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In a Search for Contemporary Growth Drivers: Does Public Healthcare Entrepreneurship Affect Economic Growth?

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ABSTRACT

Entrepreneurship has been long recognized as an essential driver of economic growth. It is widely accepted that entrepreneurship increases innovation, firm formation, employment, and overall GDP. Despite the increasing research on both public entrepreneurship and entrepreneurship in healthcare, these different research areas have not been combined that much. To fill this research gap, this paper analyses whether public healthcare entrepreneurship influences economic growth. This study exploits the WHO Global Health Observatory database approximating various dimensions of entrepreneurship by specific aspects of compliance with international healthcare regulation. The study uses data for 170 countries from 2010 to 2019. Using the fixed effect panel setting, it tests whether improvements in public healthcare entrepreneurship (PHE) affect a country's economic growth. The results suggest that higher entrepreneurial orientation in public healthcare is associated with larger effects on output per capita, which is channelled through productivity. However, after reaching certain level of PHE development, the contributions to growth start diminishing. The findings from this paper produce several implications. First, by exploring the nexus between public entrepreneurship and healthcare entrepreneurship it introduces the concept of public healthcare entrepreneurship explaining its theoretical and empirical importance. It further provides empirical and quantitative support to the view that developing public healthcare entrepreneurship plays a role in achieving a higher output per effective worker. Thereby, this study provides evidence of a non-linear relationship between public healthcare entrepreneurship and growth. Finally, given the statistical and economic significance of the results, these findings motivate policymakers to consider developing policies that guide developing entrepreneurial orientation within public healthcare. We believe this is possibly the first study that considers entrepreneurial orientation withing a public sector into the economic growth discussion.

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1. Introduction

Since the outbreak of Covid-19 in 2020, the world has entered a period of economic slowdown, or even downturn. The last three years were mainly characterized by lower growth across all the countries worldwide, and given the current geopolitical situation, the growth forecasts are unsurprisingly utterly pessimistic. This calls for revisiting growth models in a search for new drivers. In this light, this paper seeks to answer *whether entrepreneurial orientation in the public healthcare sector affects economic growth.*

The baseline specification of this paper assumes the Cobb-Douglas production function, with the output being a function of capital, effective labour, and labour-augmenting total factor productivity (TFP). Furthermore, it assumes that public healthcare entrepreneurship (PHE) is productivity augmenting. The intuition behind this is that PHE possibly increases the efficiency and effectiveness of workers. To answer the research question, we estimate the main model using the core specification, which we further extend by analysing different dimensions of PHE. The empirical analysis relies on several datasets combined. We use WHO International Health Regulation (IHR) data for constructing proxies for entrepreneurial dimensions within a public healthcare sector. Furthermore, we use Penn World Tables 10.01 for the main economic variables. Merging various datasets comes at the price of sample shrinking, leaving us with data for 170 countries over ten years (from 2010 to 2019).

While there is lacking literature on public healthcare entrepreneurship and its impact on economic growth, there is a plethora of evidence on the effects of external entrepreneurship on the macro level and plentiful evidence of the micro effects of intrapreneurship. However, the studies of the macro effects of intrapreneurship are still deficient. In its attempt to fill this gap in the existing literature, this study bridges the several research streams by introducing the notion of healthcare entrepreneurship within a public healthcare sector into the economic growth context.

The main objective of this paper is to test whether there exists a relationship between public healthcare entrepreneurship as the independent variable, and economic growth as dependent variable. Further objective of this paper is to provide theoretical explanations of the role of the public healthcare entrepreneurship in achieving higher economic growth. Finally, the paper offers policy recommendations for ministries of health and public healthcare institutions regarding how to guide development of entrepreneurial orientation in public healthcare to contribute to economic growth on a national level. With these aims, the main research question of this paper asks whether developing public healthcare entrepreneurship contributes a country's economic growth measured by output per effective worker. The empirical method used for hypotheses testing is the panel difference-in-difference analysis. The results of this paper feed the existing studies on the importance of developing public healthcare in increasing human capital (Bassanini & Scarpetta, 2002). Furthermore, it produces several theoretical and practical contributions. First, the study opens a new chapter in studying entrepreneurship in a growth context, focusing on PHE. So far, studies found that healthcare entrepreneurship positively affects the performance of institution apply it, though focusing on private sector. Moreover, studies showed that public entrepreneurship produces positive effects in terms of better provision of public goods and services. Lastly, there is plentiful evidence that entrepreneurship more broadly affects growth. Yet, we are not aware of papers that studied entrepreneurial orientation within a public healthcare sector, particularly from an economic growth perspective. With this approach, we offer one possible answer to the long-standing question of 'what explains the growth differences' across countries. Moreover, this study offers an empirical quantitative analysis of PHE. As other scholars point out, empirical studies on public entrepreneurship and healthcare entrepreneurship are both lacking. This paper complements the Rastoka et al. (2022) study, which is possibly the first empirical study of the use of international health regulation in studying the macro-outcomes of a country. However, this study connects IHR to a broader context of economic growth, offering a plausible explanation of why countries should care about complying with the IHR. Finally, this paper finds evidence for relationship between PHE and economic growth being at least quadratic, but more likely cubic or of a higher order. This builds on the existing studies that find evidence for the inverted U-shaped relationship between entrepreneurship and

