'attracting, developing and retaining employees' and the existence of an HR manager. However, it was possible to confirm that companies using more formal and structured HRM practices undervalue national culture and give it a negative connotation.

Applying these statistical tests, and our interpretation of them, to our existing models we can finally propose the model shown in figure 4. The structural equations model allowed the highlighting of a set of relations between the variables of the internal and external dimensions and the HRM dimensions, like, for example, organisational communication, planning and strategy, organisational structure, among others.

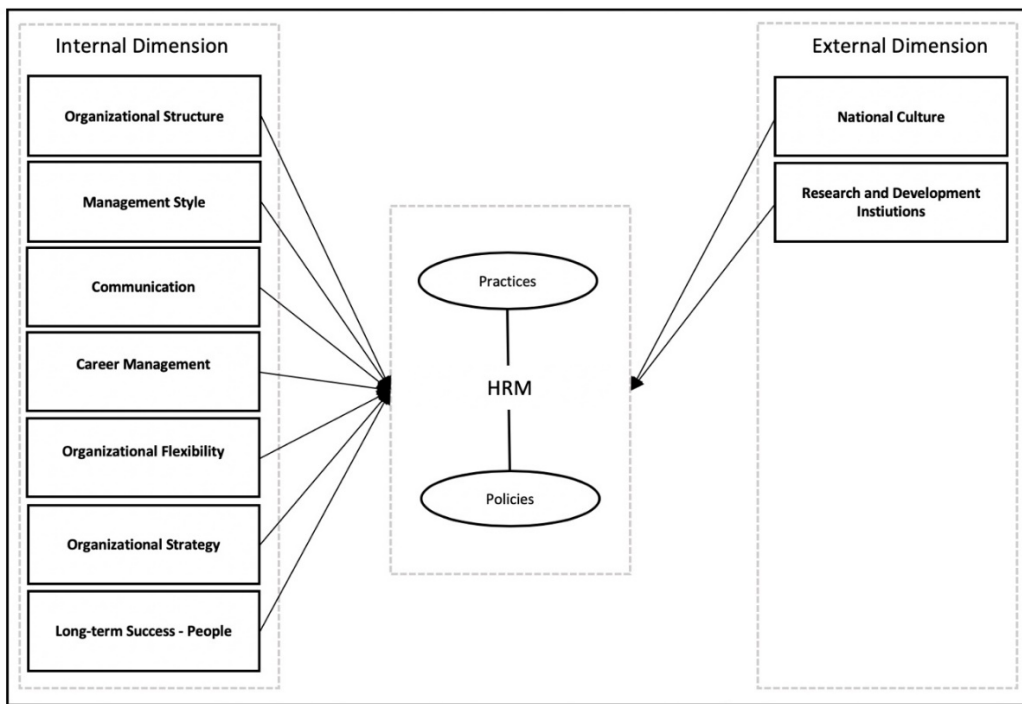


Figure 4 Theoretical Model Proposed
Source: the authors

In sum, with the present study, we aim to contribute to a deepening understanding of HRM in SMEs, identifying a set of key variables that influence people management in SMEs, but also highlighting existing interactions between organisational variables, the external environment and human resources policies and practices, and ultimately obtaining a proposal for a conceptual

model of HRM in SMEs. Facing the diversity of existing practices in this type of organisations, we understand that the present research, while proposing a theoretical model about HRM in SMEs, needs extensive testing. It does, however, form a valuable base for such future research.

Limitations and future research

Due to its complexity, both at the level of the conceptual analysis and at the empirical level, this study presents a set of limitations worth noting here: a) the complexity of the number of dimensions and variables under analysis; b) identification and selection of the dimensions to be included in the analysis; c) difficulty in maintaining a reasonable number of participants in the Delphi method; d) complexity of the model being tested.

Despite the importance of small and medium sized enterprises in our economic and social lives, studies of people management in SMEs remain rare. Over the last few years, the number of studies about SMEs has risen in quantity and quality, but there remains a considerable mismatch between studies of large and small companies.

In our analysis of HRM in SMEs, and our attempts to model it, it was necessary to use a wide set of dimensions. This created methodological difficulties. Due to the high number of dimensions and variables, and the inexperience of SMEs in completing research forms, it became an important and complex challenge to achieve a reasonable number of responses. The participation of a set of national and international experts through the application of the Delphi method provided a conceptual enrichment to the present investigation. However, some limitations arose here too, associated with the reduced number of participants through successive rounds. The construction of the structural equations model was demanding due to the complexity of the model being tested. The high number of relations, variances and covariances of the model limited the analysis of the model.

This study is not hermetic and serves as a starting point for the broadening of the assessed dimensions. It would be interesting to understand, for example, the succession process of a family SME, a more in-depth definition of the type of organisational structures present in the SME; or a characterisation of the type of planning and strategy most commonly used. A broader line of research could include collecting data from employee. This analysis would allow for a different perspective of the company's procedures and would broaden some issues that are less detailed in this study.

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Bibliometric analysis of the literature on evaluation models of the bankruptcy risk

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Abstract

Background: To manage an enterprise effectively, it is necessary to analyze and diagnose its financial condition, an activity that can warn management of dangerous business situations. Topics such as assessing financial position, performance, and risk, especially after situations that involve an economic and financial crisis in the company have been widely discussed in scientific literature.

Purpose: The purpose of the research is to highlight the main research trends regarding bankruptcy risk assessment models.

Study design/methodology/approach: The research strategy is based on two main directions: the first involves the selection of research papers with topics on Conan & Holder and Taffler models published on WoS between 2007 and 2021 and those published on SCOPUS between 2006 and 2021. The second direction aims to select the relevant papers and perform a content analysis of financial-accounting information of Conan & Holder and Taffler models.

Findings/conclusions: The results obtained were concretized in the design of a bibliometric analysis of bankruptcy risk assessment models, which provides an overview of the new research trends regarding bankruptcy risk assessment models. Thus, it was found that most of the studies focus on the analysis of the efficiency of the bankruptcy risk assessment methods and the identification of new options that allow predictability of the risk.

Limitations/future research: Our study limitations are mainly due to the bibliometric algorithm, in the sense that only papers indexed in WoS and Scopus can be imported, processed, and interpreted, which excludes parts of the existing literature on this topic and omits the analysis of some pertinent contributions to our research area. This research can be used as a cornerstone for new research directions, both quantitative and qualitative, on the mechanism of application of bankruptcy risk prevention methods.

Keywords

companies in crisis; models of the bankruptcy risk; bibliometric analysis;

Introduction

Any business can face at some point a crisis that can jeopardize its functioning and image. The crisis situation is characterized by an increased risk of bankruptcy, a weak competitive position, financial instability. Thus, crises are characterized by pronounced instability, so they are accompanied by increasing volatility and uncertainty. The crisis can also be defined as a period in the development of a system / company characterized by the accentuated accumulation of difficulties and the conflicting eruption of tensions, which makes its normal functioning impossible and triggers strong pressures for change. The possible occurrence of bankruptcy is a state of crisis of the company.

In order to manage the enterprise effectively, it is necessary to analyze and diagnose the financial condition of the enterprise, a kind of "alert" that warns the management of dangerous business situations. Topics have been widely debated in the literature such as assessing financial position, performance, risk, especially after the onset of a situation involving the economic and financial crisis of the company which results in low profitability, restriction of activity or even the onset of bankruptcy. Particular attention should be paid to the risk of bankruptcy and the models used to identify this type of risk successfully. There are a number of methods that aim to detect vulnerabilities and the risk of bankruptcy by determining a score function whose value categorizes vulnerable and healthy entities. The calculation of a score function is based on financial-accounting rates. There are several bankruptcy risk assessment scoring models, among which we mention only a few: Conan & Holder model, Taffler model, Springate model, Ohlson model, etc. In this paper, we have chosen to analyze the Conan & Holder model and the Taffler model because they belong to renowned schools, namely: the Conan & Holder model belongs to the European continental school and the Taffler model to the Asian continental school.

The purpose of this article is to review quality bibliographic sources that have addressed the topic of bankruptcy risk. The main objectives are focused on the selection of those publications published on the Web of Science (WoS) and SCOPUS and which aimed to address the risks of bankruptcy, and subsequently on the bibliometric analysis of these studies. The results obtained are concretized in the design of a research agenda with the topic of bankruptcy risk, in which are presented

the most relevant models for assessing the risk of bankruptcy, the limits, but also the solutions offered by using these models in certain crisis situations. to avoid obtaining results that do not reflect the economic reality at the time of the bankruptcy. The results obtained in this paper can be a starting point for any researcher concerned with the issue of bankruptcy risk assessment and the most relevant models of bankruptcy risk assessment currently used internationally.

1. Literature review

Crisis is a term often used for difficult, dangerous and future situations and refers to an extremely wide range of natural, social, economic and mental processes (e.g. political crisis, economic crisis, financial crisis, oil crisis, environmental crisis, moral crisis, art crisis, crisis of values, health crisis, age crisis, etc.) (Dubrovski, 2004) An older definition of the crisis, mentioned by Krystek (1987), argues that the company's crisis is "an unwanted and unplanned process of limited duration and susceptibility, with an ambivalent way out, ending by failing to achieve its dominant goals. At the same time, the crisis could lead to the collapse of a company." Financial difficulties are one of the most important threats that companies face, regardless of their size and operations (Charitou, Neophytou & Charalambous, 2004).

The crisis, at the state level, is defined as the phenomenon that occurs when the phenomena of adverse selection and moral hazard are cumulated to a level where the markets no longer direct the available funds to the economic agents that represent the best investment options (Aglietta, 2008). On the other hand, the crisis at the enterprise level may be caused by the mismatch of its financial and economic parameters with the parameters of the environment. In the event of a crisis at the enterprise level, the company will face an acute shortage of financial resources, which prevents the normal development of the field of activity, timely payment of taxes, salaries and other obligations (Klodāne, Mietule & Beinaroviča-Litvinova, 2017). The crisis within a company can occur at any stage of the life cycle of that company. Crises at the enterprise level have several features in common, namely: they are a critical moment; it is triggered suddenly, by the rapid and brutal change of a state; manifests itself through difficulties; it represents a dangerous moment, a serious situation, which induces a period of tension (Blanculescu, 2006).

In general, the crisis in a company is considered a negative phenomenon (Valackienė & Virbickaitė, 2011). The crisis situation is an unstable state of the company, when the usual business operations fail and the results of the company's performance decrease. However, there are authors who consider that a crisis, although dangerous for the life cycle of the organization, still offers the company the opportunity to become stronger (Ulmer, Sellnow & Seeger, 2007). The signs of a crisis within a firm are usually: "declining liquidity and profitability, loss of financial stability, rising costs, loss of market and competitive capacity" (Blume, Kieser & Holscher, 1998; Cantor & Packer, 1994; Dwyer & Stein, 2006; Gupton, 2005; Forster, Ward & Woodroof, 1998). If a company cannot or does not want to notice the signals of an early crisis and predict the risks that may threaten the company, then the legal tools must be applied: reorganization processes and bankruptcy. For companies that reach this stage, reorganization is often the only way to avoid bankruptcy and maintain business development. In the event of bankruptcy, there is a big chance that the company will cease to exist (Cho, Okafor, Ujah & Zhang, 2021).

"Bankruptcy is a critical issue for companies because of its negative social and financial consequences" (Wu, 2010). Bankruptcy is an indissoluble phenomenon related to the modern market economy. Also, the large number of bankruptcies reported by companies can lead to negative consequences at the local level - for economic development and economic circumstances in the region and - on a national scale - for the economy of the whole country (Pisula, 2020). According to Pasternak-Malicka, Ostrowska-Dankiewicz and Dankiewicz (2021), "economic activity is often accompanied by risk-related uncertainty, which is difficult to recognize. Underestimating or not recognizing such a crisis situation in the organization, or adopting an inadequate action strategy can lead to a serious crisis, which can become a premise and basis for economic bankruptcy." No matter how the bankruptcy is defined, a business does not collapse overnight. Bankruptcy is usually preceded by a crisis that may or may not lead to insolvency. Only the inaction or mistakes made during the crisis in the company contribute to its bankruptcy. It should be noted that "the emergence of a financial crisis can also contribute to bankruptcy. Moreover, such disturbances not only affect small and medium-sized enterprises, but can also contribute to the

problems of institutions whose task is to stabilize the market, such as insurance companies" (Dankiewicz & Simionescu, 2020; Tsvetkova, Bugaev, Belousova & Zhukova, 2021; Meekaewkunchorn, Szczepańska-Woszczyńska, Muangmee, Kassakorn & Khalid, 2021). Firms show symptoms of imminent crisis long before bankruptcy occurs. It is assumed that "the symptoms of imminent bankruptcy are visible in the analysis of indices already in the period from one to four years preceding the court ruling on the insolvency of the debtor" (Antonowicz, 2015). The bankruptcy crisis of a company affects people both inside and outside. Typically, the main stakeholders affected by a company's bankruptcy crisis are divided into the following ten groups: owners, manager, creditors, investors, employees, customers, suppliers, the state, auditors and professional accountants (Chelba & Grosu, 2021).

Right and constructive decisions contribute to the success of an entity, while wrong decisions can lead to a deterioration of the company's financial situation and even lead to its bankruptcy (Boratyńska, 2021). Detecting the company's crisis and eliminating its negative effects, as well as its causes, is in the first phase a task of the company's management, shareholders and owners (Arieshanti, Purwananto, Ramadhani, Nuha & Ulinuha, 2013). They are the first of all stakeholders to receive evidence that suggests a possible crisis. Based on their competence and relevant decision-making models, management, shareholders and owners must initiate appropriate measures to eliminate the crisis (Cvilikas, Kurschus & Šarapovas, 2015). According to Nguyen & Kien (2022), "the risk of bankruptcy due to objective factors stems from changes in financial markets, such as interest rates, exchange rates and commodity prices. The risk of bankruptcy caused by subjective factors derives from the financial decisions of the managers". In general, the risk is the measurable uncertainty of events that occur randomly in the future and cause damage. The risk of bankruptcy shows the possibility that a company will not be able to meet its debt obligations, that is, the probability that a company will go bankrupt in the next few years. Bankruptcy risk assessment is especially important for investors in making investment decisions in stocks or bonds, but also for managers in making financial decisions regarding financing, investment and distribution policy" (Bărbuță-Mișu & Madaleno, 2020). Investors and creditors are interested in predicting the bankruptcy of companies due to the possibility

of their own losses (Inam, Inam, Mian, Sheikh & Awan, 2019). Bankruptcy risk assessment models are also important tools for bankers, rating agencies and even firms in difficulty (Altman, Iwanicz-Drozdowska, Laitinen & Suvas, 2017).

The models we chose for the analysis, namely the Conan & Holder model and the Taffler model, use the scoring method in assessing the risk of bankruptcy. The scoring method is a “method of internal and external diagnosis, which aims to measure the risk of investors, creditors and the economic agent himself in his future activity. This method occupies an important position in financial analysis and is based on discriminatory analysis” (Bordeianu, Radu, Paraschivescu & Păvaloia, 2011). Following discriminant analysis, scoring is a linear function of a set of reports or significant financial variables. Discriminant analysis is used to develop models for classifying/predicting the relevance of observations to certain a priori determined classes. Investors and creditors are interested in predicting the bankruptcy of companies due to the possibility of their own losses (Inam, Inam, Mian, Sheikh & Awan, 2019). To this end, a classifier is constructed in the discriminant analysis based on a set of observations and some characteristic indicators for these observations (Armeanu, Vintilă, Moscalu, Filipescu & Lazăr, 2012). The advantages of discriminatory analysis are “unambiguous interpretation and high accuracy of the results of estimating the risk of bankruptcy of the enterprise, which also take into account industrial specialization and timing in internal models” (Neskorodieva, Megits, Rodchenko, Pustovhar & Stamatina, 2019).

The Conan-Holder model was developed in 1978 with the immediate aim of analyzing the degradation of small and medium enterprises in France and is based on the liquidity-demand analysis (Mițul & Odainii, 2018). This is an international model that is part of the continental European school of bankruptcy risk assessment models. The model developed by the two authors falls within the statistically tested methods. The researchers established a sample of small and medium enterprises, which they studied through the financial-accounting variables. The Conan & Holder model applies to industrial companies with between 10 and 500 employees. It is based on a sample of 95 small and medium-sized enterprises, half of which went bankrupt between 1970 and 1975. The analyzed companies were statistically grouped to determine a score function applicable to industrial companies, construction companies,

wholesale and transport companies (Bărbuță-Mișu & Codreanu, 2014). The Taffler model was designed in 1983 by English scientists R. Taffler and G. Tishou who proposed the Z model based on the calculation of four factors. According to Taffler (1983), the first step in building this model was “to calculate over 80 carefully selected reports from the accounts of all listed industrial firms that failed between 1968 and 1976 and 46 randomly selected solvent industrial firms.” Then, using, among other things, linear discriminant analysis in stages, the z-score model was derived by determining the best set of reports that, taken together and properly weighted, made the optimal distinction between the two samples (Agarwal & Taffler, 2007).

Score models (Conan, Holder & Taffler) produce a value (z score) that is used to estimate the risk of bankruptcy and solvency of a business. Each model focuses on different financial statements and various fields of interpretation for the Z score (Vîrcolici, 2019). Assessing the likelihood of an entity's insolvency is a daunting task. Each model may reveal a different area of issue and for these reasons it is recommended that both models be applied together to get a more complete picture of the risks that threaten the company. It is important to note that one cannot talk about the existence of a risk of bankruptcy of a business in the absence of a financial-accounting diagnosis that would determine the state of insolvency, recognized as that state of the patrimony of an entity characterized by insufficient funds to pay certain determined, liquid and due debts (Voda, Dobrotă, Țircă, Dumitrașcu & Dobrotă, 2021).

The previously revised literature is the premise for formulating the following research questions:

RQ 1: What are the new research trends on bankruptcy risk assessment models, the Conan & Holder model and the Taffler model, based on the WOS indexed papers in the last 5 years (2007-2021)?

RQ 2: What are the new research trends on the Conan & Holder model and the Taffler model bankruptcy risk assessment models, based on the SCOPUS indexed papers in the period 2006-2021?

RQ 3: Is there international collaboration between authors, countries and institutions on the analyzed topic in order to establish the need for perfection of the evaluation models Conan & Holder model and Taffler model?

The global statistical situation on the number of bankruptcies is currently growing rapidly (Grosu & Chelba, 2020). Under these conditions, economic entities become more aware of the importance of

early bankruptcy prediction and attach particular importance to the use of general models for assessing the probability of bankruptcy, models based on well-founded principles, techniques and methodologies (Kliestik et al., 2018).

2. Research methodology

Based on the purpose and the questions of our paper, the research methodology can be structured into 4 steps: choosing the databases for analysis; setting the time frame for the research; choosing

the software for analysis and data analysis (see Figure 1).

The research methodology was designed based on previous research using the Text Mining approach to identify research trends, as well as the relationships between the analysed topics (Cicea et al., 2019; Cicea et al., 2021).

The bibliometric analysis of the literature allows the management of all existing studies, thus resulting in a very complex and extensive research (Melega, 2022; Grosu et al. 2022).

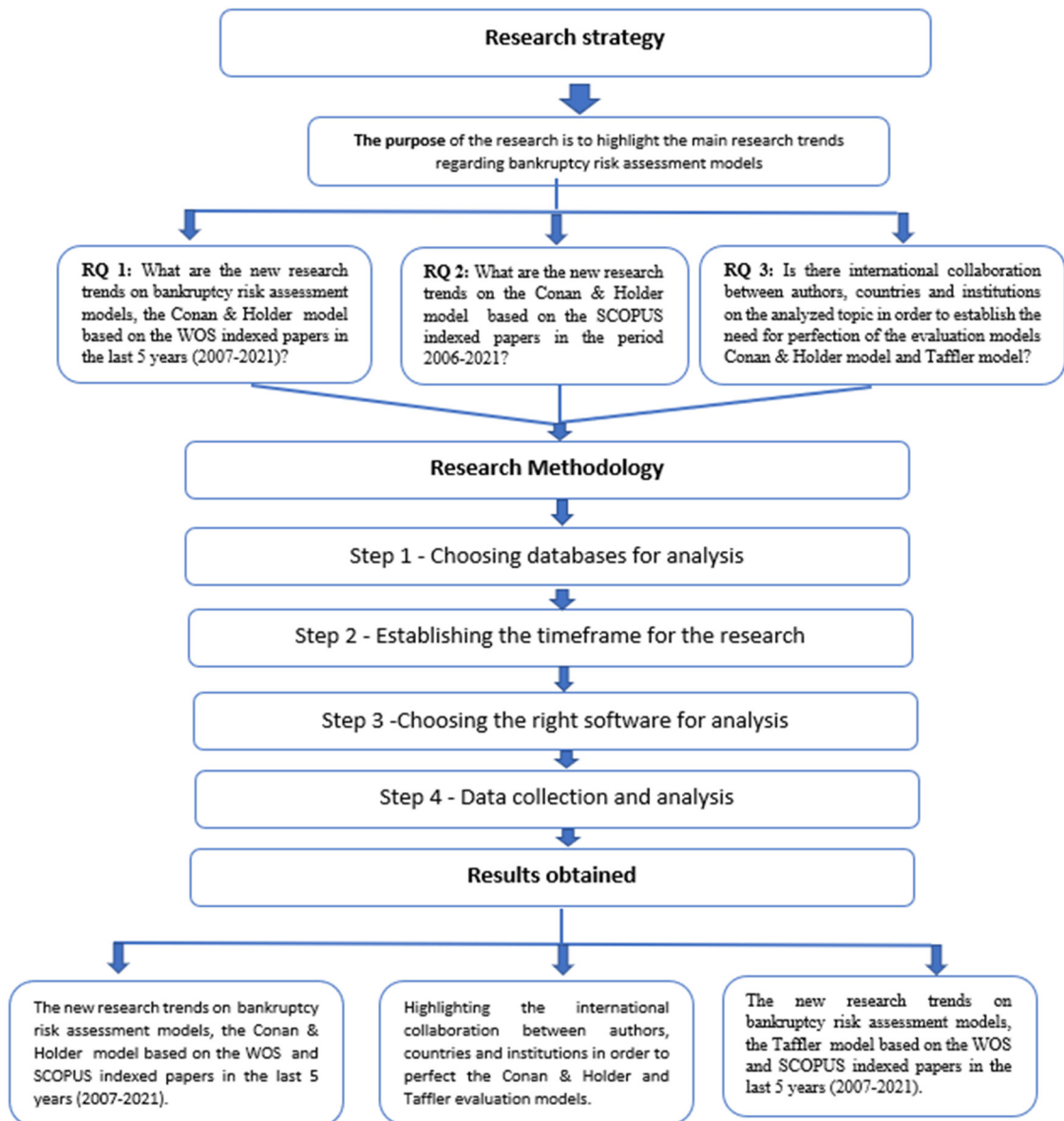


Figure 1 Research strategy

Source: Developed by the authors

Choosing the databases for analysis

For our work, we considered it appropriate to select the WoS and SCOPUS platforms as databases. We made this choice because these databases are the most relevant tools in bibliometric research. According to Echchakoui (2020) “WoS has traditionally been the largest and most exclusively accessible database for bibliometric analysis, but since its introduction by Elsevier and its ease of accessibility in universities around the world, SCOPUS has become a major competitor to WoS for conducting such analyses.” Sanchez et al. (2017) argue that in terms of conducting bibliometric analyses, when comparing WoS and SCOPUS there is no superiority of one database over the other. However, some authors found in their research that of all the reviewed databases, WoS would be the most selective and that approximately 99.11% of the journals indexed in WoS are also indexed in Scopus (Singh et al., 2021). It was also found that the results of bibliometric analyses can vary depending on the used database (Mongeon & Paul-Hus, 2016). Therefore, we believe that both WoS and SCOPUS are important databases, which, taken together, are an important tool in bibliometrics, complementing each other.

Setting the time frame for research

Regarding the choice of the time frame for the research, when the scientific papers were searched in the databases, no selection criteria for the time frame were imposed, in the sense that we considered it appropriate to select all the scientific output published on WoS and SCOPUS in order to avoid any suspicion of subjective selection of some papers. We consider that the selection of the entire scientific production brings real advantages, because the results of the analysis are based entirely on objective and officially reported data that is recognized by the scientific community. We also chose this option because as a rule, in bibliometric network analysis, researchers frequently use mapping and clustering techniques in a combined way. However, we have to keep in mind that the mapping and clustering techniques that are used together are based on very different ideas and assumptions (Waltman, Van Eck & Noyon, 2010); therefore, in the present research the selection of the entire published scientific output seemed more appropriate. At the time of the research, we noticed that scientific production is limited over certain periods of time, in the sense that when searching for Conan and Holder Model

keywords on the WoS database, research results were found only for the period 2009-2020 and for the same keywords but on the SCOPUS database, research results were found only for the period 2010-2017. Also, when searching for Taffler Model keywords on the WoS database, research results were found only for the period 2007-2009 and for the same keywords but on the SCOPUS database, research results were found only for the period 2006-2021. Under these circumstances, the research questions were adapted according to the production period found for each keyword combination and for each database. Although scientific output has been limited to these time periods, it is important and essential to state that these time periods are current and capture new global economic conditions in the present context of research on bankruptcy risk assessment methods and techniques.