economic growth and development. However, those studies were primarily concerned with entrepreneurship in terms of job creation and firm formation. Given the complexity of PHE, we believe our findings are likely resembling the actual relationship between the PHE and economic growth.

The first part of this study gives a literature review along with hypothesis development. It proceeds with describing the data used, the main sample, and the empirical strategy. The next part shows the main results, followed by discussion of the main results. The paper concludes with wrapping up main findings and outlining the theoretical and practical implications.

2. Literature Review and Hypothesis Development

2.1. Entrepreneurship and Growth

Entrepreneurial abilities are cited as an equal factor of production, along with land, labour, and capital (Slavin, 1996). The importance of entrepreneurship for a country's economic growth is reflected in the fact that the level of the population's entrepreneurial abilities could directly affect and shift the aggregate supply curve (McConnell & Brue, 1996). The significance of entrepreneurship from a growth perspective is widely accepted (Carree & Thurik, 2010; Van Stel, 2006; Ács &Audretsch, 2003). Entrepreneurs innovate, create, employ (Cheng et al., 2009; Ács & Armington, 2006; Baumol, 2002), and help reduce poverty (Ahmad & Hoffman, 2008). Entrepreneurship is seen as a scarce and invaluable resource (Kirzner, 2009), determining economic outcomes along with capital and labour in physical form (Dhliwayo, 2017; Douhan & Henrekson, 2007). Moreover, entrepreneurship is deemed a key factor (Ghani et al., 2014) and an engine of growth (Lafontaine et al., 1998). It determines national competitive advantage (Carree & Thurik, 2010), whereas differences in entrepreneurial capital explain significant growth differences across the countries (Audretsch & Keilbach, 2004; Ács & Audretsch, 2003). The literature recognizes entrepreneurship as a solution to stagnation and recession (Kropp & Zolin, 2008; Hansen &Sebora, 2003). Yet, countries facing these macroeconomic issues are not the only ones that benefit from entrepreneurship. Namely, developed economies that have transitioned from managerial to entrepreneurial economies reap the most benefits from entrepreneurship (Audretsch & Thurik, 2001; Carree &Thurik, 1999). Despite the abundance of research on the significance of entrepreneurship for growth, most papers only qualitatively describe channels through which entrepreneurship bolsters growth without offering empirical and quantitative evidence (Lee, 2016). There is increasing evidence that relationship between entrepreneurship (in terms of self-employment) and economic outcomes in non-linear, that is likely U-shaped (Wennekers et el., 2010; Ács &Sanders, 2012; Ács, 2006). Some recent quantitative studies of entrepreneurship (in terms of new firms' formation) actually showed no statistically significant relationship between total entrepreneurship and aggregate economic growth, though they find statistically significant and positive relationship between certain types of entrepreneurship and the industry level growth (Kim et al., 2022).

2.2. Intrapreneurship and Public Sector Entrepreneurship

Many scholars argue the state being responsible for encouraging entrepreneurship. In that light, Stiglitz (2012) discusses the state's role through fiscal expenditures, regulatory, and tax policy. Though not particularly emphasized, most of these studies (Faggian et al., 2017; Urbano & Aparicio, 2016; Ács, 2006) consider external, that is, small business entrepreneurship. Entrepreneurship is commonly associated with creating new firms that generate profits (Zerbinati & Souitaris, 2005). Notwithstanding, it manifests in different ways. There are three widely recognized types of entrepreneurship: (i) individual or external, (ii) organizational or internal (so-called intrapreneurship), and (iii) macro entrepreneurship (Lages et al., 2017, Solesvik, 2013; Kuratko, 2010). Traditionally, intrapreneurship was considered paradoxical, arguing that entrepreneurship and corporate bureaucracy are mutually exclusive (Duncan et al., 1988). However, studies testing entrepreneurial values within large organizations proved the opposite (Cullen et al., 2018; Covin &Miller, 2014; Kuratko et al., 2014). However, a main caveat of this early re-

search on intrapreneurship is they primarily studied various organizational characteristics, leaving it rather vague whether the variables observed were entrepreneurship or business performance characteristics (Cullen et al., 2018).

Generally, intrapreneurship represents activities taken to create new or transform the existing institutions, supporting creation of innovative products and processes (Vargas-Halabí et al., 2017). The aim of intrapreneurship is usually adding value to citizens and increasing the quality of life (Klein et al., 2010; Kearney et al., 2008; Bernier & Hafsi, 2007), supporting and empowering individuals and firms in seizing opportunities (Smallbone, 2008; Legge & Hindle, 2004), or transforming the role of the state by making it more agile and entrepreneurially oriented (Leyden & Link, 2015). Three different streams of studying intrapreneurship emerged (Antončič and Hisrich, 2003). The first focuses on individual intrapreneurs, emphasizing their individual characteristics (Kuratko et al., 1990; Pinchott, 1985). The second field studies new business venture creation and their fitting into the existing organizational structure (Krueger & Brazeal, 1994; Burgelman, 1985). Finally, the third field focuses on entrepreneurial orientations, stressing the characteristics of organizations in which they are represented (Kuratko et al., 1990; Rule and Irwin, 1988).

A series of research on public entrepreneurship emerged in the late twentieth century (Bernier & Hafsi, 2007; Morris & Jones, 1999), with interest in this topic continuing to grow until today (Lindholst, 2019; Leyden & Link, 2015). Recent studies argue that public sector entrepreneurship improves provision of public services (Andrews et al., 2020). The growing interest in this topic possibly came as a response to governments worldwide complaining about the lack of entrepreneurial orientation in the public sector (Özcan & Reichstein, 2009; Zerbinati &Souitaris, 2005). One of the most prominent scholars researching this topic was Elinor Ostrom (Ostrom: 2005; 1990; 1965), who produced a series of research emphasizing the importance of entrepreneurship in the public sector in the context of creating economically more efficient outcomes. In general, the existing literature finds that public sector entrepreneurship contributes to developing public goods infrastructure, including the healthcare infrastructure (Mazzucato, 2018). Public sector entrepreneur is focused on providing alternatives to the *status quo* (Dhliwayo, 2017) by initiating and supporting the establishment of new public enterprises (Iyengar et al., 2016; Klein et al., 2010; Morris & Jones, 1999) or changing the existing or creating new policies (Schnellenbach, 2007). Despite prolific research on intrapreneurship and public sector entrepreneurship (Lages et al., 2017; Kearney et al., 2008; Teng, 2007), the existing studies are mainly theoretical and lacking empirical support of their core arguments.

2.3. Healthcare Entrepreneurship

A healthy population and sound labour are vital for economic growth and social order (Garrett, 2005; Osterholm, 2005), as they contribute to a higher national income and increase in the standard of living (Bloom et al., 2004). Numerous studies emphasize the importance of the health sector for economic growth (Alsahahrani & Alsadiq, 2014; Smith et al., 2009), with some of them particularly emphasizing public healthcare (Reeves et al., 2014; De Costa and Diwan, 2007). International organizations emphasize the connectedness of public healthcare and economic growth, arguing that the public sector is critical in increasing human capital (Bassanini & Scarpetta, 2002). Furthermore, a rich body of literature (Gupta & Barman, 2010; Agénor, 2008) recognizes the importance of government spending on healthcare services and public infrastructure to increase labour productivity and economic growth. The importance of public healthcare comes from the nature of healthcare services that share characteristics of public goods. The danger of the spread of diseases goes beyond the immediate health issues of a person affected, as after becoming prevalent, diseases become a national security problem and a potential source of political instability (Garrett, 2005; Osterholm, 2005).

Research on healthcare entrepreneurship (Amini et al., 2018; Hinz & Ingerfurth, 2013) is aimed at finding solutions to increase the healthcare performance. Healthcare entrepreneurship is an orientation to improving the health and decreasing the population's dis-

ease susceptibility (Torri, 2014). It is argued that healthcare entrepreneurship produces largest effects on economic growth through innovation. The significance of innovation is nowhere more critical than in healthcare (Piña et al., 2015), given that revolutionary discoveries can not only cure diseases but also significantly improve and extend human lives (Trigo, 2016). Entrepreneurially driven innovation in healthcare assumes creating innovative interventions, products, and services to help solve health issues (Hatef et al., 2018; Jacobson et al., 2015). Some more recent studies show that entrepreneurship in general, is a key in solving healthcare emergencies such as the recent Covid-19 pandemic (Liu et al., 2020).