Choosing the software for analysis

In order to perform the bibliometric analysis of the selected papers, the clustering method was applied with the help of the VOSviewer software, where only the data that was provided according to the initially selected research areas, publication years, publication sources, citation index and regions of affiliation were processed, resulting in the following items: frequency of occurrence of key concepts, number of clusters, links and total links strength.

The VOSviewer software is a common tool in bibliometric analyses, used by many researchers, due to the fact that this software maps the data (Al Husaeni & Nandiyanto, 2022), providing this way a map of the main research topics, highlighting also their interconnectivity and the main research trends. According to Borner et al. (2005), VOSviewer software is a “visualization technique that can be used to map the growing domain structure of scientific disciplines and to support information retrieval and classification.” Compared to other bibliometric software, VOSviewer offers the possibility to examine in detail the mapping of articles by topic, author, country or institution, highlighting in particular the similarities between data and the interconnectivity between them, grouping them into clusters. The VOSviewer software provides two types of maps: distance-based maps, which “reflect the strength of the relationship between elements, facilitating the identification of groups of related elements” and graph-based maps, which “draw lines between elements to indicate relationships” (van Eck &

Waltman, 2010). Thus, the reason for opting for a bibliometric analysis is that it allows the management of hundreds or even thousands of articles, as well as other indicators specific to quality research, resulting in a very complex and extensive research.

Selecting the results

In order to process the information we need in the bibliometric analysis, as well as in order to obtain the most accurate analysis, in the first stage of selecting the results we established a series of criteria, as follows:

a) inclusion - only papers with the topic Bankruptcy Risk Assessment Models, Bankruptcy Risk Analysis Models, Conan and Holder Model, Conan and Holder Model Z Score, Taffler Model and Taffler Z Score Model, including only the

following areas of research: Economics, Business Finance, Management, Business, Statistical Probability (WoS); Business, Management, Accounting; Economics, Econometrics and Finance (SCOPUS); such as all years of publication, all geographical regions and all types of articles (articles, research paper, proceedings paper, early access, review articles, book, book chapters, data papers, news items, conference paper, review, conference review), and regarding the search on SCOPUS the established topic was selected to be searched only in the title of the works, in the abstract and in the keywords;

b) exclusion - the research areas that are not found in the ones mentioned above were eliminated and also, editorial materials, meeting abstracts, notes and erratum published with the mentioned topics were not taken into account.

Table 1 Centralization of WoS and SCOPUS research results

Key concepts sought on WoS	Research results	Key concepts sought on SCOPUS	Research results	Total
Evaluation models of the bankruptcy risk	92	Evaluation models of the bankruptcy risk	39	131
Analysis models of the bankruptcy risk	540	Analysis models of the bankruptcy risk	294	834
Conan and Holder Model	6	Conan and Holder Model	6	12
Conan and Holder Z Score Model	3	Conan and Holder Z Score Model	1	4
Taffler Model	16	Taffler Model	11	27
Taffler Z score Model	9	Taffler Z score Model	3	12
Total	666	Total	354	1,020

Source: Developed by the authors

In table 1 it can be seen that the selection of works from the two databases (WoS and SCOPUS) resulted in a total of 1,020 works. This database was created taking into account the above set of criteria. With the help of this database, we have developed bibliometric indicators of quantity, quality and structure in order to evaluate the scientific activity of this field. When looking for key concepts - assessment models, bankruptcy risk analysis - the most productive combination of keywords was “models of bankruptcy risk analysis” (Analysis models of the bankruptcy risk) which resulted in a total of 834 papers. The fewest results resulted in the search for keywords for the Conan-Holder model (a total of 12 papers for Conan and Holder Model and a total of 6 papers for Conan and Holder Z Score Model). Searching for Taffler Keywords found more papers than Conan-

Holder (a total of 27 papers for Taffler Model and a total of 12 papers for Taffler Z score Model).

In general, a higher number of WoS results (666 scientific papers) can be seen compared to the results provided by SCOPUS (354 scientific papers).

3. Results and discussions

In table 1 it can be seen that the selection of works from the two databases (WoS and SCOPUS) resulted in a total of 1,020 works. This database was created taking into account the above set of criteria. With the help of this database, we have developed bibliometric indicators of quantity, quality and structure in order to evaluate the scientific activity of this field. When looking for key concepts - assessment models, bankruptcy risk analysis - the most productive combination of

keywords was “models of bankruptcy risk analysis” (Analysis models of the bankruptcy risk) which resulted in a total of 834 papers. The fewest results resulted in the search for keywords for the Conan-Holder model (a total of 12 papers for Conan and Holder Model and a total of 6 papers for Conan and Holder Z Score Model). Searching for Taffler Keywords found more papers than Conan-Holder (a total of 27 papers for Taffler Model and a total of 12 papers for Taffler Z score Model). In general, a higher number of WoS results (666 scientific papers) can be seen compared to the results provided by SCOPUS (354 scientific papers).

3.1. Bibliometric analysis of the Conan & Holder model

The Conan & Holder model is an internationally recognized model, which was founded in 1978, and which belongs to the continental European school. Thus, in this section, we aim to answer the following questions:

RQ 1: What are the new research trends on bankruptcy risk assessment models, the Conan & Holder model, based on the WOS indexed papers in the last 5 years (2007-2021)?

RQ 2: What are the new research trends on the Conan & Holder model based on the SCOPUS indexed papers in the period 2006-2021?

We have presented in Table 2 the top 9 of the publication sources, organizations, authors, countries involved and of the years according to the number of works published for the Conan-Holder

model. Since the search for this topic - Conan and Holder Model - resulted in 6 scientific papers for both WoS and SCOPUS (12 scientific papers in total), this table shows all the papers that resulted from the search.

We note that between the data provided by the two platforms WoS and SCOPUS, there are many similarities such as the top 10 of the publishing sources, where the 1st place is occupied by Economic Computation and Economic Cybernetics Studies and Research, as well as the organizations involved where on the first place is the “Lower Danube” University of Galați with 3 papers for both databases. Also, in the case of the authors Bărbuță-Mișu, N. is on the first place for both WoS and SCOPUS, and Romania ranks first in the top of the most productive countries also for both scientific search engines. In fact, as can be seen, all the works were written by Romanian authors, except for one work where there was a collaboration between a Romanian and a Portuguese author, for this reason in the case of WoS, Portugal appears in the 2nd place with a single work. The authors are more numerous than the existing works because in some works there were two or three authors, the same situation being in the case of the organizations involved, they indicate the university where each author is affiliated. The differences can be seen in terms of the most productive years of publication, where we note that 2010 is in the top WoS, and in the case of SCOPUS, 2011 records the most publications on the Conan and Holder Model.

Table 2 Top 9 most productive publishing sources, organizations, authors, countries, and years of publishing on WoS and SCOPUS related to the Conan and Holder Model

	Top	Publication source	NA	Organizations involved	NA	Authors	NA	Countries	NA	PY	NA
WoS	1	Economic Computation and Economic Cybernetics Studies and Research	1	University of the Lower Danube Galați	3	Bărbuță-Mișu, N.	3	Romania	6	2010	2
	2	Innovation Management and Sustainable Economic Competitive Advantage from Regional Development to Global Growth VOLS I VI 2015	1	University of Agronomic Sciences Veterinary Medicine Bucharest	1	Afanase, C.	1	Portugal	1	2015	2
	3	4th World Conference on Business Economics and Management WCBEM 2015	1	Petru Maior University, Târgu Mureș	1	Cibotariu, I.S.	1	-	-	2009	1
	4	Applied Economics Business and Development	1	Ștefan Cel Mare University of Suceava	1	Kicsi, R.	1	-	-	2020	1

	5	Management in the Worldwide Contemporary Challenges	1	University of Aveiro, Portugal	1	Madaleno, M.	1	-	-	-	-
	6	Journal of Risk and Financial Management	1	University of Economic Studies Bucharest	1	Mazilescu, V.	1	-	-	-	-
Popescu, A.						1	-	-	-	-	
Spatacean, I.O.						1	-	-	-	-	
Stroe, R.						1	-	-	-	-	
SCOPUS	1	Economic Computation And Economic Cybernetics Studies And Research	<u>1</u>	University of the Lower Danube Galați	<u>3</u>	Bărbuță-Mișu, N.	3	Romania	<u>6</u>	2011	<u>2</u>
	2	Quality Access To Success	<u>1</u>	Bucharest Academy of Economic Studies	<u>1</u>	Aldea, D.	1	-	-	2017	<u>1</u>
	3	Risk Governance And Control Financial Markets And Institutions	<u>1</u>	University of Agronomic Sciences and Veterinary Medicine in Bucharest	<u>1</u>	Cioban, G.L.	1	-	-	2016	<u>1</u>
	4	Undertanding Bankruptcy: Global Issues, Perspectives and Challenges	1	Ștefan cel Mare University of Suceava	<u>1</u>	Iancu, E.	1	-	-	2015	<u>1</u>
	5	27th International Business Information Management Association Conference - Innovation Management and Education Excellence Vision 2020: From Regional Development Sustainability to Global Economic Growth, IBIMA 2016	1	University of Economic Studies Bucharest	<u>1</u>	Lădaru, R.	1	-	-	2010	<u>1</u>
	6	26th International Business Information Management Association Conference - Innovation Management and Sustainable Economic Competitive Advantage: From Regional Development to Global Growth, IBIMA 2015	1	-	-	Mazilescu, V.	1	-	-	-	-

* NA – number of published articles; * PY – year of publication.

Source: the authors' own development using WoS and SCOPUS databases

Based on the search protocol applied on the WoS platform mentioned in Figure 1, a number of 6 papers for the selected period resulted, these being imported into the VOSviewer software which selected 34 terms of which only 27 are connected to each other and in the same time they

have reached the threshold of at least one frequency.

The frequency network of keywords or terms on the Conan and Holder Model (Figure 2) suggests that this concept is closely related to the concept of bankruptcy risk (where it records a

frequency of 3 according to VOSviewer), bankruptcy risk (frequency of 2) and prediction (frequency 2), and the rest of the concepts have a lower frequency, of one (see Table 3). From Figure 1 (a) we see that the network groups the 27 terms into four clusters according to their relevance. The first group comprises 10 terms and focuses on the concept of bankruptcy prediction, including the terms: company performance, DEA, discriminatory analysis, large European companies, failure, financial rates, framework, models and analysis of key components. The second cluster, consisting of 8 terms, includes the concept of bankruptcy risk, Conan & Holder model, discriminant analysis, enterprise, bankruptcy risk estimation models, parameters, success rates and Z Score. The third cluster comprises 5 items, namely: agricultural holdings, Altman model, bankruptcy risk, Conan & Holder model and Romania. This cluster highlights our country's growing interest in the Conan & Holder model. The last cluster contains 4 items related to the construction sector, discriminant and multivariate analysis, multifactorial models and prediction.

are connected to each other and at the same time reached the threshold of at least one frequency. The network of key terms shown in Figure 2 highlights two clusters of different sizes which is determined by the intensity of the links between the terms and their frequency. The first cluster consists of 17 items centered around several concepts, such as artificial intelligence, business models, concessions, economics, information management, innovation, intangible assets, regional planning, neural networks, risk perception, etc. The second cluster includes 16 specific terms such as bankruptcy risk, Altman model, Conan and Holder model, empirical research, forecast, financial situation, bankruptcy forecast, profit and loss, risk forecast, Romania and others.

From the point of view of frequency indicators and average quotes, we notice that in the case of the network of key terms based on the results provided by WoS, the most cited items are company performance, DEA, discriminant analysis, large European companies, failure, financial rates, framework, models and analysis of the main components, and for the SCOPUS database, it is not indicated which are the most cited terms (see Figure 2 (b) and Figure 3 (b)).

As shown in Figure 2 (c) and Figure 3 (c) from 2010 to 2020 the Conan and Holder model reaches the maximum point represented by the keyword frequency in 2010, and in 2015 according to the WoS network, and in 2015 according to SCOPUS.

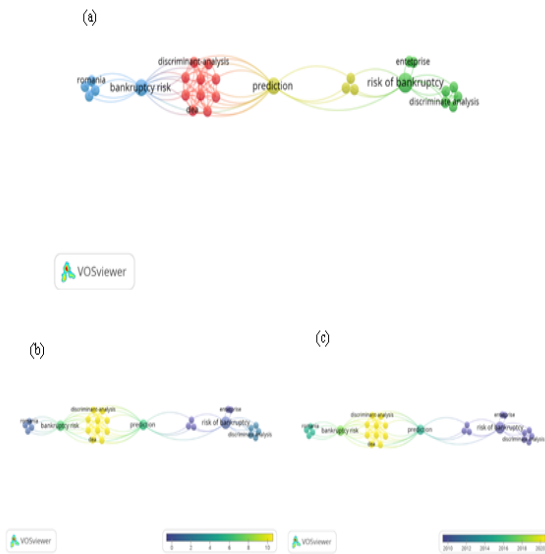


Figure 2 (a) WoS Model Conan and Holder Keyword Frequency Network (2009-2020); (b) Network visualization by frequency and average citations; (c) Network view by frequency and average year of publication
Source: the authors' own elaboration through VOSviewer software

At the same time as WoS, we applied the search protocol in Figure 3 to the SCOPUS platform, resulting in a number of 6 works for the selected period that were imported into the VOSviewer software. He selected 53 terms of which only 33

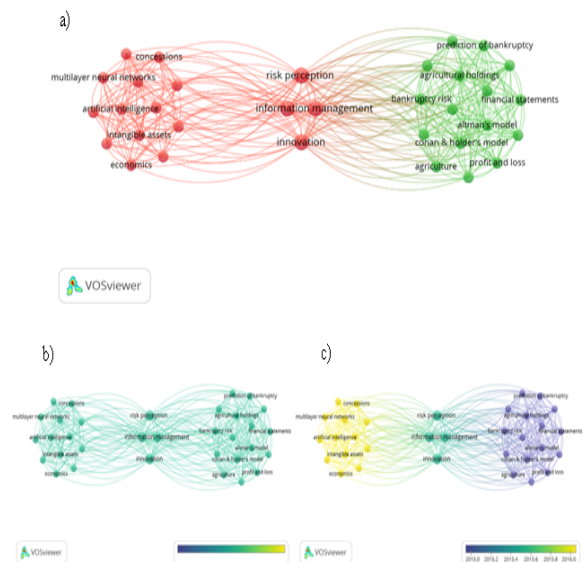


Figure 3 (a) The key frequency network for the Conan and Holder Model on SCOPUS (2010-2017); (b) Network visualization by frequency and average citations; (c) Network view by frequency and average year of publication
Source: the authors' own elaboration through VOSviewer software

Table 3 Top 10 by frequency of keywords related to Conan and Hoder Model concepts

	Top	Items	Cluster	Links	Total link strength	Occurrences	Avg. pub. year	Avg. citations
WoS	1	risk of bankruptcy	2	11	-	3	2009	0.6667
	2	bankruptcy risk	3	15	-	2	2017	6.5
	3	prediction	4	15	-	2	2015	6
	4	agricultural holdings	3	4	-	1	2015	1
	5	Altman's model	3	4	-	1	2015	1
	6	bankruptcy prediction	1	11	-	1	2020	12
	7	company performance	1	11	-	1	2020	12
	8	Conan & Holder model	2	5	-	1	2010	2
	9	Conan & Holder's model	3	4	-	1	2015	1
	10	construction sector	4	4	-	1	2010	0
SCOPUS	1	information management	1	32	35	2	2015	0
	2	innovation	1	32	35	2	2015	0
	3	regional planning	1	32	35	2	2015	0
	4	risk perception	1	32	35	2	2015	0
	5	agricultural holdings	2	19	19	1	2015	0
	6	agriculture	2	19	19	1	2015	0
	7	Altman's model	2	19	19	1	2015	0
	8	artificial intelligence	1	16	16	1	2016	0
	9	bankruptcy risk	2	19	19	1	2015	0
	10	business models	1	16	16	1	2016	0

Source: the authors' own elaboration through VOSviewer software

Table 3 shows the top 10 items by frequency, both for WoS and SCOPUS. In the case of WoS, no total link strength was presented. The top 10 keywords show that the latest research (2020) on WoS focuses on predicting bankruptcy risk and company performance, while those on SCOPUS (2016) focus on artificial intelligence and business models. The top 10 keywords of the two research platforms are different, but there are also a few common elements such as the terms bankruptcy risk, Altman's model.

3.1.1. Bibliometric analysis by authors, organizations and countries

We also analyzed the links between the authors, the organizations involved and the countries where articles on the Conan and Holder Model were published this time, using the co-authorship visualization function of the VOSviewer software, answering the question:

RQ 3: Is there international collaboration between authors, countries and institutions on the analyzed topic in order to establish the need for perfection of the evaluation models Conan & Holder model?

Based on the 6 scientific articles on the WoS platform, there are a number of 9 different authors who meet the set threshold (the number of scientific papers should be at least one per author), but four of these authors are not connected to each other; however, the network renders all 9. The 6 publications on the SCOPUS platform show a number of 10 different authors, all 10 fulfilling the aforementioned threshold.

In Table 4 we presented the top authors according to the number of published articles, along with links, number of citations, norm. citation, average publication year and average citations. We can see that the years 2010 (for WoS) and 2011 (for SCOPUS) predominate as years of publishing articles on the subject of Conan and Holder Model, and the author Bărbuță-Mișu, N. has the most appearances both in the case of WoS and in the case of SCOPUS.

Table 4 Top 8 organizations according to the number of published article

	Top	Organizations	Cluster	Links	Documents	Citations	Norm. citation	Avg. pub. year	Avg. citations
WoS	1	"Lower Danube" University, Galați	1	2	2	14	3	2015	7
	2	Bucharest Academy of Economic Studies	1	1	1	2	2	2010	2
	3	"Lower Danube" University, Galați	2	0	1	0	0	2010	0
	4	Univ. "Petru Maior", Târgu Mureș	3	0	1	0	0	2015	0
	5	"Ștefan Cel Mare" University, Suceava	4	0	1	0	1	2009	0
	6	University of Agricultural Sciences and Veterinary Medicine	5	0	1	1	2	2015	1
	7	Univ, Aveiro	6	1	1	12	1	2020	12
SCOPUS	1	Bucharest Academy of Economic Studies, Faculty of Agri-Food and Environmental Economics	1	1	1	0	1	2011	0
	2	Bucharest Academy of Economic Studies	1	1	1	0	1	2011	0
	3	Bucharest Academy of Economic Studies	2	1	1	1	1	2010	1
	4	"Lower Danube" University, Galați	3	0	1	0	1	2017	0
	5	"Lower Danube" University, Galați	2	1	1	1	1	2010	1
	6	"Ștefan Cel Mare" University, Suceava	4	0	1	0	1	2016	0
	7	University of Agricultural Sciences and Veterinary Medicine, Bucharest	5	0	1	0	1	2015	0
	8	"Lower Danube" University, Galați	6	0	1	0	1	2011	0

Source: the authors' own elaboration through VOSviewer software

From the point of view of the organizations involved in the research area Model Conan and Holder, the VOSviewer program renders for WoS 7 organizations out of a total of 7 (all meet the criterion of at least one scientific paper in an organization), and for SCOPUS the same program renders all 8 organized out of 8 with the same criteria mentioned above, stating that in the case of WoS only 3 of the 7 organizations are connected to each other. The results of the VOSviewer analysis of the top 10 most productive organizations involved are presented in Table 8. The two tops are quite different with a larger number of documents published for SCOPUS and citations for WoS. Figure 3 shows the top of the countries according to the number of documents published on the topic of Conan and Holder model, where Romania stands out as the country with the most published research in the world.

In Figure 4, based on the data collected from the WoS platform, we see that the published documents are between 1 and 6, and the second place, in terms of most publications, is occupied by Portugal. Instead, the data collected from SCOPUS

highlight only Romania with the same number of publications, namely 6.

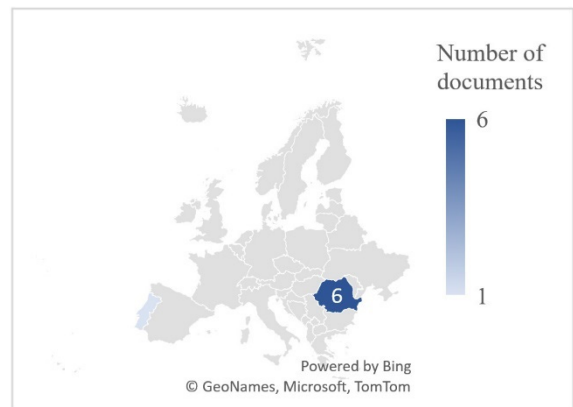


Figure 4 Number of scientific researches related to Conan and Holder Model published globally, based on data provided by WoS

Source: Developed by the authors (2019)

As we only have two countries belonging to the Conan and Holder Model documents (Romania and Portugal), we cannot present the cooperation between the top 10 countries with the number of

documents published, number of citations, average publication year and average citations made through VOSviewer. This program (VOSviewer) requires at least three countries to perform this analysis.

3.2. Bibliometric analysis of the Taffler model

The Taffler model is an internationally recognized model, founded in 1983, belonging to the Asian continental school.

RQ 1: What are the new research trends on bankruptcy risk assessment models, the Taffler model based on the WOS indexed papers in the last 5 years (2007-2021)?

RQ 2: What are the new research trends on the Taffler model based on the SCOPUS indexed papers in the period 2006-2021?

We have presented in Table 5 the top 10 of the publication sources, organizations, authors, countries involved and of the years according to the number of works published for the Taffler Model topic.

We note in Table 5 that there are more differences than similarities between the data provided by the two WoS and SCOPUS platforms. The only similarity is the top 10 authors where

Agarwal V. ranks the 1st for both platforms. The differences can be seen in the publication source where the 1st place is occupied by the 9th International Days of Statistics and Economics in the case of WoS and the Corporate Ownership And Control in the case of SCOPUS, as well as for the organizations involved where the 1st place is occupied by Masaryk University BRNO in the case of WoS and the University of Turin for SCOPUS, as well as for countries where the Czech Republic ranks the 1st for WoS and the UK has the same place for SCOPUS, and, as for the publication years, 2015 is the year with the most WoS publications and 2016 for SCOPUS. It is important to note that in some charts the number of published articles is the same for each position, for example in the case of the top of the WoS publishing source, each position corresponds to a single publication article. From this point of view, the differentiation between positions is made by the WoS platform, respectively SCOPUS. Finally, when comparing the two data collection bases, there is a higher number of scientific papers published on the topic of Taffler Model on the WoS platform, compared to the number of publications on SCOPUS.

Table 5 Top 10 most productive publishing sources, organizations, authors, countries, and WoS and SCOPUS publishing years related to Taffler Model research

	Top	Publication source	NA	Organizations involved	NA	Authors	NA	Countries	NA	PY	NA
WoS	1	9th International Days of Statistics and Economics	1	Masaryk University BRNO	3	Agarwal V	2	Czech Republic	9	2015	4
	2	Accounting and Business Research	1	Cranfield University	2	Plihal T	2	UK	3	2014	3
	3	CBU International Conference Proceedings 2017 Innovations in Science and Education	1	Al Farabi Kazakh National University	1	Sponer M	2	Slovakia	2	2017	3
	4	Enterprise and Competitive Environment	1	BRNO University of Technology	1	Sponerova M	2	Germany	1	2007	2
	5	European Financial Systems 2017 Proceedings of the 14th International Scientific Conference PT 2	1	Brunel University	1	Almamy J	1	Kazakhstan	1	2019	2
	6	Financial Management of Firms and Financial Institutions 10th International Scientific Conference PTS I IV	1	Partner BW	1	Aston J	1	Lithuania	1	2016	1
	7	Financial Management of Firms and Financial Institutions Ostrava	1	Cardiff University	1	Baidildina A	1	Scotland	1	2018	1
	8	HRADEC Economic Days	1	Cent Bohemia Univ	1	Bauer J	1	US	1	-	-
	9	HRADEC Economic Days Vol 5 2	1	Kaunas University of Technology	1	Cabelova T	1	Wales	1	-	-

SCOPUS	10	Hradecke Ekonomicke DNY 2015 ROC 5 2	1	Kosice Technical University	1	Csikosova A	1	-	-	-	-
	1	Corporate Ownership And Control	2	University of Turin	2	Agarwal, V.	2	UK	3	2016	2
	2	Accounting And Business Research	1	University of Brescia	2	Giacosa, E.	2	Italy	2	2015	2
	3	Business Theory And Practice	1	Cranfield School of Management	2	Mazzoleni, A.	2	Lithuania	2	2014	2
	4	International Journal Of Financial Studies	1	Partner BW	1	Teodori, C.	2	Czech Republic	1	2007	2
	5	Journal Of Accounting And Economics	1	Financial University	1	Veneziani, M.	2	Germany	1	2021	1
	6	Journal Of Advanced Research In Law And Economics	1	Independent Researcher	1	Almamy, J.	1	Russia	1	2019	1
	7	Journal Of Banking And Finance	1	Cranfield University	1	Aston, J.	1	Slovakia	1	2006	1
	8	Journal Of Corporate Finance	1	RUDN University	1	Bauer, J.	1	US	1	2014	11
	9	Transformations In Business And Economics	1	Bratislava University of Economics	1	Bratanov, A.	1	-	-	-	-
10	-	-	Brunel University of London	1	Halili, E.	1	-	-	-	-	

* NA – number of published articles; * PY – year of publication.

Source: the authors' own development using WoS and SCOPUS databases

Based on the search protocol applied on the WoS platform mentioned in Figure 4, a number of 16 papers for the selected period resulted, these being imported into the VOSviewer software which selected 83 terms of which only 73 are connected to each other and in the same time they have reached the threshold of at least one frequency.

The frequency network of keywords or terms on the Taffler Model (Figure 5) suggests that this concept is closely related to the bankruptcy risk model (where it records a frequency of 5, with a link intensity of 24 according to VOSviewer), bankruptcy (frequency of 3 with a link of 28), bankruptcy prediction (frequency of 3 with an intensity of 24), etc. (see Table 7). From Figure 4 we see that the network groups the 73 terms into eight clusters according to their relevance. The first cluster comprises 12 terms and focuses on the concept of bankruptcy risk models, including terms such as Altman Model, Altman Model Z Score, financial performance, discriminant analysis, financial health, financial indicators, insolvency, predictive models, Taffler Index and others. The second cluster also consisting of 12 items, brings to the fore the concept of bankruptcy prediction models plus corporate bankruptcy, classical statistical models, solvency model, financial analysis, companies, implementation, artificial intelligence models, performance, probability of

bankruptcy and more. The third cluster contains 10 items and focuses on the term bankruptcy prediction, economic value, financial distress, information, probability, profession, Z-score, etc. The fourth cluster comprises 9 items and focuses on the following terms: Altman, bankruptcy, competitiveness, creditworthiness, Taffler, evaluation, Z-score model, etc. The fifth cluster contains 9 terms and refers to credit risk, default prediction, distress risk, financial rates, danger modes, option price, probability of default, SME and others. The sixth cluster comprises 8 items such as: audit reports, audit, capital markets, market anomalies, market efficiency, risk, etc. The seventh cluster has 7 terms including: Altman Z-Score, bankruptcy risk model, model reliability, solvency model, Taffler model, etc. The last cluster contains 6 items that refer to discriminant analysis, financial health management, prediction methods, rates, bankruptcy risk, etc.

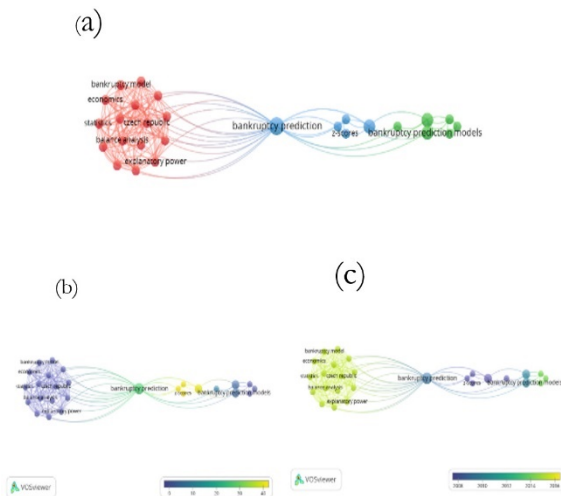


Figure 5 (a) Keyword Frequency Network for the WoS Taffler Model (2007-2019); (b) Network visualization by frequency and average citations; (c) Network view by frequency and average year of publication
Source: the authors' own elaboration through VOSviewer software

Simultaneously with WoS, we applied the search protocol in Figure 6 to the SCOPUS platform, resulting in a number of 11 papers for the selected period that were imported into the VOSviewer software. It selected 60 terms of which only 27 are connected to each other and at the same time reached the threshold of at least one frequency. The network of key terms shown in Figure 5 highlights three clusters of different sizes which is determined by the intensity of the links between the terms and their frequency. The first cluster consists of 16 items centered on the concepts of balance sheet analysis, bankruptcy model, construction industry, credibility indices, economy, individual models, information management, regional planning, analysis of reliability, model reliability, solvency model, standard deviation, statistics, etc. The second cluster (green) includes 6 specific terms such as bankruptcy, bankruptcy prediction, classical statistical models, artificial intelligence models, probability of bankruptcy and others. The last cluster groups 5 terms such as bankruptcy prediction, economic value, financial rates, Z-score, et. From the point of view of frequency indicators and average quotes, we notice that in the case of the network of key terms based on the results provided by WoS, the most cited items are financial difficulties, Z-score, probability, information, classification, profession, economic value, curve roc, type I and type II errors, financial rates, default prediction, option price, distress risk, hazard models and Basel III, and for the SCOPUS database, the most cited items were financial rates,

economic value, Z-score and type I and type II errors (see Figure 5 (b) and Figure 6 (b)). As shown in Figure 5 (c) and Figure 6 (c) from 2006 to 2020 the Taffler Model reaches its peak frequency in 2015 according to the WoS network, and according to SCOPUS this word (Taffler) does not appear as the keyword represented in this analysis.

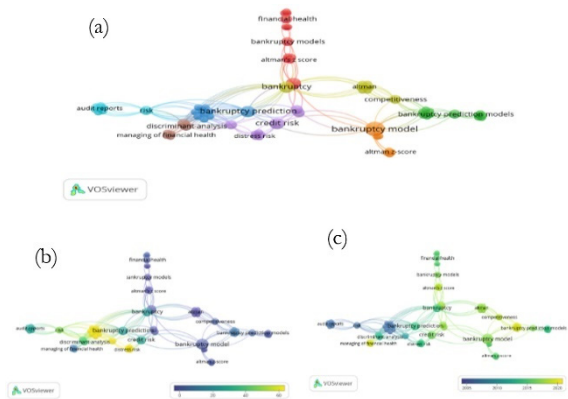


Figure 6 (a) Keyword Frequency Network for the SCOPUS Taffler Model (2006-2021); (b) Network visualization by frequency and average citations; (c) Network view by frequency and average year of publication

From the point of view of frequency indicators and average quotes, we notice that in the case of the network of key terms based on the results provided by WoS, the most cited items are financial difficulties, Z-score, probability, information, classification, profession, economic value, curve roc, type I and type II errors, financial rates, default prediction, option price, distress risk, hazard models and Basel III, and for the SCOPUS database, the most cited items were financial rates, economic value, Z-score and type I and type II errors (see Figure 5 (b) and Figure 6 (b)). As shown in Figure 5 (c) and Figure 6 (c) from 2006 (in purple) to 2020 the Taffler Model reaches its peak frequency in 2015 according to the WoS network, and according to SCOPUS this word (Taffler) does not appear as the keyword represented in this analysis.

Table 6 shows the top 10 items by frequency, both for WoS and SCOPUS.

Table 6 Top 10 by keyword frequency related to Taffler Model concepts

	Top	Terms	Cluster	Links	Total link strength	Occurrences	Avg. pub. year	Avg. citations
WoS	1	bankruptcy model	7	19	24	5	2016	3
	2	bankruptcy	4	28	28	3	2014	223.333
	3	bankruptcy prediction	3	19	24	3	2013	233.333
	4	credit risk	5	11	16	3	2016	273.333
	5	insolvency	1	11	16	3	2017	1
	6	bankruptcy models	1	9	9	2	2016	0
	7	bankruptcy prediction models	2	13	13	2	2016	6
	8	competitiveness	4	16	16	2	2018	4.5
	9	discriminant-analysis	8	18	19	2	2013	38.5
	10	financial health	1	6	6	2	2015	2.5
SCOPUS	1	bankruptcy prediction	3	23	24	3	2009	26
	2	bankruptcy prediction models	2	7	8	2	2010	5
	3	financial ratios	3	7	8	2	2006	38.5
	4	probability of bankruptcy	2	7	8	2	2010	5
	5	balance analysis	1	16	16	1	2015	1
	6	bankruptcy	2	4	4	1	2006	9
	7	bankruptcy model	1	16	16	1	2015	1
	8	classical statistical models	2	4	4	1	2014	1
	9	construction industry	1	16	16	1	2015	1
	10	credibility indices	1	16	16	1	2015	1

Source: the authors' own elaboration through VOSviewer software

The top 10 keywords show that the latest research (2018) on WoS focuses on competitiveness, while the latest research (2015) on SCOPUS focuses on the bankruptcy model, the construction industry and credibility indices. The top 10 keywords of the two search platforms are different, but there are common elements such as the terms bankruptcy model, bankruptcy, bankruptcy prediction and bankruptcy prediction models.

3.2.1. Bibliometric analysis by authors, organizations and countries

In the following section we also analyzed the links between the authors, the organizations involved and the countries where articles on the topic of the Taffler Model were published this time, using the co-authorship visualization function of the VOSviewer software.

RQ 3: Is there international collaboration between authors, countries and institutions on the analyzed topic in order to establish the need for

perfection of the evaluation models, Taffler model?

Based on the 16 scientific articles on the WoS platform, there are a number of 33 different authors who meet the set threshold (the number of scientific papers should be at least one per author), and only 4 of them are connected to each other; however, we selected the program to display all 33 authors. From the 11 publications on the SCOPUS platform, a number of 26 different authors emerge, and of these, only 5 are connected to each other; however, we selected the program to display all 26 authors.

In Table 7 we presented the top of the authors according to the number of published articles, along with links, number of citations, norm. citation, average publication year and average citations. We can see that the years 2017 (for WoS) and 2015 (for SCOPUS) predominate as years of publishing articles on the subject of Taffler Model.

Table 7 Top 10 authors by number of published articles

	Top	Author	Cluster	Links	Total link strength	Documents	Citations	Avg. pub. year	Avg. citations
WoS	1	Agarwal, V.	4	2	2	2	146	2010	73
	2	Plihal, T.	7	2	4	2	3	2017	1.5
	3	Sponer, M.	7	2	4	2	3	2017	1.5
	4	Sponerova, M.	7	2	4	2	3	2017	1.5
	5	Almamy, J.	3	2	2	1	52	2016	52
	6	Aston, J.	3	2	2	1	52	2016	52
	7	Baidildina, A.	1	3	3	1	0	2017	0
	8	Bauer, J.	4	1	1	1	79	2014	79
	9	Cabelova, T.	1	3	3	1	0	2017	0
	10	Csikosova, A.	5	2	2	1	10	2019	10
SCOPUS	1	Agarwal, V.	4	2	2	2	147	2010	73.5
	2	Giacosa, E.	1	4	7	2	6	2015	3
	3	Mazzoleni, A.	1	4	7	2	6	2015	3
	4	Teodori, C.	1	4	7	2	6	2015	3
	5	Veneziani, M.	1	4	7	2	6	2015	3
	6	Almamy, J.	3	2	2	1	52	2016	52
	7	Aston, J.	3	2	2	1	52	2016	52
	8	Bauer, J.	4	1	1	1	79	2014	79
	9	Bratanov, A.	5	2	2	1	1	2019	1
	10	Halili, E.	1	4	4	1	4	2016	4

Source: the authors' own elaboration through VOSviewer software

Compared to the previously analyzed results based on WoS, the top 10 authors in the field of research on the Taffler model according to SCOPUS is slightly different, there are authors who are the same but occupy different positions. We notice that only the 1st place is

occupied by a single author, namely Agarwal, V. who has the most citations (146 for WoS and 147 for SCOPUS).

The most cited authors (after the 1st place) for both WoS and SCOPUS are Bauer, J., Almamy, J. and Aston, J.

Table 8 Top 10 organizations by number of articles published

	Top	Organizations	Cluster	Links	Total link strength	Documents	Citations	Avg. pub. year	Avg. citations
WoS	1	Masaryk Univ.	6	0	-	3	3	2017	1
	2	Cranfield Sch Management	2	2	-	2	146	2010	73
	3	Al Farabi Natl Univ.	1	2	-	1	0	2017	0
	4	Brno Univ. Technol.	4	0	-	1	0	2015	0
	5	Brunel Univ.	3	1	-	1	52	2016	52
	6	Bw Partner	2	1	-	1	79	2014	79
	7	Cent Bohemia Univ.	1	2	-	1	0	2017	0
	8	Kaunas Univ. Technol	5	0	-	1	3	2014	3
	9	Tech Univ.	7	0	-	1	0	2015	0
	10	Tech. Univ. Kosice	8	0	-	1	10	2019	10
SCOPUS	1	University of Russia (Rudn University), Moscow	1	3	3	1	1	2019	1
	2	Bw Partner, Germany	3	1	1	1	79	2014	79
	3	Brunel University, United Kingdom	2	1	1	1	52	2016	52
	4	Financial University, Russian Federation	1	3	3	1	1	2019	1
	5	Cranfield School of Management, United	3	1	1	1	79	2014	79

	Kingdom							
6	Cranfield School of Management, United Kingdom	4	1	1	1	68	2007	68
7	University of Edinburgh, United Kingdom	4	1	1	1	68	2007	68
8	Kaunas University of Technology, Lithuania	7	0	0	1	1	2014	1
9	Brno University of Technology, Czech Republic	8	0	0	1	1	2015	1
10	University of Economics in Bratislava, Slovakia	5	1	1	1	0	2021	0

Source: the authors' own elaboration through VOSviewer software

From the point of view of the organizations involved in the Taffler Model research area, the VOSviewer program renders for WoS 18 organizations out of a total of 18 (all of which meet the criterion of at least one scientific paper in an organization, but only 3 of them are connected to each other), and for SCOPUS the same program renders all 18 organizations out of 18 (of which only 4 are connected to each other) with the same criteria mentioned above, resulting in 10 clusters in SCOPUS and 13 clusters in WoS

The results of the VOSviewer analysis of the top 10 most productive organizations involved are shown in Table 8. The two tops are quite different with a larger number of documents published for WoS and citations for SCOPUS.

Figure 7 and Figure 8 show the top 10 countries by number of papers published on the subject of the Taffler Model, where the Czech Republic stands out in the case of WoS and the United Kingdom in the case of SCOPUS as the countries with the most published research in th the world.

Based on the data collected from the WoS platform, we notice that the published documents are between 1-9, and the second and third place are occupied by England and Slovakia (Figure 7).

On the other hand, the data collected from SCOPUS show a lower number of published studies related to the Taffler Model, ranging from 1 to 3, where the second place is occupied by Italy and the third place by Lithuania (Figure 8). The VOSviewer program renders for WoS, in terms of countries, 9 countries out of a total of 9 (all of which meet the criterion of at least one scientific paper in a country, but only 4 are connected to each other), and for SCOPUS 8 countries out of a total of 8, all meeting the same criteria

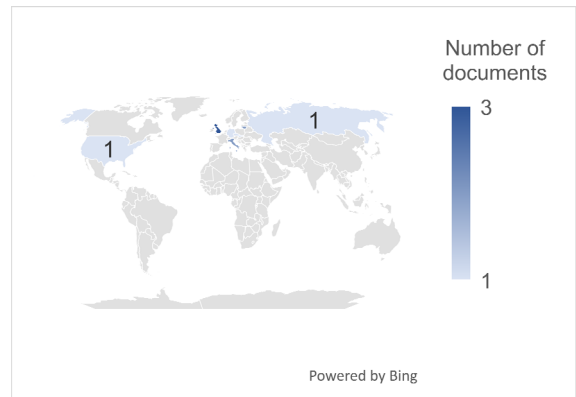


Figure 8 Number of scientific researches related to the Taffler Model published globally, based on data provided by SCOPUS

Source: the authors' own elaboration through Microsoft 365 software, 2019

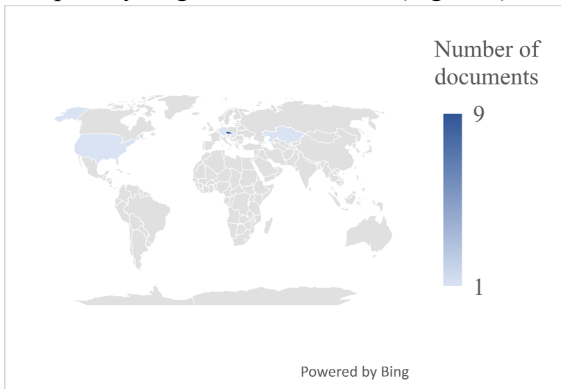


Figure 7 Number of scientific researches related to the Taffler Model published globally, based on data provided by WoS

Source: the authors' own elaboration through Microsoft 365 software, 2019

Table 9 shows the cooperation between the top 9 countries with the number of documents published, number of citations, average publication year and average citations made through VOSviewer. Note that the years 2007 (WoS) and 2015 (SCOPUS) were the peak of Taffler Model publications for several countries. The growing interest of countries such as England, the United Kingdom and Germany in the Taffler Model is also reflected in the number of citations recorded by them (for example in the case of Germany 79 citations for both WoS and SCOPUS).

Table 9 Top 9 countries by number of articles published

	Top	Country	Cluster	Links	Documents	Citations	Norm. citation	Avg. pub. year	Avg. citations
WoS	1	Czech Republic	2	1	9	11	8	2015	12.222
	2	England	1	3	3	198	53.468	2012	66
	3	Slovakia	5	0	2	19	2	2019	9.5
	4	Germany	3	1	1	79	28.902	2014	79
	5	Kazakhstan	2	1	1	0	0	2017	0
	6	Lithuania	4	0	1	3	0.1098	2014	3
	7	Scotland	1	1	1	67	14.565	2007	67
	8	USA	6	0	1	25	0.5435	2007	25
	9	Wales	1	1	1	52	1	2016	52
SCOPUS	1	UK	1	1	3	199	52.945	2012	663.333
	2	Italy	3	0	2	6	14.762	2015	3
	3	Lithuania	4	0	2	10	1.025	2010	5
	4	Czech Republic	2	0	1	1	0.6667	2015	1
	5	Germany	1	1	1	79	1.975	2014	79
	6	Russia	5	0	1	1	1	2019	1
	7	Slovakia	6	0	1	0	1	2021	0
	8	USA	7	0	1	25	0.5376	2007	25
	9	-	-	-	-	-	-	-	-

Source: the authors' own elaboration through VOSviewer software

3.3. Results and discussions on the content analysis of the Conan & Holder and Taffler models

The economic and financial activity of any enterprise can be carried out under the most varied circumstances and risks. There are, therefore, many concerns for analyzing the prospect of the risk effect of a company. Bankruptcy risk analysis methods, as a whole, are the quantitative approach to a company's crisis forecasting methodology. The essence of this approach consists of determining some normative, critical quantities of the analytical indicators or their combination, which characterize the economic-financial state of the enterprise. If the actual magnitudes of these indicators exceed the normative magnitudes, this means an increase in the probability of the financial crisis occurring in the enterprise. The analysis performed in this section of the paper shows the linear combination of rates of return and financial equilibrium, a combination that helps determine an indicator called score, through which the risk of bankruptcy of the company is approximated. The Conan & Holder model defines 5 variables and the Taffler model 4 variables. These indicators are also called score functions or Z functions and the general determination models are presented and analyzed in this section

3.3.1. Conan & Holder Model (1979)

The Conan and Holder model is included in the statistically tested models. The sample was framed by the two authors in the period 1970-1975, comprising 95 small and medium-sized companies with an industrial profile. In this sample, the financial accounting variables of each company were studied. The first set of indicators included in the initial score function included 50 indicators classified by categories, namely: asset structure, financial dependence, working capital, operation, treasury, profitability, etc.

The final score function can be applied to the following enterprises classified by activity category (Anghel, 2002):

- wholesale businesses;
- industrial enterprises;
- construction companies;
- transport companies.

In the table below (Table 10) we can see the rates that make up the Conan and Holder model:

Table 10 Financial-accounting rates contained in the Conan & Holder model

Rate number	Name rate	Calculation method
R1	Profitability from creditors	E.B.E / Total debts
R2	Liquidity	Also available short-term realizable values / Total liabilities
R3	Solvency	Equity / Total liabilities
R4	Staff spending rate	Staff costs / Value added

R5	Rate of financial expenses	Financial expenses / Turnover
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Source: Adaptation after Conan & Holder, 1979

The structure of the model is:

$$Z = 0,24 R1 + 0,22 R2 + 0,16 R3 - 0,87 R4 - 0,10 R5$$

Table 11 Reference ranges in the Conan and Holder model

Z < 4 %	4% < Z < 9%	Z > 9%
Danger P > 65%	Caution 30% < P < 65%	Good situation P < 30 %

where P = probability

Source: Adaptation after Conan & Holder, 1979

It should be noted that, according to the authors, this score function allows the forecast of 75% of actual bankruptcies and triggers alarm signals for business management to deepen the examination of business instability and to take measures to remedy financial health (if the situation is an irreparable one).

3.3.2. The Taffler Model (1983)

The Taffler model is composed of fewer financial accounting rates than previous model. The model we are talking about now contains 4 explanatory variables. The financial accounting information in the financial reporting used in the Taffler model comprises: Current Assets, Gross Profit, Total Liabilities, Current Liabilities, Total Assets and Sales. The formula can be seen below:

$$Z = 0.53 X1 + 0.13 X2 + 0.18 X3 + 0.16 X4$$

where:

- X1= Gross profit / Current debts, Current debts = debts less than one year;
- X2=Current Assets / Total Liabilities;
- X3= Current Debts / Total Assets;
- X4= Sales / Total Assets.

Depending on the values for X, the Z score is calculated and interpreted according to Table 13.

Table 12 Reference ranges in the Taffler model

Value score	Interpretation
Z<0.2	High probability level
0.2<Z<0.3	Undecided
Z>0.3	Low probability

Source: the authors' own adaptation after Bordeianu, Radu, Paraschivescu & Pavaloaia, 2011

As it can be seen in the table above, when the score is in the range of 0.2-0.3, the model has no

results related to the financial situation of the company.

Following the review of scientific literature and the bibliometric analysis performed, we found that the topic of bankruptcy risk and evaluation models benefits from the constant attention of researchers, which is why it should not only be treated as a simple topic of research, but as a permanent concern for academic environment and the practitioners, in order to identify and propose new solutions and models to prevent the risk of bankruptcy, considering that the global economy is increasingly oriented towards online environment. In this context, the results of the bibliometric analysis support this statement, since each resulting cluster has a structure that practically leads us to the future research trends regarding companies in crisis.

Conclusions

The risk of bankruptcy has been, is and will be the subject of many research studies to identify the factors that contribute to insolvency and the indicators that best express this direction. The present article addresses a current issue of a particular importance in the tumultuous economic context of the last period triggered by the pandemic crisis.

Following the bibliometric analysis, it was found that most of the studies focus on an analysis of the efficiency of bankruptcy risk assessment methods and on the identification of new methods that provide risk predictability. In this sense, there has been an increase in the number of works with inter-institutional and country collaborations that allow the analysis of the determinants of bankruptcy risk. At the same time, the research results showed that the main research trends, as we mentioned before, focus on the predictability of risk. This is only possible through the complete analysis of the business environment of which the company is a part and the identification of all the determining factors that lead to bankruptcy .

This paper first highlights the main research trends in bankruptcy risk assessment models, projecting an overview of the literature in the field. Thus, according to the results of the research it is noted that the number of papers with the topic "bankruptcy risk prediction" or "bankruptcy risk assessment models" in the period of 2006-2021 had a rather slow growth, practically of all the existing publications, most of which were published in the period of 2008-2009, when the world economies were affected by the economic crisis. The research

results are in agreement with Shi and Li (2019), who conducted a bibliometric analysis to highlight the progress of intelligent techniques in bankruptcy predictions, concluding that “although there is a significant increase in the number of publications since the 2008 financial crisis, collaboration among authors is weak, especially at the international dimension.” The research results were also confirmed by Yu et al. (2010), as well as by Prado et al. (2016), who argue that an increase in the number of publications was observed after the 2008-2009 financial crisis. Basically, the economic crisis has underlined the need of co-authorship analyses, which, according to Liao et al. (2018), investigates “the level of collaborative research strengths in a specific field” and based on this analysis, we can see that collaboration between authors is weak.

In the light of current economic realities and overlapping crises (health, military, political, energetic, economic), the international business environment has been severely affected, with an increase in the number of insolvent companies. In this context, the need to design new models for assessing bankruptcy risk or to adapt current models to today's economic realities is highlighted, so that companies can prevent the materialization of their risks and not just detect them in the terminal phase.

Summarizing the conclusions of this paper, we note that:

- The Conan & Holder model consists of 5 financial-accounting installments, as we observed in the second part of the paper. The scientific output for this topic – Conan and Holder Model – was low, resulting in 6 scientific papers for both WoS and SCOPUS (12 scientific papers in total). It was observed in the analyzed period (2009-2020 for WoS and 2010-2017 for SCOPUS) that in the case of the network of key terms based on the results provided by WoS, the most cited items are company performance, DEA, discriminant analysis, large European companies, failure, financial rates, framework, models and analysis of the main components, and for the SCOPUS database, it is not indicated which are the most cited terms. The most cited author on the topic of Conan & Holder model for both platforms (WoS and SCOPUS) is Bărbuță-Mișu, N., and Romania ranks first in the top of the most productive countries for both scientific search engines.

- The Taffler model includes 4 variables, and in terms of the basis of the search protocol applied on the WoS platform, 16 papers for the period was

a number of 2007-2019, and the basis of the search protocol applied on the SCOPUS platform was a number of 11 papers for period 2006-2021. It was found that in the case of the network of key terms based on the results provided by WoS, the most cited items on the topic of Taffler model are financial difficulties, Z-score, probability, information, classification, profession, economic value, rock curve, type I and type II errors, financial rates, default prediction, option price, risk of distress, hazard models and Basel III, and for the SCOPUS database, the most cited items were financial rates, economic value, Z-score and errors of type I and type II. The most cited author on the Taffler model for both platforms (WoS and SCOPUS) is Agarwal, V. Depending on the number of papers published on the Taffler model, the Czech Republic stands out in the case of WoS and the United Kingdom in the case of SCOPUS as the countries with most published research in the world.

We consider that the bibliometric analysis on this topic based on all the publications available in the 2 international databases with international scientific recognition are of a real support in clarifying the problems related to the assessment of the risk of bankruptcy of companies, but especially in identifying relevant areas of interest for the authors of the publications in the context of the topic of these models of risk assessment of bankruptcy. These issues are particularly important because they create the preconditions for creating a real framework for scientific debate about existing trends in research and the problems and gaps faced by managers, business owners and all other stakeholders, which can obviously lead to serious debates about these issues and providing viable solutions for optimizing bankruptcy risk assessment models.

In the same vein, we conclude that risk predictability is an emerging theme that needs to be addressed by the authors, especially now that the business environment is threatened by overlapping crises. Thus, the present research can be the starting point for researching and adapting bankruptcy risk assessment models to the current economic context. The present research highlights the paucity of literature analysing bankruptcy risk and predictability methods.

Our study limitations are mainly due to the bibliometric algorithm, in the sense that only papers indexed in WoS and Scopus can be imported, processed, and interpreted, which excludes parts of the existing literature on this topic

and omits the analysis of some pertinent contributions to our research area. This research can be used as a cornerstone for new research directions, both quantitative and qualitative, on the mechanism of application of bankruptcy risk prevention methods.

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Empowering strategic priority areas of cultural policy: empirical findings on cultural participation processes in Serbia

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Abstract

Background: The background of this research encompasses contemporary cultural policy issues and their factors of influence, with a special focus on cultural participation processes. The sphere of culture provides the fundamental base for *reading and changing the paradigmatic paths* through the contents and acts of formal and informal stakeholders. Culture is deeply interlinked with other departments of the entire economy by connections with feedback loops. The impacts of culture on the socio-economic and natural environment, as the "fourth pillar" of sustainable development, are recognized on the international level by theory, expert groups, and practice.

Purpose: The purpose of this paper is to bring about a deeper understanding of participatory processes and their importance for strategic priority areas of cultural policy development.

Study design/methodology/approach: Our study design included institutional analysis, starting from the regulatory framework that reflects cultural policy and its strategic goals, by involving previous relevant theoretical research including the ICET model. Another objective of the paper is to answer a range of questions. What are participation processes' main characteristics and challenges in culture and cultural policy development? Is there a relationship between these challenges? How to achieve desirable cultural and institutional integrative transformations in order to accomplish the strategic priority areas of cultural policy? We bring the conclusions based on theoretic and empirical overview of new empirical research findings based on the survey conducted in 2022 for the need of EPICA research project.¹

Findings/conclusions: The findings of this research lead us to recognition, conceptualization and understanding of the existing participatory processes in culture, towards inspiring the future modelling of more integrative strategic and systemic solutions to reflect desirable and harmonized development.

Limitations/future research: The limitations of research reflect future endeavour to contribute to reforming the field of culture (by formal and informal means) through more robust horizontal integration with other departments, to achieve sustainable and coherent effects through linking strategies, new forms of participation, decentralization, arm's length principle, and degrowth policy.

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Keywords

Participation in culture, radical innovations, ICET model, new systemic solutions, degrowth

Introduction

Culture is the base of shared values, meanings, and senses regarding what we call everyday lifestyle. In its transitional and post-transitional context in Serbia, the cultural policy seeks a more robust horizontal integration with other inter-sectional, inter-departmental, and inter-governmental formal and informal institutional bodies in order to achieve more sustainable and coherent effects at micro and macro levels.

Starting from the main questions, in our research, we also want to examine the role of strategic management in culture (at both macro and micro levels) and integrative management approaches by proposing a strategic approach. We are interested in finding out if it is possible to bring transformative and radical changes for and from the sphere of culture. Does the cultural policy meet the real cultural needs of people? Can the participation in culture bring the empowerment of different stakeholders from public, private, civil sectors and other informal groups – as prerequisite for building up a higher quality of cultural ambient in Serbia? In institutional and non-institutional terms, what are strategic options for evolutionary and sustainable transitional markets and modelling alternative systemic policies?

By acknowledging the urgent need to rethink the future systemic transitions towards more sustainable markets and societies, the idea of this paper is to bring fresh views on the importance of transformative cultural role towards the evolutionary and sustainable transition markets, and also strategic options (such as linking and strategy of partnerships) in order to meet the need for more substantial cultural participation, by contributing to strategic developmental goals for the cultural department and beyond.

In this paper, we will offer a deeper understanding of processes that reflect and influence the state of culture in Serbia, focusing on strategic goals related to increasing participation in culture by offering the most suitable empowered participative governance as integrative management approaches. We intend to fill the gaps regarding the knowledge on participation in culture and participative governance models in Serbia and beyond and to

discover all the relevant stakeholders as the agents of desired (future) cultural transformations.

Our research involves secondary and primary data that will be considered in order to bring about the integration of knowledge.

Regarding secondary data, we started from desk research by critically analysing cultural policy through the regulatory framework in Serbia by comparing it with the previously proposed relevant theory. Studying cultural policy is about the practical policy of state administrative bodies and other bodies that hold the political, legal and financial authority to make critical legislative and executive decisions in culture (Đukić, 2010). Thus, the content of the cultural policy analysis will include models, instruments and strategies (legislative framework and legislation) on which the authorities mentioned above (whose rights derive from formal political elections) conduct institutional, cultural policy. The subject of cultural management involves management phases related to cultural activities as a whole or in particular areas (performing, visual and other arts) through contributing to the achievement of cultural policy goals in a dynamic multi-sector (public-private-civil) context. By referring to the previous theories on management in culture and cultural policy, we can apply its analytical methods and provide a deeper understanding of the current state to bring conclusions towards the future needed changes.

We involve the theories of evolutionary economics and sustainable transition markets as they are suitable for positioning future integrative cultural management and policy solutions through the concept of radical innovations (Köhler, et al., 2019; Rip & Kemp, 1998) as well as the ICET model (Haan & Van den Broek, 2010). Our background theories to be involved are degrowth and critical development studies (Kothari, Salleh, Escobar, Demaria, & Acosta, 2019; Latouche, 2009, Latouche, 2014; Kallis, 2011; Dengler & Seebacher, 2019; Munck, 2021; Castoriadis, 1997; Fotopoulos, 2010) – as most inspiring to understand the challenges and inspire future integrative management and policy options relevant for the field of culture, as well as for other overlapping lateral spheres of the economy (environment, energetic, social etc.) to bring the pluriverse into the system as a whole.

Regarding primary data, we rely on the EPICA project research survey, conducted in June and July 2022. The research survey aimed to examine objective characteristics and subjective components of participation in participatory processes in Serbia, relevant to the field of culture (primarily heritage, architecture and urban planning and contemporary arts, but as well other aspects where cultural participation contributed to issues regarding common goods, public goods and sphere, beyond cultural, human capital and anthropocentrism, involving natural heritage and goods within environmental context). The research is based on a sample of 212 respondents. Respondents involved (experts and participants of participatory processes) in two main groups: *organisers* and *participants* in processes, who personally filled out an online questionnaire. The survey was conducted via the Internet – where respondents filled out the electronic questionnaire independently, on their own digital devices. The questionnaire used in the research was prepared on the open-source platform Lime Survey, installed on the IDN server. Respondents were recruited via e-mail and snowball sampling. The questionnaire was filled out from June 8 to July 14, 2022. In total, 212 respondents filled out the survey partially and 167 completely. The completed questionnaire represents the primary data relevant for a deeper understanding of:

- the actors (socio-demographic characteristic) and their perception in connection with the occurred effects, restrictions and the reasons for interruption of participatory processes in culture;
- the characteristics of the participative process from the point of view of their organisers and participants; as well as
- positive and negative experiences of participation in these processes.

In this paper, we devote our attention mostly to the b) characteristic of participative processes crossed with a) and c) survey data and analytically framed in the ICET model (Haan & Van den Broek, 2010).

1. Theoretical background and essential concepts

Radical innovations are assumed to emerge in niches where new entrants (pioneers, entrepreneurs) nurture the development of alternatives (Rip & Kemp, 1998). The radical innovations may break through more widely if

landscape developments pressure the regime, leading to cracks, tensions, and windows of chance (Köhler et al., 2019). The authors explained how the interactions between niches and regimes occur on multiple dimensions and confrontations while navigating transitions. The critical role of social movements, alternatives, and social and cultural change is also recognized by Escobar (1992). Building a conceptual proposal in the light of sustainable transition markets and technological change allows applying essential insights regarding the radical changes and innovations in development, management and policies. Radical innovations appear in the specific context that enables (previously acquired) knowledge to be launched (Rip & Kemp, 1998). They may endanger current activities and become rejected and unwanted since they replace or fundamentally modify existing paradigms (Rip & Kemp, 1998).

Furthermore, relying upon Rip and Kemp, “if governments or societies desire a new technology” or paradigm, “they must construct its artefacts and create a transition path toward it” (Rip & Kemp, 1998). The sustainability transitions literature “recognised the importance of civil society and social movements” in transforming our production and consumption systems by building support for transition policies and providing protective spaces for innovation that have “less obvious effects on broader cultural values and beliefs” (Köhler et al., 2019). The importance of grassroots practices and bottom-up approaches are recognised as “the main allies in societal change” who are bringing attention “to justice, fairness” by creating “semiotic maps of the possible and desirable shifts” led by values is evident, emphasising that social movements, especially when they are engaged with industrial change, can focus attention to the needed cultural change (Köhler, et al., 2019). Many scholars argue on non-profit responsibility from a cultural perspective, whereby broader cultural changes at the level of international organizations have constructed non-profit entities as empowered and socially responsible actors (Lim, 2022). CSOs are essentially important for the public sphere and commons, as suppliers of social cohesion, promoters of active citizenship, and guardians of the common and greater good in society through their special characteristics and values (Egholm, Heyse, & Mourey, 2020).

Haan and Van den Broek (2010) proposed the ICET model to break down the problem of

participation in culture. They made three differentiations:

1. the first, between receptive and active cultural participation (i.e. attending vs practising culture),
2. the second, between direct and digital participation, and
3. the third, between high arts and popular arts.

The third part of our paper focuses on the first of three proposed differentiations based on empirical study analysis.

Moreover, the authors distinguished four important aspects shown in the ICET (as a navigation) model consisting: **I**nformation (its collection, processing, and dissemination related to culture), **C**ommunication and community (which is reflected through interaction with others related to cultural issues and participation in cultural networks), **E**xperience enjoyment and expression (enjoyment of cultural and artistic contents, performances, expressions, creation of various contents) and (material) **T**ransactions that take place on the culture market (purchase of tickets, works of art) are crucial to be deeply analysed (Haan & Van den Broek, 2010).

In such terms, we will bring the knowledge integration between the given theoretical crossing by starting from policy challenges and empirical data, which will be framed through the ICET model.

Other background theories presented in the following text are essential to understand the roots of the expansion of the cultural sphere in participation processes.

The critics of development included broad topics dependent on the historical momentum, from social, economic and later environmental and eco-feminist issues of unfair distribution, basic needs, poverty, education, environmental sustainability, governance, and access to education, sanitation, health, drinking water, and other fundamental human rights. Most of these issues are related to exogenous constraints to development given as a "universal proven path" for developing and underdeveloped countries to follow. The main point of such a development proposal is that it excludes many endogenous contexts such as specific cultural, social or environmental dynamics. The issue of development as a theory and practice to overcome poverty and inequality has not gone away as a vital global concern (Munck, 2021). The

developmental paradigm brings the imbalances, instead of solving them (Kapoor, 2008); inequalities, exploitation by unifying cultural diversity, towards cultural homogenisation in the function of the same systemic order (contemporary capitalism) while constructing an object of knowledge and intervening to extend the state power by objectifying people and nature in the Third World (Castro, 2004; Rist, 2002; Kothari et al., 2019). From Escobar's point of view, "development was conceived not as a cultural process, but instead as a system of more or less universally applicable technical interventions intended to deliver some 'badly needed' goods to a 'target' population". He pointed out that economic ideas are not universal truths, by offering a historical analytical path to show how mentioned ideas penetrate and constitute the "economist culture of modernity" (Castro, 2004).

The question today is whether and how theories and practices can meet and overcome these challenges. Munck explains previously mentioned challenges through the evolution of critical developmental studies (CDS) as a theoretical stream, from primarily critical studies (CS). Critique deals with modernity issues (Munck, 2021). Munck offers theoretic evolution from CS towards CDS to explain "what is wrong with the current social order and who are the agents for social change" by providing practical goals for social transformation, adding that "we need to find a new theory of imperialism if CDS is to find life and applications in practice" (Munck, 2021). Critical developmental insights relevant for the place of culture are given mainly through post-Marxist approaches on relation power-knowledge in terms of a critique of Eurocentric and mainstream discourses (Munck, 2021).

Through the feminist-degrowth point of view, degrowth addresses the issue necessary for the essence of all of us "as active, society-shaping citizens, rather than consumers", by putting as its core "autonomy and participatory, collective bottom-up decision-making processes", where the essence of "quality of life might lie in needs to be collectively re-evaluated with an emphasis on 'conviviality'" (Dengler & Seebacher, 2019). More recently published, *The Second Convivialist Manifesto* is against neoliberalism, productivism and populism. It values relations of cooperation that allow humans to compete without hubris and violence by taking care of one another and nature. It recognizes three main effects of conviviality

through responses of social movements and groups towards the system, (1) in more developed countries social movements of young people respond to environmental issues; (2) in the decades of authoritarian regimes, social groups of young people are organised towards the systemic change; (3) in transition countries from post-authoritarian systems to developed countries, social groups of young people – migrate (International, 2020).

How to achieve practical, integrative management and policy alternatives beyond modernisation theory toward equitable development? Is this about degrowth in practice as the other side of the decolonisation of development and knowledge creation (Kocovic De Santo, 2021a)? Decolonising theories highlighted the impacts of ongoing colonisation and the related marginalisation from dominant culture, where dominant culture is understood to be aligned with neoliberal and colonial values (Poirier, Sethi, Haag, Hedges & Jamieson, 2022)

Degrowth is a political slogan with theoretical implications (Latouche, 2009). It refers to an “equitable and democratic transition to a smaller economy with less production and consumption” (Martínez-Alier, Pascual, Vivien, & Zaccai, 2010; Kallis, 2011; Simonis, 2010; Jackson, 2011). Degrowth holds layers of theoretical roots (cultural, economic, environmental, political and societal) that overlap and are usually considered trans-disciplinary knowledge integration that inspires future systemic inspirations. Its cultural roots are related to a radical critique of the development paradigm, where the economy is seen as an autonomous sphere that controls the production of meaning and sense, and it seeks the “decolonisation of the imaginary” that has to be led by the cultural sphere (Latouche, 2014). People are faced with processes of instrumentalization on a personal level by becoming objectified within rationality theory – as the means of a productivist-consumeristic mechanism. The mentioned processes function as a technocratic catastrophe that tends to commodify relations among humans and between humans and Nature (Martínez-Alier et al., 2010; Hausknot, 2017; Illich, 1973). Degrowth is also rooted in critical theories, branches and streams such as CS, CDS, decolonisation, and post-colonisation.

Degrowth holds a solid theoretical background in essential research on growth limits (Meadows, Meadows, Randers & Behrens, 1972; Illich, 1973). Previous theories drew critical support on the

paradigm of endless economic growth, which endangers the environment, society and culture as the essence of the times of the industrial era. In structural terms, degrowth refreshes the imperative of political changes through the re-conceptualisation of autonomy and critical visions that seek “democratisation of democracy” through direct democracy and participation in decision-making processes (Castoriadis, 1997; Fotopoulos, 2010; Illich, 1973).

In the context of living nature, people, their interrelations, value creations and expressions, lead us to the necessity of reimagining development by positioning life in the centre of planning by presenting the concept of *life-centred development* (Kočović De Santo, 2021b). This process is about decolonising the contemporary meaning of sustainable development to mitigate all recognised obstacles. Relying on the previous, equilibrium is about balanced cultural and economic strategies, state projects, and hegemonic visions to support policies and politics for the society with higher ethical and virtue involvement. In relation to the previous, Mladjan and Marković (2021) deeply articulated a different approach – towards responsibility in consumption that can be an environmentally sustainable response to crises which enables the economies to overcome the crisis of confidence and reaffirms community ties. As an element of long-term orientation in consumption, generational responsibility is a cultural phenomenon dependent on solidarity within family and the wider community (Mladjan & Marković, 2021).

Cultural development implies the continuous progress of human activities and lives in culture, art, and other areas. The urgent need for re-conceptualisation of the development paradigm as integrative towards a gender, indigenous people, authentic culture, race, justice and equality, equity in terms of cultural participation, societal environmental, and economic, energetic issues is the strategic task to deal with in the future. These challenges have been recognised suitably integrated within degrowth (with permanent feedback from social movements practices) as a centrally important starting point for future research.

The future directions regarding the framework inspirations of the cultural policies will seek the totality of contemporary systemic structural challenges, where the (CDT) elaborated developmental directions came as a result of

systemic logic of contemporary capitalism. Hall and Davis (2021) noted that critical social sciences should be able to name the *global economy* as “*capitalism*”; and instead of speaking about “*transforming the global economy*” as a necessary precondition for limiting climate change, they proposed the path that includes transforming, or even transcending, capitalism. Moreover, approaching *the global economy* as *capitalism* allows us to analyse a specific mode of production, as well as the cultural, social, and ecological relations that come along with it (Hall & Davis, 2021). Many other authors who are dealing with contemporary capitalist challenges such as green gas reduction (GGR) acknowledged that the green gas emissions incensement resulted as structural capitalism issue (Hall & Davis, 2021; Markusson, Balta-Ozkan, Chilvers, Healey, Reiner & McLaren, 2020; Foster, Vaughan, Gough, Lorenzoni & Chilvers, 2020; Lamb, et al., 2020; Waller, et al., 2020), which has similar character in the sphere of culture, by the external pressures and the internal captured by the nature of capital (cultural and natural). This seeks new and more vivid interdisciplinary social and humanistic path, in order to deal with the capitalistic structural issues. In addition to political economics, analytical of focus on global markets and privatization, stronger interdisciplinary critical cultural focus is essential, such as conceptualization of neo-liberalism as a broad cultural ideology that has reshaped how we think about people and institutions in all areas of life, not just the economy (Lerch, Bromley, & Meyer, 2022). Two basic directions for understanding and answering the structural problems are relevant for this research: (1) structural problems that put pressure on all other spheres, essential for the functioning of life on the planet; (2) structural problems of capitalism that put pressure on the functioning of the sphere of culture. First, it is not enough to analyse cultural sphere as a “separated island”, because it is always deeply interlinked with the total systemic order. Also, in seeking for the future solutions, they shall “fit well for all” the departments of total economy in terms of desirable political and socio-economic organization, seen as universal, then they are good enough for the sphere of culture as “*man-made part of environment*” – as contextually determined by the environment, and deeply rooted in all other departments. In such sense, Davis (2020) refreshes Bauman’s method *for thinking in dark times* by exploring why

Bauman sees the social media and as “a trap” in the crisis of liberal democracy as an instrument of political power, by pointing that the divorce of power from politics – understood as the emancipation of capital from the territorially-fixed controls of states – means that national politicians are no longer able to fulfil their traditional functions amidst the stupefying pace of (technologically-enabled) change (Davis, 2020). Hereby fundamentalism is framed as a form of political practice aimed at the closing down of dialogue in favour of the apparently unquestionable and universal truths of a “decisionist” leader able to creep into everyday life, which is the field of culture (and also social media practises), where the liquid modern societies are saturated with multiple uncertainties (Davis, 2020).

The recent critique of the predominant articulation of cultural value through the economic lenses is given by many authors (Belfiore, 2020; Kisić & Tomka, 2021; Matejić, 2020). The value of the arts and of creative artefacts in terms of economic value, seeks for deeper comparative cultural political economy on questions of power. As Belfiore (2020) noticed, the questions on power has been so far, a largely neglected lens through which to dissect matters of ‘value’ (Belfiore, 2020). Discourses and practices of economic impact measurements, precarity and austerity measures in the cultural sector, the push for profit-friendly creative industries, privatisation of public resources and increased commodification of cultural experiences have all normalised capitalist logic within dominant cultural policies (Kisić & Tomka, 2021). Author Matejić argues on conception of ‘living artistically’, weather it (still) have a critical emancipator value, and how can it be formulated under the conditions of a global market economy, where every critical act, event and activity become appropriated (Matejić, 2020).

The principles of cultural economy contributed to shaping the idea that for culture, creative and cultural industries it is necessary to determine the value and price to construct specific markets through which the possibility of protection and their management will be realized, sustainable in time. Through the capitalism and the “cultural globalization” processes indigenous collectivist values by emphasising personal autonomy are under great reassurance, where the ongoing exploitation of natural resources has unique harm

implications for indigenous well-being (Poirier, Sethi, Haag, Hedges & Jamieson, 2022).

According to urban development and spatial planning vistas, *economic ideology of wild neo-liberalism*, brought such circumstances where the urban development is subject of various abuses, such as the misapplication of legal procedures, neglect of the public interest, and politicization of planning (Perić & Maruna, 2022; Peric, Maruna & Nedovic-Budic, 2022). Furthermore, Maruna and Graovac (2021) explained the problems in the field of spatial development in Serbia, having in mind its post-transition and post-socialist context as follows: (a) urban plans serve as an instrument for the alienation of publicly owned land; (b) public policies are selectively considered in the decision-making process on spatial development; (c) formal planning procedures are insufficiently clear and have gaps in formulations, which creates space for ambiguous interpretations; (d) decision-making positions on strategic development priorities and issues of public interest are not clearly defined and (e) key issues on spatial development are resolved in the domain of political rather than professional decision-making (Maruna & Graovac, 2021). The authors also recognized the conflicts and coalitions, elucidation of the decision-making flows, by bringing the identification of power structures in the *tycoon-initiated urban development*, and politics-led planning process, where the megaprojects appear relevant for similar socio-spatial settings (Peric, Maruna, Nedovic-Budic, 2022).

Identically as with ecological economics and the tendency to value nature to produce “greener capitalism” (Hall & Davis, 2021), the pricing and trade in culture to produce a “more cultural capitalism” has led to dichotomies and intellectual divisions between those who seek to internalize externalities with a price and market mechanism in/from and for the culture, and those who are more or less sensitive on the current trends of cultural, spatial, social and natural commodification and expropriations, fully aware that the above mentioned dangerous processes directly contribute to the unbalanced and/or development crisis. *Or worse, they are empirically blind to the irreplaceability of nature* (Hall & Davis, 2021) and culture which are firmly interconnected, with the necessity of finding integrated management and policies “for all” - within the “planetary boundaries”.

2. Cultural management and policy frameworks in Serbia

Public policies include a set of instruments and measures which influence the cultural management phases (creation, production, distribution, diffusion and access to goods and services that contain and transmit cultural expressions) (Mikić, 2015). The regulatory framework directly or indirectly affects cultural policy development and its general and specific fields. In this part, we primarily refer to laws, by-laws and international ratifications, which functionally represent the most critical available legal acts to regulate the functioning system of every area of life in the country. The cultural policy system is based on the existence of two groups of laws and by-laws. The first group includes acts that regulate culture as a whole or part of it. The second contains acts that primarily regulate some other area of social life, laterally affecting the area of culture. It is necessary to start with the law on culture as an umbrella law and then analyse all the rules that closely regulate *fields of culture* (such as Law on Cultural Property, Law on Cinematography, Law on Issuing Publications, Law on Museum Activities, Law on Archives and Archival Activities, Law on Cultural Heritage, etc.) and *departmental operations* (public, private, civil department performance), which imply different laws to be analysed such as: laws related to economic activities Law on private entrepreneurs, the Law on Business Companies, the Regulation on Incentives for an Investor to Produce an Audiovisual Work in the Republic of Serbia; Law on Public Procurement, the Law on Endowments, Foundations and Funds, Law on Personal Income Tax, Law on Tax on Profit of Legal Entities, Law on Copyright and Related Rights, Law on Budget System etc., and other international legal norms that become binding for implementation upon ratification) depending on the participants of the cultural market (public, private, and civil sectors). This enables an analytical coverage to bring the distinction in the definition of cultural policy, which is the practical policy of *state administrative bodies* and *other bodies* (between actors in the fields of culture, as the bearers of cultural policy) that hold the political, legal and financial authority to make critical legislative and executive decisions in the field of culture (Đukić, 2010).

Laws and other regulations determine legal norms that establish standards and rules that

regulate societal relations. They form the regulatory framework to implement public policies in documents such as strategies, programs, activity plans, etc. It is vital to adopt international acts as normative legal acts, which are primarily significant from the aspect of mandatory application by the signatory country (Rikalović, 2011) but also from the point of their universality towards all other lateral policies (such as cultural in terms of the total economy of the country) That are strategically inter-linked towards the common goals.

The process of managing public policies is closely related to the regulatory framework because laws are legal-political instruments of cultural policy, representing one of several instruments based on which the practical public policies are implemented. They enable the harmonisation of cultural development with broader developmental paradigms, such as meeting sustainable development goals towards sustainability. Besides legal instruments, based on the *Strategy for Regulatory Reform and Improvement of the Public Policy Management System for the Period 2016-2020*, there are economic instruments (such as public investments, subsidies, direct financial grants, taxes etc.), organisational instruments (that refers to the formation of new ones and the abolition of existing institutions, change in organisational structure, change in the number of employees, etc.) and value-ideological instruments (such as information and educational campaigns, etc.).

The Republic of Serbia, through its strategic determination, treats culture as one of the critical factors in the development of society, i.e. culture as one of the national priorities, which contributes to the harmonious development of society in the Republic of Serbia, the quality of life of its citizens and the improvement of international relations. The previously mentioned, combined with the selected theoretical frameworks of research, provides the possibility for new reflections in fulfilling the general and special strategic goals of cultural policy development.

2.1. Strategic orientations in the culture of the Republic of Serbia relevant for cultural participation

According to the *Strategy of Cultural Development for Republic Serbia 2020-2029 draft*, adopted by the RS Assembly, principles of cultural policies development are based on the Constitution law (Constitution Law, 2022),

international treaties, agreements and conventions signed by the Republic of Serbia, the Law on Culture, as well as domestic strategic documents. This strategy represents the basic cultural policy strategic document of the Republic of Serbia, which comprehensively determines the directions of action and methods of implementing the cultural policy as public policy in the field of culture. The strategy regulates the public interest in the field of culture in a planned and systematic manner and determines the strategic priorities of cultural development in the ten years. Following Article 20 of the Law on Culture, the strategy contains the analytical framework of the current state of culture crossed with basic principles of cultural development in Serbia, which enables the formulation of strategic performance (directions, instruments, implementation, monitoring and control of the processes).

Based on Figure 1, principles of cultural policy development are built upon the regulatory framework (national and international laws, agreements and conventions) by reflecting Serbian culture and cultural identity (where the recognized dimensions of Serbian culture are Slavic, Byzantine, Balkan, heroic-freedom, enlightened-European, contact-open, democratic). The strategy relies on principles (commitment to the protection and care of national culture; protection of cultural rights of national minorities; improvement of mutual understanding and equal inclusion of vulnerable groups in cultural life; protection and evaluation of cultural heritage as a non-renewable and unique legacy; encouraging and promoting artistic creativity as a free expression of the human spirit; wide accessibility of culture and equal and active participation in cultural life; development of international cultural cooperation and contributing to the reputation of the country in the world; support for modern financing models and the understanding of culture as an economic potential in a feedback loop with the cultural policy (based on efficient and thoughtful legislative activity; responsible personnel policy; the autonomy of subjects in culture; the principle of active participation of citizens and the professional public in the decision-making process; transparent decision-making procedures; the principle of strategic management in culture, monitoring and evaluation; analysis, research and statistics in the field of culture; compliance with other sectors of state policy (Strategy of cultural development of RS draft).

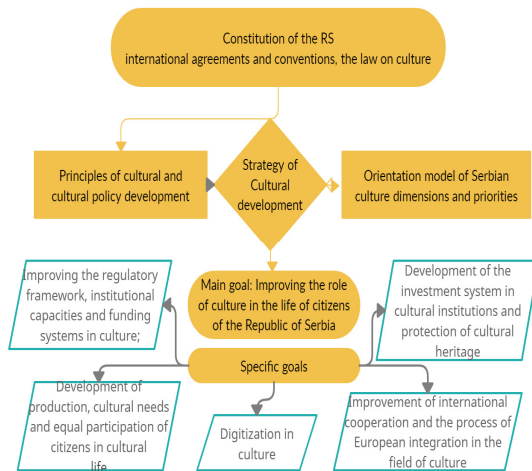


Figure 1 Strategic framework of cultural development in Serbia

Source: the authors' contribution based on the regulatory framework (Strategy of cultural development of RS draft, n.d.)

Everything stated previously reflects the *orientation model* of culture development strategy and cultural policy, with *priorities* (*development of human resources and infrastructure; European integration and international cooperation; encouraging the role of culture in the development of society and priority areas* (cultural heritage and contemporary art) through which cultural policy achieves its purpose, which should address the real needs of society and all participants in the cultural process (Strategy of cultural development of RS draft). Previously is covered by main and specific strategic goals. The strategic management approach in cultural policy development includes measures and activities aiming to create a stimulating environment for the action of all stakeholders in culture, including all the actors with their specific roles from different sectors (public, civil and private).

According to the ESSnet-CULTURE report (2012), cultural statistic structure depends on three different approaches consist cultural domains or fields of development. The approach is based on common standards and existing classifications, among which the economic one - NACE - predominates as it is the most commonly used. Compared with the previous LEG-Culture framework, the prominent new inclusions concern the domains of advertising and *arts and crafts*, as well as the *function of management and regulation* (ESSnet-CULTURE, 2012). The ESSnet-Culture framework for cultural statistics excluded some activities bearing in mind the primary criteria used for defining cultural activity

(artistic and cultural expressions and values) and the need for quality and availability of data. The exclusion is justified by the fact that the framework, besides its symbolic focus on the cultural field, has to be practical (measurable) and sufficiently useful for producing comparable European data. While there is a lack of harmonized data, it would be a challenge to develop a methodology for estimates on new subjects and define an EU quality aggregate. (ESSnet-CULTURE, 2012). In terms of the above mentioned classifications and their intersections, it is possible to conclude that the sphere of culture in a statistical sense consists of the *Cultural Domains (10)* (such as: Heritage, Archives, Libraries, Publishing, Performing Arts, Visual, Audiovisual and Multimedia, Architecture, Advertising, Handicrafts); *Cultural functions (6)* (Creation, Production/Publishing, Transmission / Trade, Preservation, Education, Management and Politics), which are reflected through all cultural activities in the department of culture, performed by participants in the cultural market regardless of (its profit/non-profit orientation); and *Cultural dimensions (4)* (Employment in the field of culture, Financial allocations in the field of culture (public), Consumption in the field of culture (private) and cultural practices) (ESSnet-CULTURE, 2012).

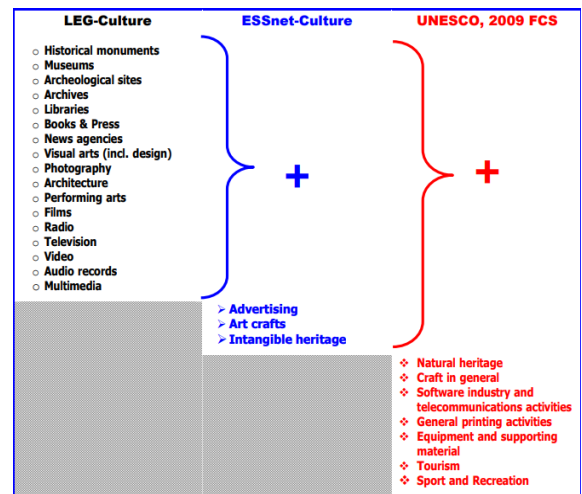


Figure 2 International statistics on the cultural structure
Source: Comparison of cultural domains ESSnet-CULTURE report, 2012, pp. 54

It is possible to conclude that the domains, functions and dimensions of culture given according to European statistical classifications are covered by the domestic cultural policy, but that further harmonisation is needed in the functional, cultural statistics field in Serbia.

2.2. Challenges in managing priority areas of cultural policy in Serbia

The current cultural policy context in Serbia is determined by the history of discontinuity between decentralisation and centralisation (from workers' self-management - a parastatal decentralized model, to the cultural policy of the Third Yugoslavia, which firmly centralized cultural policy again), as an actual ongoing process before the belated transition, transition in progress, and post-transition challenges reflected in each segment of society and the system as a whole. The modern post-transition context in Serbia defined itself as a country in *permanent crisis* (among others, it holds labels of: *country in a race to the bottom*, *developing country*, *country of the Global South and periphery*, (Kočović De Santo, 2021b)) that shares attributes with other "more developed" ones in terms of objective systemic uncertainties determined by neo-liberal institutional frameworks (Kočović De Santo, 2021a).

The period from 2000 to date has not brought support for the possibilities of creating genuinely desired democratic institutions, which would support cultural values and concepts that would involve political actions to become socially constructed again. It *de facto* brought a decade-long delay of transition (in comparison to the massive transition of socialist regimes that followed the fall of Berlin Wall) from one political system to another. Regarding the projected democratic cultural system of that time, the priorities included de-etatisation, decentralisation, and pluralism of cultures, alternative financial resources, and harmonisation of legislation with the EU. (Dojčinović Đukić, 2003). We were in a position to learn from others' experiences, to mitigate the painful transition challenges which were not the Serbian transition context case, unfortunately. In Serbia, modern dynamics are highly dependent on political-party changes that have been frequent since the 2000s and do not necessarily reflect ideological differences. Until today, political changes have brought shortened discontinuities in cultural policy determined by political mandates.

In this part, we will further consider the current situation in the priority areas of cultural policy (cultural heritage and contemporary art), guided by legal-political, economic, organizational and value-ideological challenges.

Thus, participation in culture is recognised as individual well-being (micro level), representing

the social capacity for innovation (macro level). This is how individual cultural capital (in addition to personal satisfaction) creates capabilities for empowering the cultural sphere and beyond towards social and economic life through participation.

2.1.1. Current state of cultural heritage priority area in Serbia

The cultural heritage area required legal and political reforms, accompanied by special laws regulating the sub-sections. Sub-sections in this text refers to the different fields of protection of cultural goods and heritage (such as preservation and protection of archival materials, protection of immovable cultural heritage, protection of movable cultural heritage and museum activities, protection of intangible heritage, protection of old and rare library materials). Due to an inadequate legal framework, as well as insufficient financial resources, followed by structural problems primarily related to organisation, the lack of functional decentralisation and empowered institutional arrangements, as well as the lack of professional staff and skills for the digital era and the needs arising from it, value-ideological challenges and program policies at the micro level of cultural institutions are often missing, as directly dependent on the previously mentioned challenges. Actors in the field of cultural heritage are predominantly from the public sector, which on the one hand, is entirely logical due to the continuous need for capital-intensive allocations in the preservation and management of cultural heritage that shapes national identity.

In the case of the *archival sub-area*, challenges related to digitisation and networking in a unified data system have been answered to some extent by the legal framework. However, insufficient and mostly budgetary financial resources slow down the primary activities of the archives (restoration, infrastructure projects and digitisation). Mixed sources of monetary funds and partnership project management approaches to international financial sources are scarce in practice.

Regarding the protection of immovable cultural heritage, 14 institutes for the protection of cultural monuments operate in Serbia. The legislative framework for protecting immovable cultural goods has not changed for twenty years. In this field, at the beginning of the 2000s, fiscal decentralisation without adequate territorial decentralisation happened, where territorially

scattered institutions became insufficiently interconnected. Quasi decentralisation placed the fate of immovable cultural heritage directly dependent on the city budgets by now implying unequal treatment. The criterion of heritage importance loses in front of larger or smaller city budget funds. The rich archaeological heritage is deteriorating due to elaborate neglect. There are also new fields and inadequate care, especially those related to traditional construction in Serbia, which is disappearing, due to its delicate physical characteristics since it is built from natural materials. The rich archaeological heritage is deteriorating due to elaborate neglect; unexplored fields, especially those related to traditional construction, are disappearing, among other things, due to delicate physical characteristics because it is built from natural materials. Apart from the insufficient strategic connection with partnerships and forms of participatory governance, there is also a lack of more robust cooperation with the executive and judicial authorities to sanction and prevent risks due to inadequate or illegal treatment of immovable heritage.

The protection of movable cultural heritage and museum activities went through specific legal reforms, and multi-purpose centres also participated in this field. However, movable cultural heritage is faced with a similar diagnosis. Infrastructure investments are necessary because heritage collections are often located in inadequate spaces. Still, there is also a lack of staff and skills to manage activities in the protection field.

The protection of intangible heritage was roughly defined in 2010. Although intangible heritage was not legally recognised as a concept until then, the ratification led to the creation of new institutions, networks and coordination in terms of proclamations, registration, registry management, education, etc.

In the sub-area of protection of old and rare library materials, the conditions that libraries in the management of protection have to accomplish are more closely defined through secondary legal acts. However, the need is significantly greater for additional laboratories and expansion of the network through the increasing number of authorised libraries that will meet the requirements for performing protection and thereby relieve organisational challenges.

The challenges of *the cultural heritage of Kosovo* have reflected the consequences of

domestic and international politics. The fact is that even in legal documents, the cultural heritage of Kosovo is generally recognised collectively, without a more profound mapping of the structure and types, even though it is the most valuable heritage at the national and world level. All management processes related to the protection management of Kosovo's cultural heritage are characterised by the state of "frozen conflict", from which the ad hoc approach in terms of cultural policy instruments arises.

We can conclude that challenges related to cultural heritage and its sub-areas become clearer with almost identical previously observed problems highly influenced by the transitional and post-transitional context. Additional specificities are determined by the nature and types of cultural heritage and associated activities, mainly focused on protection measures.

2.2.2. Current state of contemporary art priority area in Serbia

The contemporary art with the creative areas it covers requires developing a stable cultural system, which will be improved. Contemporary art includes artistic and cultural creativity in the fields of literature and publishing, musical arts, fine, applied, visual arts, design and architecture, theatre art, film art and other audio-visual creative activities, artistic dance (classical ballet, folk dance, contemporary dance), digital creativity, multimedia, and other forms of performance of cultural programs and contents (musical, pantomime, circus, street art etc.).

Driven by the challenges (legal-political, economic, organisational, value-ideological), from which cultural policy instruments emerge, contemporary art is characterised by a generally insufficiently stimulating environment for artistic production, participation and empowerment of participants (both creators and audience – with a relatively low level) in participation in cultural life. Unlike the cultural heritage priority area, where the actors are predominantly from the public sector, the priority area of contemporary art is characterised by participants from all sectors (public, private, civil), depending on the sub-areas. In this sense, the organisations from the *literature, publishing and library-information* sub-area are predominantly from the private sector, with market-financed activities. At the same time, they can apply for support funds provided by the relevant Ministry. The Ministry also supports library activities, information

systems, distribution and book loans, special press releases and events such as book fairs. However, school libraries depend on the local government, making their position unequal and often unfavourable.

The *theatre and performing arts system* is highly centralised in the total number of professional (36) theatres distributed mainly in five cities: Belgrade, Novi Sad, Subotica, Niš and Kragujevac. In addition to the uneven territorial distribution, the performing arts lack technical equipment, additional capital investments, and often program policy. At the level of Serbia, participation in performing arts content is directly hindered by institutional centralisation.

Artistic dance (classical ballet, folk dance, contemporary dance): within the cultural institutions, there are five permanent artistic ensembles and a professional modern dance group of the BITEF dance company. Folk dancing is spread throughout the country and is covered by amateur associations. High school ballet education is concentrated in three cities in the country. There is a need to expand formal education in artistic dance and better regulation of labour rights.

In addition to several specialised institutions, mostly music schools, *musical creative activities* and organisation of musical events in the cities of Serbia are performed by civil society organisations, as well as multi-purpose centres for culture, which indicates the multi-sectoral presence of actors in the development of this sub-area. There are three symphonic orchestras, one of which is republican (Belgrade Philharmonic Orchestra), one provincial (Vojvodina Symphony Orchestra in Novi Sad) and one, Niš Symphony Orchestra, was founded by a local government, while a more significant number of choirs founded by cities. Support is primarily needed in accompanying publishing activities, discography and publishing.

In the institutional sense, *visual arts* are exhibited and performed usually in gallery spaces (about 200 in the country). Still, there is a problem of missing space and disposal depots for art collections, while funds are lacking in almost every segment of the cultural management process. Since 2014, institutional support in financing visual art emerged, which is reflected in purchases and incentives for further production and creativity that improved participation in visual arts, which is far from satisfactory. Uncertain and dysfunctional financial sources

frame the field of visual art, and the visual art market with accompanying professions (agents, managers, collectors) is not developed.

Film and audio-visual art represent an activity with a vital cultural component and economic potential. Audio-visual activities are an essential part of the creative and cultural industries that are rapidly developing today. The nature of these activities is such that the funds invested in production (dominantly public but also private) are returned multiple times: through taxes, spillover effects on cultural and other forms of tourism and the local economy, by attracting FDI, and generally favourable positioning of the state in the international cultural space. Legal harmonisation with the Constitution of the RS and EU frameworks, which refers to the Law on Cinematography, is needed. The Ministry provides support through co-financing of productions, festivals, colonies, etc. At the same time, professional tasks are delegated to the Film Centre of Serbia (development, promotion of cinematography, additional education, and funds for financing film production).

3. Empirical findings on cultural participation processes in Serbia

Indicators of culture at the individual and social levels help us understand cultural participation and practice, which is why our intense focus is on the empirical part of the research. Haan and Van den Broek (2010) gave a broader concept of cultural participation by the ICET model, including all activities connected to visits, habits and amateur practices by positing the research based on questions: *which activities to look for and where to look for them*.

Therefore, the empirical part of the research emphasises the objective and subjective characteristics of participation in culture in Serbia to bring a more profound understanding of what ways it is possible to achieve empowered participation and participatory governance to the desirable cultural (and beyond – sustainable transition markets) institutional and democratic changes.

3.1. General characteristic of participation processes in culture in Serbia

In the EPICA project survey, we discovered the participation process patterns from 1977 to 2022, with a particular focus on the last five years. Based on the observed sample, people participated in culture from the end of the 70s and during the

80s and 90s in a relatively small number of participatory projects in culture, arts and architecture in Serbia. From the beginning of the 2000s, there was a noticeable sharp incensement in participation and participatory processes, which remained relatively the same until today.

The duration of participatory processes in Serbia is usually between 6 and 12 months. The sample included 139 organisers of participatory processes, i.e. 63% of the total sample, and 83 process participants (37% of the sample), shown in Figure 4. The most significant number of respondents is from Belgrade (90) and Novi Sad (25), which indicates the concentration of cultural participation, following the findings from the previous analytical part related to the developmental challenges of priority areas of culture.

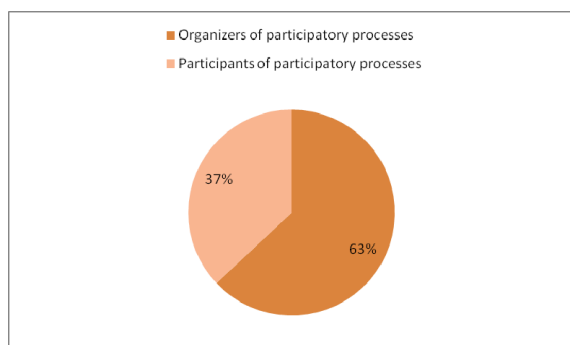


Figure 4 Distribution of organisers and participants of the process
Source: the authors' contribution, based on EPICA 2022 survey

We used descriptive statistics to determine the socio-demographic characteristics of the sample. In figure 5, the gender distribution shows that 60% of the total respondents were female and 40% were male.

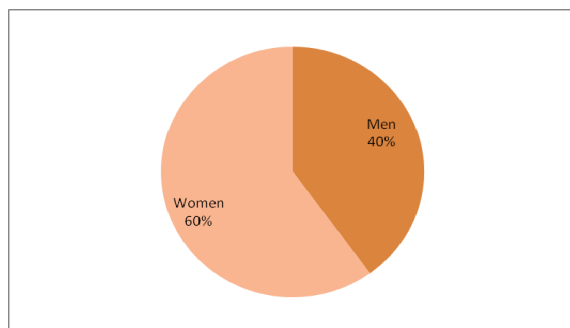


Figure 5 Gender distributions of respondents
Source: the authors' contribution, based on EPICA 2022 survey

According to Figure 6, half of the respondents belong to the age category of middle-aged (35 to

49 years old) 51%, while 18% of them represent the group of younger (18 to 34 years old), and 31% the group of older respondents (over 50 years of age).

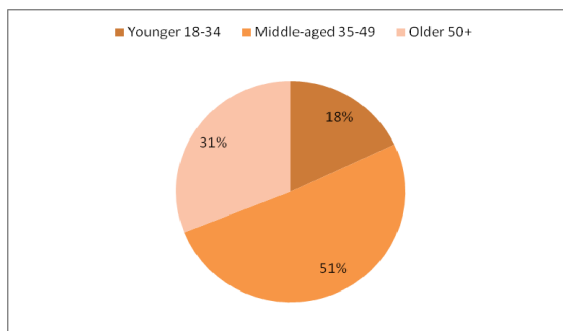


Figure 6 Age distribution of respondents
Source: the authors' contribution, based on EPICA 2022 survey

According to Figure 7, the most significant part of the sample consists of highly educated respondents, of which 80% are university educated. More precisely, 32% have a university degree, while 58% of respondents have a postgraduate degree. 2% have a bachelor's degree, while 8% of the total sample has secondary school (2%) and high school education (6%).

However, when it comes to employment status, slightly more than half of the respondents (57%) are permanently employed, while (12%) are temporarily employed, 10% are independent artists, 7% are self-employed, 2% are unemployed, 3% are retired, and 2% of respondents are still studying.

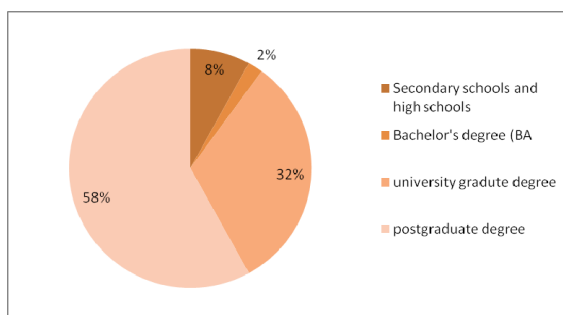


Figure 7 Education degrees of the respondents
Source: the authors' contribution, based on EPICA 2022 survey

3.1.1. Active cultural participation – organisers of participation processes in Serbia

Participatory processes characteristics - from the point of view of their organisers, helped us learn more about the structure of participation within priority areas of cultural development, as shown in Figure 8.

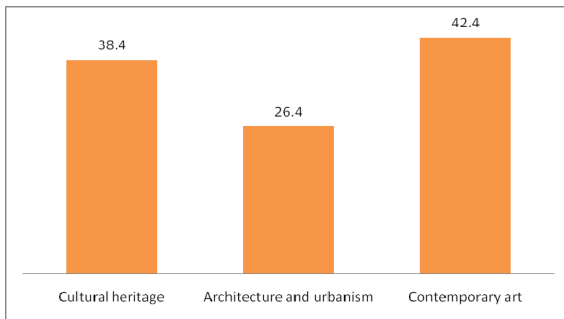


Figure 8 Structure of active participation in culture
Source: the authors' contribution, based on EPICA 2022 survey

We discovered participation in priority areas by investigating active cultural participation (organisers of participative processes and practising culture). The priority area of contemporary art was chosen in 42.4% of cases, the field of architecture and urban planning in 26.4% of cases, and the area of cultural heritage in 38.4% of cases. It should be taken into account that the data were obtained from a dedicated snowball sample, and the representation of the area is rather an expression of the availability of respondents than their real presence in participatory processes.

Respondents were asked to define the field where they implemented the participatory process more firmly. According to the answers, we can conclude that active participation contributes to the strategy's primary goal of the cultural development draft (the Main goal: Improving the role of the culture in the life of the citizens of RS, through answering mostly on specific goal 3. Development of production, cultural needs and equal participation of citizens in cultural life, and partially on other goals, such as contribution to institutional capacities).

The responses are grouped, where the first group of answers meets the main strategic goal, by partially contributing to other specific purposes, such as *improving institutional capacities*, through work of *culture in a general sense* (such as contributing to the sections of cultural development strategy, city culture development plan, launching independent multi-purpose centres, democratization, building institutional capacities at local level; culture of memory, heritage, industrial heritage etc.). The second group of answers meets the third particular strategy goal by spreading the field of cultural actions and content to contribute to solving the issues with social and environmental implications and fundamental human rights (such as environmental and communal problems/solutions

through art, migrations and population movements by documenting violent, unannounced returns of migrants to the previous country; financial forensics, social economy; environment, urban and sustainable development: issues related to recycling, sustainable urban mobility, protection of natural assets, urban planning, climate change, community resilience to natural disasters, air quality, natural heritage and communal problems.

Participatory processes targeted the local community in 70% of cases, followed by children and young people, who were mentioned in 46% of cases as a target group, then public institutions and decision makers who were the object of the process in 40% of cases, and experts in 22%. Other social categories for which participatory processes were organized: women with 13%, the elderly population with 10%, ethnic minorities with 8%, and the sick and disabled as well as economically disadvantaged groups with 7% of cases each. Only rarely, processes targeted the LGBTQ population (4%), children without parental care (3%), single parents (2%), migrants (1%), and veterans (1%).

When it comes to the financial sources for financing participatory processes, it is interesting that international institutions and foundations are on the first place as a source (indicated in 47.2% of cases), although it is stated in the legal-regulatory documents of the cultural policy that international funds are not used sufficiently. State institutions are at the second place (by ministries, agencies, funds) (40.8% of cases), then local governments (30.4%), individuals (24%), local associations of citizens or foundations (21.6%), and finally the corporations and private firms (10.4%).

Correlation analyses were performed to examine the correlation between the amount of the planned budget for activities and the perception of positive and negative outcomes of the process. They indicated a negative relationship between the statement that the positive effects of the process were short-term concerning the amount of the budget ($\rho = .233$, $p < .05$). This means that a larger budget, from the organiser's point of view, led to longer-term positive outcomes of the process.

3.1.2. Receptive participation - participants in cultural participation processes in Serbia

Regarding the characteristics of participatory processes – the point of view of their participants

– Figure 9 shows the structure of receptive participation.

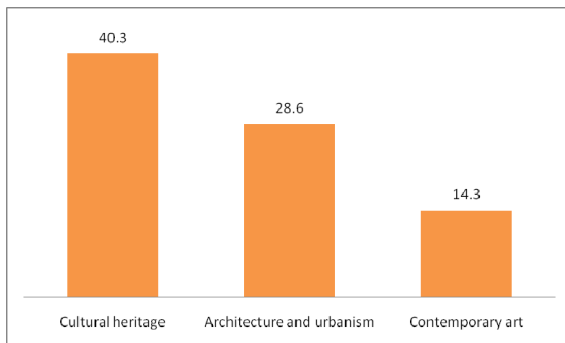


Figure 9 Structure of receptive participation in culture
Source: the authors' contribution, based on EPICA 2022 survey

Investigating receptive cultural participation (participants are attendants of participative processes in culture), the perception of the structure of participation, by priority areas, is different in comparisons of the survey results shown in Figure 8 and Figure 9. The priority area of cultural heritage was chosen in 40.3% of cases, slightly above the organisers' attitudes. Regarding architecture and urban planning, the situation is relatively the same. In contrast, the perception of participation in contemporary art as a participant (attendant/receptive participation) is chosen by 14.3%, compared to the attitudes of organisers (42.4%), indicating a significant difference in perception regarding the participation processes. As other answers related to participation, the respondents recognized that they participated in: cultural participation, education, empowerment of the local community, planning of cultural development, application of dramatic techniques and methodologies in the processing of mathematical material, applied theatre, impact of the project on social development, protection of biodiversity, civic activism, alternative tourism based on natural and cultural heritage.

From the views of participants, the primary target population that process was intended during the last five years, as follows: local community (61%), children and youth (22.1%), public institutions and decision-makers (19.5%), and the elderly (14.3%). Other recognized groups: women (10.4%), ethnic minorities (9.1%), sick and disabled people (9.1%), economically disadvantaged groups (9.1%), experts (6.5%), migrants (6.5%), LGBTQ population (2.6%), single parents (1.3%) and, finally, children without parental care (1.3%); and others: homeless people, residents of rural areas, socially

sensitive groups, convicted persons in penal institutions, as well as artists.

3.1.3. Perception of effects and limitations of participation processes in culture

A summary of the survey research is presented in Figure 10, which contains the main findings regarding the characteristics of participation processes in culture, contemporary art and architecture in Serbia.

Regarding the analysis of the *perception of the effects of participatory processes* by the respondents, the average grade on the eleven-point scale is 6.25, indicating that more than half of the respondents gave a score higher than 7. Also, when respondents were asked additional questions to evaluate the extent to which the participatory process led to the strengthening of solidarity, about 44% of the total respondents gave a score higher than 7. At the same time, the effectiveness of the participatory process in starting a public debate was rated relatively lower.

The second part of the survey questions referred to the *perception of limitations that the participants faced during the participation processes*. Respondents could give multiple answers. More than half of the respondents rated the public sector/institutions as not interested in cooperation (53.3%); as next limitation they recognised the lack of financial resources (52.8%). Almost half of them encountered a lack of motivation and willingness to participate among citizens (49.6%) and a lack of human resources (46.3%). A little over a third encountered inadequacy of needed conditions (problems with space, equipment, work materials, etc.) (36.2%) and the lack of a clear organisational structure (34.6%). A little less of them encountered problems in communication among participants (31.7%), the lack of time to implement activities within the process (30.5%), a lack of knowledge and skills of people who lead and organise (30.1%) and finally, they recognised poor interest in cooperation of organisations in the civil and private sector (26.4%).

Analysing the responses *related to understanding the reasons for the termination of participatory processes*, we can conclude that there is a high degree of congruence between the challenges of participatory processes and the development of priority areas in culture and contemporary art in terms of legislative, regulatory, economic, organisational and value-ideal aspects.

The results indicate that the organisers perceive the effects of participation processes more positively than the participants and generally evaluate their experiences in participation processes more positively. In the first place, organizers also evaluate better the effectiveness of the last (completed) participation process in relation to their initial expectations (χ^2 [df, 1] = 23.321, $p < .05$, Cramer's $V = .332$, $p < .05$). Secondly, they believe (more than the participants) that the last participative process led to a strengthening of solidarity in the (local)

community (χ^2 [df, 1] = 28.674, $p < .01$, Cramer's $V = .368$, $p < .01$). However, when it comes to restrictions, they perceive a lack of motivation and willingness to participate among citizens, more often in comparison to participants (χ^2 [df, 1] = 4.505, $p < .05$, Cramer's $V = .142$, $p < .05$).

If the table or figure cannot be fitted into a single column, "section break continuous" (important!) should be used.

S Situation	<p>PARTICIPATORY PROCESSES IN CULTURE, ARCHITECTURE AND URBANISM AND CONTEMPORARY ART IN SERBIA (EPICA SURVEY)</p> <p>TO BRING THE DEEPER ANALYSIS BY APPLYING ICET (navigation) MODEL ON CULTURAL PARTICIPATION PROCESSES IN SERBIA Information, Communication and community, Experience enjoyment and expression, Transactions that take place on the culture market (Haan, & van den Broek, 2010)</p>
T Task/Target	<p>This survey research aimed to examine the objective characteristics and the subjective component of participation in participatory processes in Serbia.</p>
A Action	<p>The research covered 1) the perception of the effects, 2) limitations and reasons for the interruption of participatory processes, 3) the characteristics of the processes specifically from the point of view of their organizers and participants, as well as 4) positive and negative experiences of participating in these processes, were examined.</p>
R Result	<p>1) The respondents are relatively satisfied, especially when it comes to the effectiveness of the last (completed) participatory process in relation to their initial expectations. The additional analyzed effects - strengthening of solidarity in the (local) community and initiation of public debate on social problems - rated slightly above neutral.</p> <p>2) Based on participants perception, the half of all participatory processes are associated with limitations: public institutions are disinterested to cooperate, lack of financial resources, lack of motivation and willingness to participate among citizens, and lack of human resources, were mostly highlighted limitations. Other examined limitations - problems in communication between participants, implementation activities, lack of knowledge and skills of people who lead and organize, missing partnerships between civil and/or private sector, recognized in more than a third of cases.</p> <p>3) The reasons for stopping further work on a process or major difficulties that stopped the work, more than a quarter of respondents cited a drop in participants' motivation and interest, as well as financial problems, and somewhat less unrealistic expectations and poor organizational skills. Followed by problems in trust, a lack of transparency in decision-making, inefficient management of processes and activities.</p> <p>4) Negative experiences mentioned by participants: the awareness that the opinion of some team members was the most important when making decisions, the short-term positive outcomes of the process, unreadiness to discuss current social problems. created cultural contents mostly attracted young highly educated experts, and significantly less the other population. Positive experiences are rated relatively highly and generally prevail over the negative ones, regarding the new knowledge and skills were acquired through the participatory process, newly created cultural content was available to everyone, community members were offered new cultural content and that mutual exchange and dialogue between participants was encouraged.</p>

Figure 10 EPICA findings on participation in culture, contemporary arts and architecture in Serbia

Source: the authors' contribution as a part of the survey results and conclusions conducted within the scientific project EPICA, entitled Empowering Participation in Culture and Architecture: Activating Public Resources for and with Community (2022), Funded by The Science fund of Republic Serbia (EPICA - Empowering Participation in Culture and Architecture: Activating Public Resources for and with Community, 2022)

Conclusion

We can notice that the empirical results regarding the participation process in Serbia have a high degree of coincidence with the challenges (legislative, economic, organisational, and value-ideological) of the strategic development of the priority areas in culture.

The cultural practices and participation are essentially important not only as a strategic goal of cultural policy, but in their powerholder role - to bring the social transformations, which is in line with proposed theoretical background, and empirical part of the research that indicated many other spheres (except cultural heritage, contemporary art and architecture and urbanism) and related challenges, enlighten by the work of

culture, precisely cultural participation. This brought us to the De Haan and Van den Broek point on *opening cultural boundaries*. Moreover, in cultural policy reflections, we understand the importance of asking their questions regarding participation in culture, *which activities to look for and where to look for them* (Haan & Van den Broek, 2010), thereby justifying our research procedure to bring the knowledge integration by involving theoretical, legislative and regulatory starting points with empirical data. The above stated allowed us to understand better participatory reality (organisers and participants), information related to the process and communication through processes, expectations and transactions (according to the ICET model).

This brings us to the most important conclusions:

First, this research enabled a deeper understanding of the domains, functions and cultural sphere in terms of cultural policy, strategy, and actors in the participation processes. Empirical research has proven that culture is a sphere through which the reflections on social, ecological and economic challenges inevitably appear by participation (creation and reception); thus, the culture becomes situated in sustainable development.

Secondly, cultural participation expands itself through cultural participation. The scope of cultural action is visible towards socially responsible issues, thus becoming engaged and more deeply connected with society. Participants in participatory processes are allies who operate from cultural market niches, institutionally and extra-institutionally. As such, they inevitably bring changes. The culture (with “allies from activism and third sector” (Köhler et al., 2019) becomes the “carrier of sustainable transition markets” started from the niche markets, providing the radical change in terms of development by the “functioning of alternative, informal, community-based markets that arise by collective contributions” (Boon, Edler & Robinson, 2020) led by the cultural force as control factor of the systemic imbalances, within the future decentralised and direct democratic system.

Thirdly, we pointed out that the challenges of strategic development of priority areas of culture (cultural heritage and contemporary art) are related to the challenges of participation processes, which reflects cultural participation. Therefore, it is necessary to look for new systemic solutions that will contribute to achieving cultural policy goals by covering all cultural domains and functions at the micro and macro level.

As the empirical study showed, partnerships in culture are the missing concept. Through the strategy of partnerships, new forms of empowered participatory governance could emerge to strengthen the cultural market and the sphere of culture as a whole, its actors, and cultural participation.

There are three scenarios about the perceived challenges that need to be strategically addressed:

(1) The future of culture as a whole political system: it requires reform. Regarding the legislative and regulatory framework, it is necessary to finish the started harmonisation.

When it comes to the economic framework, it is essential to introduce the *arm's length principle*; for this to happen, the legislative and regulatory framework and institutional and organisational aspects must be developed in a coordinated manner toward the expedient decentralisation of the cultural system in every sense (administrative, fiscal, political), to delegation of power and decision-making at all levels to be ensured. Only when the previous elements are provided is it possible to develop value-ideological instruments for which there is an institutional basis and social feedback loop.

(2) Culture in a changed political system - change in political theories occurs through the political elections or the revolution. If the desired reform happens, it is the basis for any future political system.

(3) Status quo – the most unwanted scenario.

Our subsequent research will situate the strategic performance of cultural policy development more deeply in the interdisciplinary crossings between cultural political economy, GGR theories and degrowth theory – towards the post-capitalist inspirations.

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Migrant workers and workforce integration: challenges for managers in European companies

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Abstract

Background: In contemporary economies the migrant workforce is increasing around the world and represents a challenge both for domestic economies, companies and economic flows. The emergence of the European labor market highlighted a major lack of a qualified workforce and a rapid spread of migrant workers especially in the labor intensive economic sectors. In this perceptive, by striving to attract foreign workers with unique and complementary skills, knowledge, and ideas to the workplace, managers encounter many obstacles. **Purpose:** The purpose of this paper is to identify challenges managers in European companies face in the process of attracting and managing migrant workers. In this article, we analyze the impact of the migrant workforce on the internal labor market transformations and identifying the main managerial challenges for the European companies and management during the attracting, mobilizing and managing the migrant workers in economic system.

Study design/methodology/approach: The authors evaluate both the existent assumptions in literature and conduct a systematic review of the managerial approaches in the field. A quantitative approach was employed. The data that contains responses from 1,127 managers from ten European countries, five EU and five non-EU member states, was collected between August 2021 and April 2022.

Findings/conclusions: The main study results reveal that the most common obstacles and challenges that managers face occur in the process of recruitment, socialization and integration, training and development, workplace operations, and innovation. The study recommends a permanent focus of company management on these issues. It also lays the foundations for a theoretical framework that provides a better understanding of the significance of creating efficient and specific management policies for foreign workers based on employee diversity.

Limitations/future research: The present study is limited in scope as the sample only includes managers from ten countries. Each research question can represent a broad enough basis for independent research, so this work opens up the possibility for numerous researches that can be treated as a continuation and expansion of the existing work.

Keywords

socialization, workforce integration, refugee employment, migrant workers, human resources management

Introduction

Poverty, armed conflicts, climate change, natural disasters, pandemics, insecurity, poor health or education system, uncertainty, and inability to find employment are just some reasons why people choose to leave their country of origin and seek a better life in another country, on the same or some other continent. The number of economic migrants, as well as refugees, is on the rise worldwide (ILO, 2021).

The stock of international migrants worldwide was estimated by the United Nations Department of Economic and Social Affairs (UNDESA) at 272 million, 245 million of which are of working age (aged 15 and over) in 2019 (ILO, 2021). Thanks to the high standard of living, the European countries, especially those in the western part of the continent, are among the most attractive and desirable destinations. They are preferred destinations for migrants from Asia and Africa, as well as for those from the rest of the European continent. For instance, in 2020, 8.6 million non-EU citizens were employed in the EU labour market, out of 189.1 million persons aged from 20 to 64, corresponding to 4.6% of the total (European Commission, 2022). It is estimated that 23.7 million people (5.3%) out of 447.2 million people living in the EU on 1 January 2021 were non-EU citizens (EUROSTAT, 2022). In 2020, there were about 1.9 million immigrants to the EU from non-EU countries; more than 950 thousand people emigrated from the EU to a country outside the EU, and, in addition, 1.2 million people previously residing in one EU Member State migrated to another Member State (EUROSTAT, 2022). To compare, in 2019 there were approximately 2.7 million immigrants to the EU from non-EU countries and about 1.2 million people emigrated from the EU to a country outside the EU; in addition, 1.4 million people previously residing in one EU Member State migrated to another Member State in 2019 (EUROSTAT, 2022).

As the unemployment rate is getting lower, the shortage of qualified and skilled workers is getting higher. Between 2013 and 2019, many companies in the European Union complained that “the availability of labor was a factor limiting production – increased nearly fivefold in construction, quadrupled in industry, and more than doubled in the services sector” (Eurofound,

2021, p. 3). At the same time, remaining European countries (non-EU member states), whose labor force is emigrating predominantly to the EU area, are also facing labor shortages. However, they have also become in the meantime interesting for migrants who mostly come from Asia and Africa. Europe has been witnessing an extremely large movement of people that reached its peak between 2015 and 2019 with migrants from Asia and Africa. It continues further on with migrations between the eastern and western European countries, and the conflict in Ukraine has generated a large number of refugees to whom European countries offered work permits and employment to include them in their labor market. The issue that all migrant workers and refugees face is their integration into society and the workplace. Research conducted in Germany indicates that despite some differences between labor migrants and refugees workplace integration is more successful than integration in society (Schmidt & Müller, 2021).

Migration within the European continent is not a new phenomenon. In the last century, it began significantly after the end of the Second World War and lasted for decades with higher or lower intensity. Thanks to migrant workers, many countries, especially Germany, recovered their economy in a relatively short time and raised economic growth to an enviable or, better said, the highest possible level. A strong economy contributed to a higher standard of living, and it, on the other hand, created a new culture and lifestyle that differed from the one based on traditional family values. The result is reduced birth rates and an aging population.

The aging of the population means that a certain number of working-age people is decreasing, while the number of older people within the population is increasing. This situation will have profound implications, not only for individuals but also for business and society as a whole. These implications will primarily affect health care, labor markets, pension funds, etc. To avoid the worst-case scenario, many countries create migration policies to support companies' recruitment of foreigners (Ortlieb & Sieben, 2013). European countries are trying to establish the stability of the system by raising the retirement age (Fouejieu, Kangur, Martinez, & Soto, 2021). Such measures may partially and temporarily help to some extent. European companies will have to find a workforce

from some other sources to ensure business stability (Smit, Tacke, Manyika, & Thiel, 2020).

However, recruiting, developing, and managing a foreign workforce can sometimes be a great challenge for employers and managers. This challenge may be reflected in cultural, linguistic, and other differences that can be an obstacle to the socialization and integration of newcomers. At the same time, it can be a great opportunity because a different way of thinking, a different approach to work, and new and different skills and knowledge can create an environment productive for developing new ideas and innovations. This paper will focus on challenges that managers face in terms of recruitment, socialization and integration, training and development, workplace operations, and innovation.

1. Literature review

Migrations allowed companies to access a wider talent pool and therefore to select more suitable candidates for vacant posts. Many companies rely on the “Recruiting influences employees’ motivation, performance, and retention” (Phillips & Gully, 2015, p. 1416). In the recruitment process, it is very important to hire employees who have the abilities necessary for the company’s success (Lämsä, Mattila, Lähdesmäki, & Suutari, 2019). Risberg & Romani (2022) state that recruitment studies involving migrants point to three factors influencing the organizational perception of their employability: recruiter characteristics (recruiters’ tendencies to hire persons similar to themselves are observable in the recruitment of migrants); organizational norms (person-organization fit, indicating the organizational norms against which a candidate’s suitability is assessed); and size and the international orientation of the organization (larger and internationally oriented organizations are likely to hire migrants).

The diversity in the workforce is increasing due to the aging population in Western society and the increased amount of migrant workers moving around the globe (Bleijenbergh, Peters, & Poutsma, 2010). Migrant workers differ in knowledge and skills, languages they speak, gender, age, motives for migration, and the like. They are “more likely to be engaged simply for their knowledge of the target market, facilitating risk management and market entry” (Enderwick, 2011, p. 87). The mobility of skilled immigrants is of great importance and interest because of the valuable contributions that they make globally

(Sayyad Abdi, Partridge, Bruce, & Watson, 2019). They bring a unique culture and complementary skills to their new work environment and approach challenges in different ways.

The diversity of knowledge and skills leads to the improvement of the organization’s ability to solve problems quickly using the best techniques. Hirst et al. (2021) emphasize that the employment and workplace integration of refugees has positive effects on economic growth. However, recruiting the right ones may be sometimes rather challenging. Assessing migrant job applicants is often a complex task for managers (e.g. managers are not familiar with the migrant’s previous employment, educational institutions, cultural differences and language barriers) who are, therefore, likely to make mistakes during the recruitment process (Farashah & Blomquist, 2020).

New technologies influence the competitiveness of European companies. The organizations require broader skills profiles, and qualified “players than can play at more than one position”. Most of the jobs occupied by migrant workers are low-skilled jobs (Forde & MacKenzie, 2009). Hainmueller & Hiscox (2010, p. 79) find that “rich and poor natives are equally opposed to low-skilled immigration in general; in states with high fiscal exposure, poor (rich) natives are more (less) opposed to low-skilled immigration than they are elsewhere”. On the other side, “if highly skilled migrants are seen as a threat and employment is seen as placing them in a relationship with the object at risk (organizational normality), then it makes sense from an organizational perspective to limit this relationship; the obvious way to minimize the relationship is not to recruit them, not hire them, place them in internship positions, or promote them at a lower level than they enjoyed in their home country” (Risberg & Romani, 2022, p.17).

Organizational effectiveness is secured by recruiting the right talent (Phillips & Gully, 2015). It means that candidates should possess desirable work experience in the industry besides formal education and qualifications. In some cases, there may be a kind of discrepancy between the work experience required for the job and the work experience held by migrant workers so that applicants are directed to lower-skilled jobs. It is not unusual for migrant workers to volunteer to develop their experience and acquire references to meet job demands.

Difficulties in the workplace can arise because of language or cultural differences. Lack of language skills can cause communication barriers and create problems in terms of workplace cohesion. Lack of language skills is seen as a lowered efficiency if a new employee does not speak the language well, and there is always an assumption that the person's ability to do the job properly will be negatively impacted. (Risberg & Romani, 2022). Faaliyat et al. (2020) argue that a lack of communication skills among foreign employees can affect their involvement in decision-making, which can affect career advancement opportunities. Problems with communication may arise when the communication tasks become unpredictable (Cheng, Im, Doe, & Roy Douglas, 2021). Further on, Cheng et al. (2021) added that in addition to overall communication topics, migrant workers sometimes find it difficult to understand technical expressions and terms used in the workplace.

Lack of cultural awareness in daily interactions with co-workers and customers may affect the migrant's integration within the organization. Migrants who are not fully socialized and integrated may experience emotional suffering, fear, and isolation, which leads to a decline in worker motivation. The process of socialization and integration may fail for several reasons, usually related to cultural differences, stereotyping, lack of communication skills, the nature of coworkers, personal life issues, etc. To avoid these, companies may use some socialization strategies to ease the integration process of the newcomers. Besides, newcomers are also responsible for their integration. Cooper-Thomas et al. (2012) developed three broad categories of newcomer strategies, namely change role or environment, learn or change self or seek information, and mutual development. Their research aimed to provide the full range of strategies that newcomers use to facilitate their organizational socialization.

Organizational socialization depends on the organizational procedures and practices, as well as the immediate managers' and supervisors' commitment. To use the full potential of newly arrived workers it is necessary to ensure their full integration. "Migrant workers often suffer from social exclusion in the workplace and therefore identify less with their organization and engage less with their work" (Adamovic et al., 2022, p. 377). Coworkers' perceptions of newcomers are important for their integration as well. What is

seemed to be a must is the fairness of employee compensation systems. Usually, employees compare their income with the income of their colleagues and other workers, and that comparison is related to their pay satisfaction (Ikävalko & Kohvakka, 2021). Otoo & Mishra (2018) suggest that company management should ensure that employees' pay is equivalent to current market trends. The question is if migrant workers depress the wages of native workers. The researchers, in general, have different opinions on this issue. Although there is a huge number of empirical studies on this topic it is still hotly debated (Hainmueller & Hiscox, 2010).

The managers should pay attention to and be aware of what is in theory called diversity management. Diversity management should be connected to all aspects of human resources management with an added emphasis on the organizational culture (Bleijenbergh, Peters, & Poutsma, 2010). Some studies show that native and immigrant managers differ in their hiring preferences – native managers hire fewer immigrant workers than immigrant managers (Åslund, Hensvik, & Skans, 2014). Diversity management promotes the greater inclusion of employees across a variety of backgrounds. It values the skills, knowledge, and attitude that every employee brings to the organization and rewards them accordingly. Companies should adopt diversity policies and strategies to influence Human Resources (HR) processes, and promote and ensure diversity, cultural awareness, and the ethical context of an organization. The type of diversity, as well as time, impacts the success and level of inclusion. Diversity, especially demographic, can be positively associated with inclusion because even though some individuals may feel uncomfortable or have some fear of working in diverse groups at first, that fear and apprehension usually disappear over some time (Singletary Walker, Ruggs, Botsford Morgan, & DeGrassi, 2019).

"Organizational culture and demographics are associated with the choice of diversity strategy and, consequently, HR processes" (Farashah & Blomquist, 2021, p. 289). The quality of the relationship of migrant workers with co-workers and colleagues is positively related to their perception of mutual similarity in the sense of attitudes, perspectives, and values (Valenzuela, Jian, & Jolly, 2020). Organizations need to provide institutional protection for employees in terms of their diversity. The diversity policy demonstrates

the organization's will and commitment to providing equal opportunities and rights to all workers and promoting and encouraging diversity in the workplace. "If diversity is about answering the 'what' question, diversity policies describe the 'how' portion of managing diversity in terms of how diversity management should be carried out" (Jin, Lee, & Lee, 2017, p. 306). Porcena et al. (2021, p. 2623) argue that "the ethical context of an organization is a critical contextual framework through which diversity can affect organizational performance".

Equal and fair treatment and compensation will not only contribute to the fulfillment of basic legal obligations but will also increase the satisfaction of workers and will increase their productivity. Fair conditions in the workplace will lead to the elimination of employee dissatisfaction, and they will more easily identify with the organization, its mission, and goals. A fair work environment increases organizational identification, and it results in higher work engagement (Adamovic et al., 2022). To support workplace integration and provide the newcomers with orientation, organizations use various measures such as welcome events or seminars (Ortlieb & Ressi, 2022). Organizations use different strategies to tackle cultural differences between foreign workers and host nationals that may serve as a barrier to workplace integration (Lamba & Krahn, 2003). Bleijenbergh et al. (2010, p. 419) claim that "the implementation of diversity management does not provide inclusion of women, the elderly, and migrants in the workforce *per se*, but that achievement of this aim depends on its fit with the socio-cultural context and its integration in the human resources management system of the company in particular". Nardon et al. (2022) argue that the position of women has weakened during the pandemic and put them in an even worse situation. It pushed them towards unemployment, lower-skilled jobs and positions, and less stable employment, and made their career trajectory delayed or interrupted (Nardon, Hari, Zhang, Hoselton, & Kuzhabekova, 2022).

The reduction of uncertainty in the socialization of newcomers primarily focuses on minimizing the negative effects of job requirements rather than providing the resources needed to facilitate work engagement and integration (Saks & Gruman, 2018). As migrant workers perform the same duties and tasks as other workers they need the same training programs. Besides, additional training related to languages, cultural differences, ethics,

and communication may back up their integration. The full integration of newcomers is not complete without proper and adjusted training and development. Career development plays a significant role in maintaining employee efficiency in the organization (Jehanzeb, 2020). Training in its earliest phase of orientation and socialization is crucial, especially when we talk about workers who are exposed to occupational hazards as well as dangerous working conditions. However, workers often report a lack of safety training despite the dangerous nature of their jobs (De Castro, Fujishiro, & Sweitzer, 2006).

Facilitating the socialization and integration of newcomers is beneficial to new employees' well-being and performance, as well as to the organization's efficiency (Cranmer, Goldman, & Houghton, 2019). One way to facilitate career development and advancement, and decrease the turnover intention of newcomers is through formal socialization programs (He, Gao, & Yan, 2020). For conducting everyday tasks, maintaining high-level motivation at work is very important. Increased motivation helps newcomers acquire more knowledge about the organization, which is, in turn, related to increased organizational knowledge (Jokisaari & Vuori, 2018). Job satisfaction affects job performance through career development (Lee & Lee, 2018). A high level of job satisfaction decreases the level of fluctuation and increases job performance and overall organizational efficiency.

Organizations are, in general, responsible for maintaining a high level of job satisfaction by eliminating job and work-life issues. When employees receive support from their superiors, they will have more resources to deal with the problems of work-family conflict, maintain their job and life satisfaction, and retain their current jobs (Zhang, Rasheed, & Luqman, 2020). Li et al. (2020) claim that it is important for organizations to take care of migrant workers' families, their needs, and career-related concerns. Such a relationship would positively affect employees' emotions and their perception of the organization. Positive emotions and job satisfaction mediate the positive association between motivation and job performance (Reizer, Brender-Ilan, & Sheaffer, 2019). However, it is always important to keep in mind that different things motivate different people. Also, when conducting performance appraisal, it is important to keep in mind the fact that what is a good indicator of productivity in the

case of one employee may fail in the case of another (Moore & Piwek, 2017).

Migrant workers bring not only different skills and knowledge to the organization but also a different attitude towards work. In general, they appreciate the opportunity to have a job and do their best to meet the expectations of the employer and management, unconsciously creating a competitive atmosphere among coworkers. Competitiveness in the workplace does not necessarily mean a negative phenomenon. On the contrary, it can lead to higher productivity and better business results. However, at the same time, it can create a feeling of discomfort and uneasiness in some workers. Employees have a strong feeling of competitive anxiety when their tasks are interdependent on one another (Lee, 2020). In some cases, rivalry can be a problem because domestic workers may feel threatened by newcomers. A high level of workplace competition can cause unwanted consequences that can manifest in the lack of desire of employees to share knowledge with coworkers. Some authors believe that competition in the workplace is one of the causes of knowledge hiding. Anand et al. (2020) identified categories of events that lead to knowledge hiding, one of them related to performance and competition. The impact that migrants have on businesses through knowledge sharing is of great importance for many business entities. Therefore, companies often ensure a mix of staff working together to encourage knowledge transfer and added value for the organization. Knowledge sharing elicits and supports the flow of ideas and experiences and helps improve reliability and mutual understanding within an organization (Fait & Sakka, 2020).

Facilitating and managing knowledge sharing is challenging since individuals are not always willing to share (Lam & Lambermont-Ford, 2010). People in an organization blend their experience and learning into knowledge which becomes a strategic resource that requires to be managed effectively (Goswami, Agrawal, & Goswami, 2021). Interactions between individuals, whose education and experiences are different but complementary, provide opportunities for collective learning (Jøranli, 2018). Workers of foreign origin are significant subjects in knowledge transfer, especially where there are some obstacles, such as international borders, economic, cultural, or other barriers (Williams, 2007).

Knowledge hiding can also occur in response to ruined relationships in the organization and the

occurrence of workplace incivility. Workplace incivility can arouse negative emotions, and the victim will respond by engaging in knowledge hiding (Irum, Ghosh, & Pandey, 2020). Organizations should prevent accumulated and exaggerated competition impact workplace discipline and, in some cases, causing conflicts and communication issues. Managing discipline and conflicts has always been challenging. Avoiding conflicts is the simplest and most common management tactic. However, some authors argue that this is not very effective as it may have harmful effects, and prolong and worsen conflicts (Patton, 2020). A diverse workplace with people of different cultural backgrounds may experience conflicts deriving from cultural differences (Brett, 2018) defined by the dignity, face, and honor cultural framework (Leung & Cohen, 2011).

A positive work atmosphere creates the preconditions for pleasant and productive work. Productivity will be higher and work more enjoyable in an environment that encourages and supports initiative and creativity. Newcomers usually have a different approach to looking at things and solving problems than existing workers (Malik & Manroop, 2017). Workers with diverse perspectives develop new ideas and business solutions and thus contribute to the innovation process within the company. The more diverse the workforce, the higher the chances for greater creativity. "The higher usage of HR development practices goes along with the higher level of organizational innovative performance" (Berber & Lekovic, 2018). Innovation is essential for businesses. New jobs, and company expansion and development, are created by translating innovations into new products and services and bringing new approaches to problem-solving and decision making. This may be useful for companies operating in developing countries since some studies point out a positive causal link between innovation and migration inflows (Aldieri, Kotsemir, & Vinci, 2020). Migrants bring their competencies, work practices, and personal networks to both, their home and host countries. These three serve in direct support of innovation (Herstad, Sandven, & Ebersberger, 2015). Migrants' connections are unique and valuable assets. Companies benefit from those connections when expanding and creating new consumer markets for products or services. When migrants return to their homes they build networks that help the companies internationalize, and often they become official and authorized representatives in

their country. They are involved in the social and political affairs of the home countries and may reinforce the home country's innovative capacity via scientific, technological, and cultural exchanges (Gevorkyan, 2015).

2. Research questions and methodology

According to the above said, the following research questions were formulated:

RQ1. How challenging is the process of recruiting the new workforce?

RQ2. To what extent is it difficult to socialize and integrate newcomers?

RQ3. How complex is it to encourage training and development?

RQ4. To what extent do managers find it hard to manage regular daily workplace operations?

RQ5. How complicated is it to foster innovation?

To prepare an adequate questionnaire for research, the first phase consisted of interviewing the managers and examining their challenges when employing and managing the migrant workforce. Based on the experience and recommendations of 12 company managers, the 18 most common issues are grouped into five sections: 1. Recruitment (RE): skills, experience, and language; 2. Socialization and integration (SI): cultural differences, stereotyping, and emotional suffering, fear and isolation; 3. Training and development (TD): learning, application of newly acquired skills, and career development; 4. Workplace operations (WO): workplace performance, workplace motivation, workplace competition, maintaining discipline, knowledge sharing, and communication; and 5. Innovation (IN): creating new products and services, creating new approaches to problem-solving and decision making, and building networks and internationalization. Those questions are incorporated into a survey, and a five-point Likert scale was used (1=Strongly disagree, 5=Strongly agree) to allow the respondents to express how much they agree or disagree with a particular statement.

The research was conducted in ten European geographically connected countries: five EU member states (Bulgaria, Croatia, Greece, Romania, and Slovenia) and five non-EU member states (Albania, Bosnia and Herzegovina, Montenegro, North Macedonia, and Serbia).

A minimum quota was set on the number of migrant workers in the company: 2+ workers for

micro-enterprises (< 10), 5+ for small enterprises (< 50), 15+ for medium (< 250), and 25+ for large companies (> 250). The invitation to participate in the online survey (a link with an online form with all fields mandatory), respecting the given quota, was sent to 64,519 managers drawn from the EUMMAS database and the authors' LinkedIn profiles. The following industries were offered in the survey: Agriculture; Basic metal production; Chemical industries; Sales; Construction; Financial services; Health care and social assistance; Food processing; IT and Telecommunications; Forestry, wood, pulp and paper; Hospitality and tourism; Mechanical and electrical engineering; Textiles, clothing, leather, footwear; and Transport and logistics, as well as the option "Other".

3. Findings and discussion

A total of 1,127 responses were received from managers from ten European countries: Romania (19,1%), Slovenia (17,7%), Serbia (13,9%), Bulgaria (10,9%), Greece (9,9%), Croatia (9,2%), Bosnia and Herzegovina (8,3%), Montenegro (4,0%), North Macedonia (4,2%), and Albania (2,8%).

Most responses were from the Construction industry (30.1%) followed by Hospitality and tourism (12.2%), Transport and logistics (8.4%), IT and Telecommunications (8.2%), Mechanical and electrical engineering (6.3%), Food processing (5.9%), Agriculture (5.7%), Forestry, wood, pulp and paper (3.9%), Basic metal production (3.7%), Health Care and Social Assistance (3.3%), Chemical industries (2.8%), Sales (2.6%); Financial services (2.0%), and Textiles, clothing, leather, footwear (1.4%). The remaining 3.5% of the respondents selected the option "Other" for their industry.

RQ1. How challenging is the process of recruiting the new workforce?

For the purpose of this research, low-skilled jobs are defined as low-wage jobs/positions regardless of the educational background and/or work experience of the incumbent, or jobs/positions that require workers to have no more than a secondary school diploma and less than a year of job-related work experience. Data show that 53.9% of the workforce that was recruited were low-skilled workers based on this definition. Unlike *Skills* and *Experience*, the vast majority of the managers agree that *Language* was a challenging issue in the recruitment process (Table 1).

Table 1 Survey Questions and Responses: Recruitment

		RE1. The process of Recruitment of new workforce is challenging in terms of Skills.		RE2. The process of Recruitment of new workforce is challenging in terms of Experience.		RE3. The process of Recruitment of a new workforce is challenging in terms of Language.	
		Frequency	Percent	Frequency	Percent	Frequency	Percent
Valid	Strongly Disagree	86	7.6	220	19.5	80	7.1
	Disagree	380	33.7	311	27.6	154	13.7
	Neutral	224	19.9	103	9.1	175	15.5
	Agree	248	22.0	291	25.8	528	46.9
	Strongly Agree	189	16.8	202	17.9	190	16.9
	Total	1127	100.0	1127	100.0	1127	100.0

Source: the authors' research

All twelve managers who were interviewed in the process of identifying possible challenges stated that the current level of language proficiency was generally too low. Acquiring a foreign language is a time-consuming process. It is not always about what is said but also how, when, and in what situation and context. Lack of technical language is an additional obstacle. The newcomers' communication problems may happen due to poor vocabulary, and unfamiliarity with conversation topics (Cheng, Im, Doe, & Roy Douglas, 2021).

RQ2. To what extent is it difficult to socialize and integrate newcomers?

The international career help employees improve their language and business skills, knowledge, cultural adaptability, international teamwork skills, creativity, etc. (Berber & Lekovic, 2018). Cultural differences contribute to workforce conflict and to the challenge of

managing it (Brett, 2018). Managers, generally speaking, find it challenging to manage cultural differences. One reason for that is the fact that some of them have not undergone any appropriate training. Mandatory cultural training will help newcomers feel more comfortable and develop a positive attitude toward their colleagues (Malik & Manroop, 2017). In organizations with a low level of workforce diversity and internationalization, all employees, including managers, need to attend at least some training programs. Organizations must provide cultural training to equip, develop, and empower their immediate managers (Faaliyat, Townsend, Peetz, & Ressia, 2020). Their own culture is another reason why they fail. People, in general, try to understand someone else's culture by comparing it to their own. More than 56% of respondents expressed a high degree of agreement with the claim that it is difficult to manage the *Cultural difference* (Table 2).

Table 2 Survey Questions and Responses: Socialization and Integration

		S11. It is difficult to manage Cultural differences.		S12. It is difficult to prevent Stereotyping.		S13. It is difficult to eliminate Emotional suffering, fear and isolation.	
		Frequency	Percent	Frequency	Percent	Frequency	Percent
Valid	Strongly Disagree	62	5.5	89	7,9	72	6.4
	Disagree	182	16.1	428	38,0	142	12.6
	Neutral	249	22.1	480	42,6	143	12.7
	Agree	568	50.4	96	8,5	431	38.2
	Strongly Agree	66	5.9	34	3,0	339	30.1
	Total	1127	100.0	1127	100,0	1127	100.0

Source: the authors' research

However, one of the items in the survey referred to the origin of the respondents and 14.6% of them declared themselves as foreigners. The majority of them, more than 84%, disagreed with the *Cultural difference* statement (Table 3). The result in terms of *Emotional suffering, fear, and isolation* is also similar. The personal experience

of migrant managers helps to overcome problems such as *Emotional suffering, fear, and isolation*. On the other side, neither managers of domestic (45.5%) nor foreign (47.5%) origin find it difficult to prevent *Stereotyping*, and their responses are similar.

Table 3 Survey Questions and Responses: It is difficult to manage Cultural differences – Cross-tabulation

		SI1. It is difficult to manage Cultural differences.					Total
		Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Please select your type of origin.	Domestic	30	75	237	558	63	963
	Foreign	32	107	12	10	3	164
Total		62	182	249	568	66	1127

Source: the authors' research

RQ3. How complex is it to encourage training and development?

A complex cultural environment may have an impact on the knowledge management process (Goswami, Agrawal, & Goswami, 2021). Learning may be very challenging and complex. It requires a great commitment from organizations, managers, and employees. In a diverse workplace, it may face a number of obstacles. Learning and development are limited because learning in the workplace is

complex, considering the social, cultural and other barriers that influence learning (Billett & Choy, 2013). Managers find it complex to encourage the process of *Learning* and motivate *Career development* (Table 4). When there is a high rate of turnover, and when a great proportion of the workforce is low-skilled it is hard to encourage learning, and motivate employees to work on their personal career development.

Table 4 Survey Questions and Responses: Training and Development

		TD1. It is complex to encourage the process of Learning.		TD2. It is complex to encourage the Application of newly acquired skills.		TD3. It is complex to motivate Career development.	
		Frequency	Percent	Frequency	Percent	Frequency	Percent
Valid	Strongly Disagree	41	3.6	78	6.9	20	1.8
	Disagree	71	6.3	183	16.2	33	2.9
	Neutral	196	17.4	680	60.3	177	15.7
	Agree	490	43.5	147	13.0	746	66.2
	Strongly Agree	329	29.2	39	3.5	151	13.4
	Total	1127	100.0	1127	100.0	1127	100.0

Source: the authors' research

The majority of migrant workforce do not stay long with their companies (Table 5). Turnover and succession planning help companies reduce the costs related to recruitment, selection, orientation, and socialization. Human resources planning improves the regular workplace operations, enhances employee loyalty, and improves engagement and morale. It creates a diverse pool of skilled and talented individuals within the

organization and increases job security while developing individual skills (Ali & Mehreen, 2019). Reduced turnover results in greater employee commitment to career development and the learning process, and would ultimately improve the *Application of acquired skills*. Learning does not happen by itself. It must be planned, stimulated, and directed.

Table 5 Survey Questions and Responses: Training and Development

		D9. How long do Migrant workers stay with your company?	
		Frequency	Percent
Valid	Less than one year	241	21.4
	Between one and three years	795	70.5
	More than three years	91	8.1
	Total	1127	100.0

Source: the authors' research

RQ4. To what extent do managers find it hard to manage regular daily Workplace Operations?

Motivation is an important workplace mechanism, and motivating employees constitutes

a noticeable challenge in contemporary organizations (Reizer, Brender-Ilan, & Sheaffer, 2019). The level of motivation will, in general, affect employee performance. Employee

performance can be improved if employees' job satisfaction is taken into account (Hendri, 2019). The organization must create a supportive workplace to meet employees' expectations and motivate them. A supportive workplace affects employees' motivation and job satisfaction (Tran, Thi Vinh Hien, & Baker, 2021). On the other side, a toxic workplace atmosphere and abusive management practices are negatively associated with employees' job performance and positively associated with employees' turnover intentions (Tariq & Ding, 2018). Our research shows that managers do not find it challenging to influence *Workplace performance*, *motivate employees*, and *maintain discipline* (Table 6). On the other side, managing effective *Communication*, controlling *Workplace competition*, and encouraging *Knowledge sharing* is considered to be hard tasks. Communication issues may occur since the majority are low-skilled workers. Communication with migrant workers is a great challenge, particularly in companies that employ low-skilled

workers (Hopkins, 2012). Knowledge hiding, as already stated, can be caused by workplace competition. Riege (2005) identifies the following barriers to knowledge sharing: at an individual or employee level (lack of communication skills and social networks, differences in national culture, overemphasis on position statuses, and a lack of time and trust), at an organizational level (the economic viability, lack of infrastructure and resources, the accessibility of formal and informal meeting spaces, and the physical environment), and at a technology level (unwillingness to use applications, unrealistic expectations of IT systems, and difficulties in building, integrating and modifying technology-based systems). Knowledge hiding does not only occur horizontally between coworkers but vertically as well, due to a lack of personal relationships, especially when the senior manager and their reporting manager come from different cultural backgrounds (Butt & Ahmad, 2019).

Table 6 Survey Questions and Responses: Workplace Operations

		WO1. I find it hard to influence Workplace performance.		WO2. I find it hard to manage effective Communication.		WO3. I find it hard to Motivate.	
		Frequency	Percent	Frequency	Percent	Frequency	Percent
Valid	Strongly Disagree	374	33.2	109	9.7	209	18.5
	Disagree	442	39.2	155	13.8	540	47.9
	Neutral	200	17.7	209	18.5	246	21.8
	Agree	84	7.5	310	27.5	88	7.8
	Strongly Agree	27	2.4	344	30.5	44	3.9
	Total	1127	100.0	1127	100.0	1127	100.0

cont.

		WO4. I find it hard to control Workplace competition.		WO5. I find it hard to Maintain discipline.		WO6. I find it hard to encourage Knowledge sharing.	
		Frequency	Percent	Frequency	Percent	Frequency	Percent
Valid	Strongly Disagree	18	1.6	393	34.9	24	2.1
	Disagree	180	16.0	504	44.7	41	3.6
	Neutral	431	38.2	154	13.7	204	18.1
	Agree	371	32.9	41	3.6	517	45.9
	Strongly Agree	127	11.3	35	3.1	341	30.3
	Total	1127	100.0	1127	100.0	1127	100.0

Source: the authors' research

RQ5. How complicated is it to foster innovation?

Human resources management practices encourage employee involvement and engagement and foster a favorable perception of an organizational climate focused on innovation (Palumbo, Manesh, Pellegrini, & Flamini, 2022). Participation in decision-making encourages employees to take on more responsibilities, learn a wider range of skills, and have a greater level of communication skills (Goñi-Legaz & Ollo-López,

2017). Managers find it more complicated to foster the Innovation process in terms of *Creating new approaches to problem-solving and decision making*, than *Creating new products and services* (Table 7). This can be partly understood through the prism of skills and qualifications because decision-making is often linked to a highly-skilled workforce. Participation in decision-making may be viewed as an extra workload and can generate negative attitudes toward employees (Goñi-Legaz

& Ollo-López, 2017). In addition to skills and qualifications, another reason lies in the fact that the degree of fluctuation is relatively high. This can mean either a low level of job satisfaction or a limited and short contract period. *Building networks and internationalization* is significant for companies wishing to expand their business beyond national borders. They sometimes do this to bring their products or services closer to customers and clients in other markets, and sometimes to gain logistical support and people

whose knowledge and skills can improve the organization's business, especially in the area of innovation. Building networks and internationalization is inevitable in cases when a company cannot obtain a profile of workers necessary for innovation, or when people with specific skills are expensive or not available (Kerr & Kerr, 2018). Internationalization requires skills, previous connections, entrepreneurial spirit, and experience. Our results do not show a very high interest in this activity with migrant workers.

Table 7 Survey Questions and Responses: Innovation

		IN1. It is complicated to foster the Innovation process in terms of Creating new products and services.		IN2. It is complicated to foster the Innovation process in terms of Creating new approaches to problem-solving and decision making.		IN3. It is complicated to foster the Innovation process in terms of Building networks and internationalization.	
		Frequency	Percent	Frequency	Percent	Frequency	Percent
Valid	Strongly Disagree	245	21.7	130	11.5	91	8.1
	Disagree	371	32.9	105	9.3	102	9.1
	Neutral	412	36.6	276	24.5	116	10.3
	Agree	65	5.8	332	29.5	594	52.7
	Strongly Agree	34	3.0	284	25.2	224	19.9
	Total	1127	100.0	1127	100.0	1127	100.0

Source: the authors' research

Conclusion

The study aimed to reveal challenges that managers face in managing migrant workers. *Language; Cultural differences; Emotional suffering, fear and isolation; Learning; Career development; Communication; Workplace competition; Knowledge sharing; Creating new approaches to problem-solving and decision making; and Building networks and internationalization* seem to be major obstacles in managing the migrant workforce. In addition, the research reveals the impact of the managers' background on most of the management processes including most of the aforementioned challenges. This becomes obvious starting with the recruitment process and language issues, then socialization, communication, cultural issues, etc. Companies can try to compensate for the diversity of management in terms of the supervisor's background, for example, with quality cultural or language training. However, future research should provide an answer to the question of whether such a measure can be adequate. In addition, learning and knowledge sharing are, as a rule, replaced by knowledge hiding in organizations with a high turnover rate. Tables 4 and 5 show that in organizations with a high turnover rate, it is difficult to encourage learning. As the majority of

migrant workforces do not stay long in their companies, this implies that turnover and succession planning in such companies needs to be improved to reduce costs related to recruitment, selection, orientation, and socialization.

Study limitations and future research directions

There are several limitations related to this study resulting mainly from the design, approach and methodology employed. Firstly, the number of respondents should be larger in any future research if we are talking about a phenomenon that should generalize certain questions. Secondly, it is necessary to take into account the fact that age and gender greatly influence the issues that this study deals with, and that in the following work we should also focus on this specificity of the respondents according to certain variables. Third, each research question can represent a broad enough basis for independent research, so this work opens up the possibility for numerous researches that can be treated as a continuation and expansion of the existing work. Also, it could represent an input study for further research concerning migrant workers and workforce integration in European companies and business environment.

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Creating effective brand names with sound symbolic mappings

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Abstract

Background: The present study was designed to investigate the use of sound symbolic mappings in fictitious brand names. Sound symbolic mappings refer to the existence of a nonarbitrary relationship between individual sounds and associations of different attributes and concepts. Given that sounds have inherent meaning in them, brand names in line with the established symbolic effects could communicate tailored messages that are congruent with consumer expectations of a product.

Purpose: As perceived congruency between a product and its label is highly desirable in marketing, the study sets out to test the noted effects in brand names. It was aimed to confirm the strength of sound symbolic effects through greater preference for names with a symbolic fit with the product.

Study design/methodology/approach: Two product categories were chosen, and a set of fictitious brand names were created. The names differed only on the sounds purported to convey targeted symbolic associations of salient product characteristics. The participants were presented with a forced choice task consisting of paired name samples and a stated product category for each pair.

Finding/conclusions: The results confirmed the presence of sound symbolic effects as participants favoured the names with embedded symbolism. This leads to a conclusion that sound symbolism may be used to affect consumer choices based on brand name preference.

Limitations/future research: Even though the study included only two products and used forced choice tasks limited on name pairs, the findings clearly imply the potential of sound symbolic mappings in creating efficient brand names. Broadening the research to other products and the service sector would surely deliver intriguing results.

Keywords

Sound symbolism, linguistic iconicity, marketing, brand names, product-name congruency

Introduction

Creating a new brand or product name is an integral part of an elaborate set of marketing activities surrounding a new launch. It is a complex task that needs to be addressed with much consideration as choosing the “right” name may have a substantial effect on marketing related variables of recall, preference, and inference. (Preziosi & Coane, 2017; Lowrey, Shrum & Dubitsky, 2003). Any brand name is a form of linguistically coded marketing communication and as such is typically expected to deliver a twofold result: to carry on some salient information about the product and to

trigger recall (Preziosi & Coane, 2017). A linguistic field of phonetic symbolism appears to offer some practical guidelines to marketers when creating a name that would affect consumers in an intended way. The basic assumption that underlies the research within phonetic symbolism is that not only words, but mere sounds may convey meaning. Such a proposal breaks away from the traditional linguistic account that morphemes are the smallest meaningful units of language, and that individual sounds, even though they distinguish meaning in language, do not have a semantic component themselves. The idea of nonarbitrary relationship between sound and meaning dates all the way back

to Plato, and the debate on its validity has continued to modern times (Lowrey & Shrum, 2007). Although the proposal of a systematic sound-meaning relationship has been considered controversial at times, the accumulated body of scientific research has reported results that strongly support the theory (e.g., Sapir, 1929; Newman, 1933; French, 1977; Klink, 2000). Regarding marketers' practice, such linguistic insights could present a useful resource to consider when naming a brand. The intersection of linguistic and marketing research has already delivered intriguing results suggesting that brand names created in line with the established effects of sound symbolism may affect brand perception and liking to a degree that surpasses coincidence (Klink, 2000; Yorkston & Menon, 2004; Lowrey & Shrum, 2007).

1. Phonetic symbolism

Proponents of phonetic symbolism argue that distinct units of sound, i.e. phonemes, have inherent meaning, in the sense that individual sounds have been brought in connection with a number of different sensory perceptions (e.g., Newman, 1933; French, 1977). As research in the field has shown, this applies to both vowel and consonant sounds. Most notably, scientifically established associations conveyed by different sounds are those relating to the perceived size, shape, colour, and gender. However, these categories should be understood as broad dimensions since the respective perceptions typically lean toward one of the poles on an individual dimension. As a result, size related perceptions come down to associations of smaller or larger objects; shapes tend to divide into round or more angular objects; colours should be interpreted in terms of relative brightness or darkness; and gender as perceptions relating to more feminine or masculine associations.

An issue that needs to be addressed at this point is that although there have been attempts to provide scientific support of phonetic symbolism effects in words with already established meanings (e.g., Jespersen, 1922; Brown, 1958; Johnson, 1967; Winter & Perlman, 2021), uniformity of the effects across languages has not been confirmed. On the other hand, investigations based on participant responses to pronounceable letter strings with no actual meaning have continually reported results favouring the noted effects (e.g., Sapir, 1929; Newman, 1933; Folkins & Lenrow, 1966; Klink, 2000; Thompson & Estes, 2011; Preziosi & Coane,

2017). The reason for this could be that the use of nonwords leads the participants to rely on cues away from the confounds of word-meaning pairings of natural words. As an alternative, they base their inferences on physical properties of phonemes, typically from the articulatory (how they are made) and acoustic (how they are transmitted) perspective. These, for example, include the size of the oral cavity used in pronunciation or the frequency of vocalic resonance (Newman, 1933; Thompson & Estes, 2011).

Even though direct inferences made from individual phonemes are relatively vague perceptions, they evoke further entailments based on experience with the physical-social world. Accordingly, sounds that indicate smallness have also been identified to create associations of lesser weight, speed, lighter colours, thinness, weakness, coldness, and femininity (Klink, 2000).

Regarding the actual phonemes and their purported meanings, high front vowels such as /i/ or /e/, which are articulated with high position of the tongue within the mouth, high frequency of vocalic resonance as measured acoustically, and decreased size of the oral cavity during pronunciation, have been repeatedly associated with qualities of smallness, light weight, sharpness, speed, psychological closeness, and femininity. On the other hand, back vowels such as /a/, /o/, and /u/, which are articulated with low position of the tongue, lower pitch, and greater size of the oral cavity during pronunciation, have been brought in connection with concepts that are slow, dull, large, psychologically distant, and more masculine (Klink, 2000; Maglio, Rabaglia, Feder, Krehm & Trope, 2014; Winter & Perlman, 2021).

In the same vein, sound symbolic perceptions of shape, based on the shape of the mouth during production, suggest that 'large-sounding' vowels are also those associated with round shapes whereas 'small-sounding' vowels are typically linked to more angular shapes (Knoeferle, Li, Maggioni & Spence, 2017).

Another sound-meaning mapping reported on is that of dark versus bright symbolism (Newman, 1933; Klink, 2003; Hirata, Ukita & Kita, 2011). The results read that the vowels conveying associations of largeness also relate to the symbolic judgement of darkness, and that the vowels indicating smallness are also associated with lighter colours. The established pattern appears to be based on articulatory and frequency criteria and that the factor of size-of-mouth opening, relevant

on the size dimension, does not play a role in this case (Newman, 1933).

Consonants have been reported to produce similar effects. With regard to size judgements, dental consonants, which are articulated with the tongue against the upper teeth such as /t/, /d/ or /n/, seem to 'sound' smaller than labials, in which lips are the active articulator such as /p/, /b/ or /m/, which, in turn, are generally considered to have smaller referents than velar consonants, made with the back of the tongue against the soft palate such as /k/ or /g/ (Newman, 1933). Similarly, voiced consonants, those produced with the vibration of the vocal cords and hence having more acoustic body, are associated with larger objects, and their voiceless counterparts are typically perceived to have smaller referents (Monaghan & Fletcher, 2019). The quality of voicing has also proven to figure in relative judgements on the soft versus harsh dimension where the presence of vocal cord vibration is perceived as relating to harshness whereas the absence of it is considered to relate to the attribute of softness (Pathak, Calvert & Lim, 2020)

In scaling the relative darkness of consonants, the pattern appears to be reverse to the one found in vowels. The sequence from bright to dark this time starts with palatal consonants, which are large and bright, continues with labials, and lands on dentals, which are small but dark (Newman, 1933). The phonetic quality of voicing has also proven to factor in bright-to-dark judgements, where voiced consonants are perceived as darker than voiceless (Newman, 1933; Klink, 2000). Also, apart from being perceived as having smaller referents and of a lighter colour, voiceless consonants are generally considered to convey the attributes of sharpness and lesser potency (Lowrey & Shrum, 2007).

In terms of shape, voiceless plosives, sounds produced with a complete closure made by the articulators before the airstream is released from the mouth, and without vibration of the vocal cords as in /p/, /t/, and /k/, are frequently associated with angular shapes (Maurer, Pathman & Mondloch, 2006; Aveyard, 2012). In the same line, voiced bilabials /b/ and /m/ are commonly perceived to have round referents as well as certain other voiced consonants such as a nasal /n/ and a liquid /l/ (Maurer, Pathman & Mondloch, 2006; Nielsen & Rendall, 2013; Preziosi & Coane, 2017; Westbury, Hollis, Sidhu & Pexman, 2018). Even though vowels have also been identified to affect symbolic judgements of shape, the effect seems to be stronger for consonants (Nielsen & Rendall, 2013).

Along the research line of sharp versus round effects, it has been noted that sharp sounds are also associated with masculinity, while round sounds carry the connotations of femininity (Sidhu & Pexman, 2015; Monaghan & Fletcher, 2019).

Research in the field has also included the comparison of symbolic effects of plosives and fricatives. Fricatives are produced with only partial occlusion within the mouth, which causes friction of the air stream against the articulators and makes the release of the air from the mouth less sudden than with stop sounds. It has been shown that fricative sounds, such as /f/, /v/ or /s/, are symbolically judged as smaller, lighter, and faster than plosives (Klink, 2000).

2. Sound symbolic associations and brand names

Investigations on the utility of sound symbolism in brand naming have been an appealing research avenue for marketers due to obvious reasons. Given that individual sounds can convey meaning, brand names may be intentionally created to maximize the fit between a product's most salient characteristic(s) and its label. The noted congruence between product attributes and product name is desirable as it is generally considered to enhance brand perception and preference through differentiation and memorability. In other words, it may positively affect overall brand success (Preziosi & Coane, 2017; Jun & Lee, 2020).

As already noted, sound-meaning mappings apply best in artificial words where there is no interplay between a pre-existing semantic representation and an intended effect (Lowrey & Shrum, 2007). Therefore, most studies focusing on sound symbolic effects in brand names use artificial words as stimuli. A related important benefit of purposefully made-up words is that, due to their uniqueness, they may lead to stronger brand-name associations and better recall (Preziosi & Coane, 2017).

Research on product-name congruence based on phonetic symbolism offers other promising findings of practical interest to marketers. It has been shown that brand names with embedded sound symbolism are liked better and are positioned better in consumer minds (Klink, 2001; Yorkston & Menon, 2004). The noted effects in brand names have also been tested regarding the potential of certain vowels (front versus back), and consonants (plosives versus fricatives) to communicate different product characteristics. The results indicate that symbolic effects may hold for

a whole array of product attributes such as smallness, lightness (both relative to darkness and heaviness), mildness, thinness, bitterness, softness, speed, coldness, femininity, friendliness, weakness, prettiness, and sharpness (Klink, 2000; Jun & Lee, 2020).

Similar marketing related investigations have manipulated the symbolic effect of gender and brand name responses, probing into the possibility of directing phonetic symbolism toward target marketing (Klink, 2009; Wu, Klink & Guo, 2013). Findings of these studies are suggestive of women responding more favourably to brand names containing front vowels and men having more favourable responses to names with back vowels (Klink, 2009). The same variable was shown to factor in building brand personality when gender is considered a desirable element of the construct (Wu, Klink & Guo, 2013). The effect was seen in brand name preference when the name was created in congruency with the brand's targeted gender. Further manipulations of the gender dimension and its stereotypical extensions are seen in studies reporting that phonetic symbolism effects of back vowels may be used to create a *ruggedness* brand personality, and *sophistication* brand personality with front vowels in brand names (Klink & Athaide, 2012).

3. Methods

The present study was designed to test brand name preference based on sound symbolic effects. It was aimed to check for the effect of product-name congruency and gender-name congruency in brand names. For the purpose of the study, two types of products were chosen: body wash and razors. The reason for this choice of products was that they can be easily divided along the round versus sharp dimension according to their salient attributes. With relevance to the same dimension, research suggests that these polar adjectives are also typically brought in connection with other sensory perceptions, in the sense that sharp sounds are also perceived as hard and those that are round sounding are generally recognized as soft sounds (Aveyard, 2012). So, it was assumed that body wash would be associated with round and soft qualities and razors with sharp and hard qualities. Another reason that led the product selection was that neither of the items necessarily needs to be labelled as gender exclusive as they are typically used by both genders in a similar way and for similar reasons. As such, they may be considered

gender neutral and an adequate option to test the effect of gender congruency in brand names.

Study participants were 119 students (54 male and 65 female) at the Faculty of Economics in Subotica. They were introduced into the study under the scenario that a company is preparing a launch and that they are in the process of deciding on the names for two products. For each product, study participants were given three sets of fictitious brand names with each set consisting of two names. The task was to choose one name in each set they found more appropriate for the product. In the first pair of names to choose from, only the product was stated with no additional description, and in the second and third pair a description was added which read "specifically designed for you gender". For results calculation purposes, each participant was told to mark their gender.

Six fictitious names were created to test the targeted effects. In the first pair, for both products the options were *kutu* and *mubu*. The pair was composed to test the effect of product congruency. Accordingly, the consonants included in the first pair were either those associated with sharp (/k/ and /t/) or round shapes (/m/ and /b/). As the effects on this dimension are considered stronger for consonants, the vowel /u/ was decided on as it is not identified to figure in relative judgements of gender. Based on previous research, it was expected that the frequency of *kutu* would be higher for razors and that *mubu* would be a more favourable option for body wash with both genders. Two more pairs of names, a different pair for each product category, were made to test the additional effect of gender congruency.

For body wash, the naming options were *mebe* and *maba*. Both nonwords contained round sounding consonants /m/ and /b/ to ensure product congruency, and the vowels were chosen according to their symbolic associations of femininity (front vowel /e/) and masculinity (back vowel /a/). In previous studies, the most typical conveyers of female versus male relative judgements were the vowels /i/ and /o/ respectively, but to circumvent the possible perception of /i/ as a sharp and /o/ as a round sound, other front and back vowels (/e/ and /a/) were chosen instead. It was expected that females would favour the name with a front vowel and males the name with a back vowel.

For razors, product name options were *teke* and *taka*. This time, the conveyers of product congruency were sharp consonants /t/ and /k/ and the vowels /e/ and /a/ were chosen for the same reason as in body wash names. It was expected that

female participants would respond more favourably to the name with the vowel /e/ and males to the name containing the vowel /a/.

To calculate the results and compare them with the expectations listed above descriptive statistics was used to show proportions of participant choices; Cronbach's alpha was used to check for internal consistency; χ^2 (chi-square) test was used to investigate difference between proportions (see more: Black, 2012); and for the implementation of χ^2 (chi-square) test with significance level of 0.05, statistical software IBM SPSS version 23 was used (see more: Davis, 2013).

4. Results

The study was designed to test brand name preference based on phonetic symbolism at two levels. The first step was to detect potential brand name preference depending on the perceived congruency between product characteristics and its name. Figure 1 shows descriptive statistics results relating to participant brand name preference depending on product category.

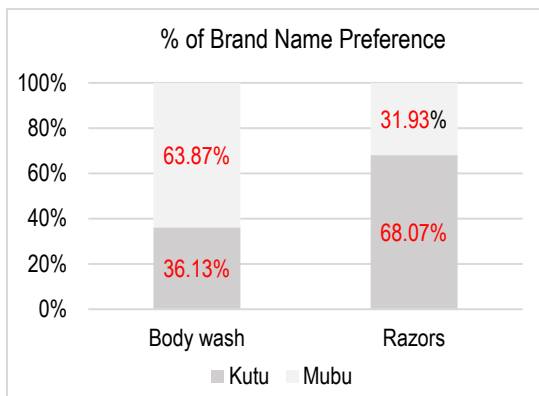


Figure 1 sharp vs round consonants for body wash and razors
Source: the author's illustration

As can be seen in Figure 1, for both product categories, the name with embedded symbolism was preferred. The option with sharp sounding consonants /k/ and /t/ was a more favourable name for razors, and round sounding consonants /m/ and /b/ were the preferred option for body wash.

The result of Cronbach's alpha was 0,780, which is a high value for alpha and does not imply that the measure is unidimensional.

To check for the statistical relevance of the obtained data, χ^2 (chi-square) test was applied. As expected, the results implicate that the effect of phonetic symbolism is statistically significant ($p < 0.05$) as shown in Table 1.

Table 1 Results of χ^2 (chi-square) for consonant-based preference

	Value	Df	Asymptotic Significance (2-sided) p	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	24.31	1	.000		
Continuity Correct.	23.04	1	.000		
Likelihood Ratio	24.74	1	.000		
Fisher's Exact Test				.000	.000

Source: the author's calculation

In the second phase of the research, the sound symbolic effect of gender was aimed at. To test the intended effect, for each product category the consonants from the first phase were kept, to ensure product congruency, and vowels were manipulated to check for symbolic associations of femininity (the vowel /e/) and masculinity (the vowel /a/). To make the participants take a gendered perspective on the choice, a product description was added: 'specifically designed for your gender'. Descriptive statistics for participant choices for a body wash name is given in Figure 2.

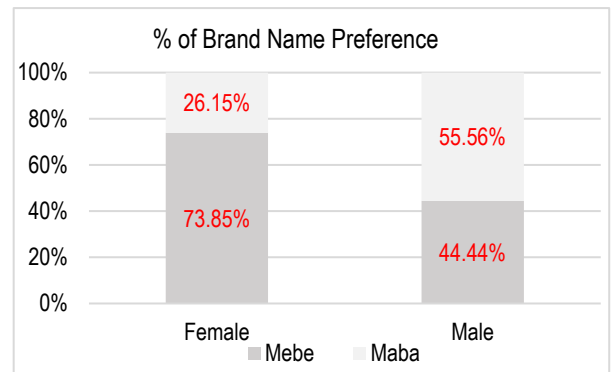


Figure 2 front vs back vowels for gender targeting body wash
Source: the author's illustration

Research data presented in Figure 2 suggest that names of products that target a specific gender are preferred if there is a perceived gender congruency embedded. As the results show, both males and females opted for a body wash name that contained the vowel associated with their own gender more often than when the vowel conveyed connotations of the opposite gender. Interestingly, in the case of male participants, the choice of a body wash name with the gender congruent vowel was not as frequent as was the case in the group of females. A possible explanation for this could be that the

product category of body wash may be associated with attributes similar to those of stereotypical femininity, such as softness and tenderness. This would mean that some of the male choices were once again guided by product expectations, i.e. product congruency, in their relative symbolic judgements of the vowels included in brand names.

When Cronbach’s alpha was used for this set, the obtained high value result (0.885) does not imply a unidimensional measure.

Statistical significance of the data was confirmed by χ^2 (chi-square) test, the results of which are given in Table 2. As suggested by the results, sound symbolic effects of gender in brand names may significantly affect brand name preference.

Table 2 Results of χ^2 (chi-square) for gendered vowel-based preference in body wash names

	Value	Df	Asymptotic Significance (2-sided) p	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	10.67	1	.001		
Continuity Correct.	9.47	1	.002		
Likelihood Ratio	10.78	1	.001		
Fisher’s Exact Test				.001	.001

Source: the author’s calculation

The same approach in data collection was taken in the case of razors, the consonants symbolically suggestive of sharpness, /k/ and /t/, were retained while a front vowel /e/, and a back vowel /a/ were meant to symbolically signal gender. The additional description was used again. Descriptive statistics for this product category is given in Figure 3.

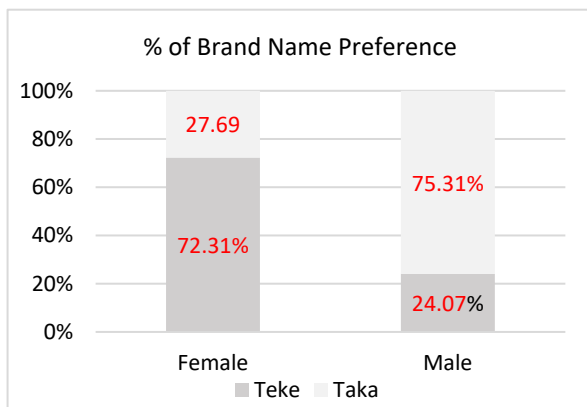


Figure 3 front vs back vowels for gender-targeting razors
Source: the author’s illustration

Results given in Figure 3 imply that the participants favoured the product name containing the vowel that conveys sound symbolic congruency with their own gender. Female participants preferred the name with the front vowel /e/ and the males’ preferred choice was the name with the back vowel /a/.

After Cronbach alpha was applied, another high value result (0,776) suggests that the measure was not unidimensional.

The results were once again checked for statistical validity by the means of χ^2 (chi-square) test. The results are given in Table 3 and are indicative of statistical significance with $p < 0.05$.

Table 3 Results of χ^2 (chi-square) for gendered vowel-based preference in razor names

	Value	df	Asymptotic Significance (2-sided) p	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	27.45	1	.000		
Continuity Correct.	25.55	1	.000		
Likelihood Ratio	28.64	1	.000		
Fisher’s Exact Test				.000	.000

Source: the author’s calculation

5. Discussion

The results calculated from the research data confirmed the presence of the effects of phonetic symbolism at all levels of the analysis. It may be assumed that the perceptions of congruency between salient product characteristics and sound symbolic meanings resulted in general preference for the names created in line with the established symbolic mappings. In the first part of the experiment, this was achieved using sharp sounding consonants /k/ and /t/ in product names for razors and round sounding consonants /b/ and /m/ in the names for body wash. A significant difference in proportion of participant choices between names with, and without embedded sound symbolism supports the use of symbolic effects on sharp versus round dimension to achieve product-name congruency and hence brand name preference. Similar results were obtained when gender was introduced as a prominent product attribute. Manipulation of vowels and their symbolic associations was used to lay the ground for the relative judgements of gender. The results imply that, for both products, the front vowel /e/

was perceived as congruent with the targeted female market segment, and the back vowel /a/ was perceived as congruent with the targeted male market segment. It may be stated that the congruence between the sound symbolic associations embedded in the preferred product names and the explicitly stated product gender was a significant factor in participant choices.

Conclusion

The study was conducted with an aim to test the purported effects of phonetic symbolism in brand names. The noted effects were investigated from the aspect of congruency between a brand name and product physical characteristics on the one hand, and brand name congruency with the product target gender on the other. The results confirm the presence of symbolic associations on both dimensions and their ability to guide consumer choices. Findings of this study are in line with other investigations of a similar design that used different products and different fictitious labels. A considerable interest in this line of research has been provoked by its potential for practical application. Provided that the choice of individual sounds may provoke symbolic associations of a whole range of physical attributes and abstract concepts, phonetic symbolism could be used as a basis for creation of effective brand names that affect brand perception, brand attitudes, and brand liking (Wu, Klink & Guo, 2013; Lowrey & Shrum, 2007). Given the magnitude of the mentioned variables, the possibilities of sound meaning mappings seem too important to ignore.

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<https://doi.org/10.2753/MTP1069-6679210306>

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Journals paginated by volume begin with page 1 in issue 1, and continue page numbering in issue 2 where issue 1 ended, e.g.

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➔ **Journal article, two authors, paginated by issue**

Dakić, S., & Mijić, K. (2020). Regression analysis of the impact of internal factors on return on assets: A case of meat processing enterprises in Serbia. *Strategic Management*, 25(1), 29–34.
<https://doi.org/10.5937/StraMan2001029D>

➔ **Journal article, two authors, paginated by volume**

Ljubojević, K., & Dimitrijević, M. (2007). Choosing your CRM strategy. *Strategic Management*, 15, 333-349.

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Marić, S., Uzelac, O., & Strugar-Jelača, M. (2019). Ownership structure as a measure of corporate performance. *Strategic Management*, 24(4), 28–37.
<https://doi.org/10.5937/StraMan1904028M>

➔ **Journal article, three to six authors, paginated by volume**

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➔ **Magazine article**

Strakić, F. (2005, October 15). Remembering users with cookies. *IT Review*, 130, 20-21.

➔ **Newsletter article with author**

Dimitrijević, M. (2009, September). MySQL server, writing library files. *Computing News*, 57, 10-12.

➔ **Newsletter article without author**

VBScript with active server pages. (2009, September). *Computing News*, 57, 21-22.

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➔ Book, two authors

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Web user interface (10th ed.). (2003). Subotica: Faculty of Economics.

➔ Group, corporate, or government author

Statistical office of the Republic of Serbia. (1978). *Statistical abstract of the Republic of Serbia*. Belgrade: Ministry of community and social services.

➔ Edited book

Dimitrijević, M., & Tanasijević, V. (Eds.). (2004). *Data warehouse architecture*. Subotica: Faculty of Economics.

➔ Chapter in an edited book

Boškov, T., & Strakić, F. (2008). Bridging the gap: Complex adaptive knowledge management. In T. Boškov, & V. Tanasijević (Eds.), *The enterprise knowledge portal and its architecture* (pp. 55-89). Subotica: Faculty of Economics in Subotica.

➔ **Encyclopedia entry**

Mirković, D. (2006). History and the world of mathematicians. In *The new mathematics encyclopedia* (Vol. 56, pp. 23-45).
Subotica: Faculty of Economics.

C. UNPUBLISHED WORKS

➔ **Paper presented at a meeting or a conference**

Ljubojević, K., Tanasijević, V., Dimitrijević, M. (2003). *Designing a web form without tables*. Paper presented at the annual meeting of the Serbian computer alliance, Beograd.

➔ **Paper or manuscript**

Boškov, T., Strakić, F., Ljubojević, K., Dimitrijević, M., & Perić, O. (2007, May). *First steps in visual basic for applications*.
Unpublished paper, Faculty of Economics Subotica, Subotica.

➔ **Doctoral dissertation**

Strakić, F. (2000). *Managing network services: Managing DNS servers*. Unpublished doctoral dissertation, Faculty of Economics Subotica, Subotica.

➔ **Master's thesis**

Dimitrijević, M. (2003). *Structural modeling: Class and object diagrams*. Unpublished master's thesis, Faculty of Economics Subotica, Subotica.

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Mirković (2001, p. 201), found that “the use of data warehouses may be limited”. What unexpected impact does this have on the range of availability?

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He stated, “The use of data warehouses may be limited,” but he did not fully explain the possible impact (Mirković, 2001, p. 201).

➔ Summary or paraphrase

According to Mirković (1991, p. 201), limitations on the use of databases can be external and software-based, or temporary and even discretion-based.

Limitations on the use of databases can be external and software-based, or temporary and even discretion-based (Mirković, 1991, p. 201).

➤ One author

Boškov (2005) compared the access range...

In an early study of access range (Boškov, 2005), it was found...

➤ When there are **two authors**, both names are always cited:

Another study (Mirković & Boškov, 2006) concluded that...

➤ If there are **three to five authors**, all authors must be cited the first time. For subsequent references, the first author's name will be cited, followed by "et al."

(Jovanov, Boškov, Perić, Boškov, & Strakić, 2004).

In subsequent citations, only the first author's name is used, followed by "et al." in the introductory phrase or in parentheses: According to Jovanov et al. (2004), further occurrences of the phenomenon tend to receive a much wider media coverage.

Further occurrences of the phenomenon tend to receive a much wider media coverage (Jovanov et al., 2004). In "et al.", "et" is not followed by a full stop.

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The first author's last name followed by "et al." is used in the introductory phrase or in parentheses:

Yossarian et al. (2004) argued that...

... not relevant (Yossarian et al., 2001).

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If the work does not have an author, the source is cited by its title in the introductory phrase, or the first 1-2 words are placed in the parentheses. Book and report titles must be italicized or underlined, while titles of articles and chapters are placed in quotation marks:

A similar survey was conducted on a number of organizations employing database managers (Limiting database access, 2005).

If work (such as a newspaper editorial) has no author, the first few words of the title are cited, followed by the year: (The Objectives of Access Delegation, 2007)

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When two or more works are cited parenthetically, they must be cited in the same order as they appear in the reference list, separated by a semicolon.

(Bezjak, 1999; Griffith, 2004)

➔ Two or more works by the same author in the same year

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Bergson's research (as cited in Mirković & Boškov, 2006)...

Here, Mirković & Boškov (2006) will appear in the reference list, while Bergson will not.

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➔ When there is **no publication date**: (Hessenberg, n.d.)

➔ **Page numbers must always be given for quotations:**

(Mirković & Boškov, 2006, p.12)

Mirković & Boškov (2006, p. 12) propose the approach by which “the initial viewpoint...

➔ **Referring to a specific part of a work:**

(Theissen, 2004a, chap. 3) (Keaton, 1997, pp. 85-94)

➔ **Personal communications, including interviews, letters, memos, e-mails, and telephone conversations,** are cited as below. (These are *not* included in the reference list.)

(K. Ljubojević, personal communication, May 5, 2008).

FOOTNOTES AND ENDNOTES

A few footnotes may be necessary when elaborating on an issue raised in the text, adding something that is in indirect connection, or providing supplementary technical information. Footnotes and endnotes are numbered with superscript Arabic numerals at the end of the sentence, like this.¹ Endnotes begin on a separate page, after the end of the text. However, *Strategic Management Programming Board* **does not recommend the use of footnotes or endnotes.**

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