2.4. Hypothesis development

This paper studies the nexus between a couple of widely discussed yet not combined research areas. These are the role of external entrepreneurship in economic growth, the effects of public entrepreneurship in economic growth, and the role of PHE. In its endeavours to test the role of PHE in economic growth, this study builds upon extensions of some of the earliest and most widely used neoclassical growth models, such as Solow-Swan (Swan, 1956; Solow, 1956). Some pioneering extensions to these models considered various endogenous variables corresponding to what we regard as entrepreneurship today. Thus, Lucas (1988) distinguishes between physical and human capital without using the term entrepreneurship. Romer (1990; 1986) endogenizes technological change (ideas creation) entrepreneurship. These seminal papers were followed by a series of papers (Valdés, 1999; Aghion & Howitt, 1992; Grossman & Helpman, 1991) studying the growth model with endogenous R&D, thereby making a sort of introduction to entrepreneurship in growth models. A stream of research that followed (Friis et al., 2004) suggested causation between entrepreneurship and growth.

Nevertheless, there is still a lack of studies of entrepreneurship within the public sector as a possible growth driver. Recent studies particularly emphasize the lack of measurement for public entrepreneurship (Demircioglu & Chowdhury, 2021), which could possibly explain the lack of empirical studies on this topic. The idea of public entrepreneurship seems rather vague given the inconsistency in determining entrepreneurship in the public sector. From a methodological aspect, most recent studies of public entrepreneurship (Głoìd, 2015; Jacobson et al., 2015) do not clearly distinguish managerial and organizational from entrepreneurial variables. Moreover, these studies mainly rely on qualitative discussion, thereby translating managerial and organizational variables to entrepreneurial ones. Predominantly, these studies use qualitative arguing to explain the positive correlation and causality between entrepreneurial practices in public healthcare and overall public healthcare performance. Another caveat is they mainly focus on the micro rather than macro effects of PHE. Finally, the existing studies do not discern entrepreneurial behaviour in the public healthcare sector from entrepreneurial behaviour in private healthcare institutions. Overall, there is a lack of research on applying entrepreneurship in the complex environment of the healthcare sector (Guo, 2003).

To answer the research question, the main hypothesis of this paper postulates that *developing entrepreneurial orientation in the public healthcare sector contributes to a country's economic growth.*

When defining entrepreneurial orientation in public healthcare, we rely upon well-established practices in studying entrepreneurial orientation. The most widely used entrepreneurial concept (Lages et al., 2017; Slevin &Terjesen, 2011; Covin & Slevin, 1989) is the so-called Miller approach (Miller, 1987; 1983). This approach considers innovativeness (predisposition to develop new and unique products, services, and processes), risk-taking (willingness to take advantage of risky opportunities), and proactiveness (persistence and creativity to overcome difficulties until the innovation is fully implemented) as core dimensions of entrepreneurial orientation. Other streams of research consider various additional orientations. Some of the commonly used are autonomy and competitive aggressiveness (Hughes & Morgan, 2007; Lumpkin & Dess, 1996). Notwithstanding, this paper adopts the Miller approach and proceeds with observing PHE through the prism of innovativeness, proactivity, and risk-taking.

Innovation is usually considered the primary driver of healthcare transformation to respond to the constantly growing demand for improved patient care (Piron, 2017). Healthcare innovation bridges social and economic aspects through increasing health and social interaction (Beaulieu et al., 2018; Silva et al., 2018), laying the ground for higher economic growth (Sakellarides, 2008). *Proactivity* is often crucial to realizing innovation (Antončič & Hisrich, 2003). Proactivity is particularly important in healthcare because health demand requires urgent and swift action. It is worthwhile mentioning that the opposite of proactivity is passiveness (Lumpkin & Dess, 1996). Hence, proactivity in healthcare is paramount, given that delays and passiveness might result in excessive deepening and broadening of the issues. *Risk-taking* in entrepreneurship refers to taking bold actions and setting resources to prevent losses (Lumpkin & Dess, 1997; Covin & Slevin, 1989). Healthcare is inseparable from risk. Every action inevitably carries the risk of possible loss. However, failing to take any action might trigger even more significant losses. This is undoubtedly one of the impediments to entrepreneurial orientation in healthcare when the actors are faced with choosing the lesser of two evils.

3. Empirical Analysis

3.1. Sample

Regardless of rich metrics developed for measuring entrepreneurship (see discussion in Rastoka et al., 2022), there is no data available for intrapreneurship on a country level, particularly entrepreneurship within public healthcare. More precisely, the only data available regarding the performance of public healthcare is the data provided by the WHO. Thus, this study exploits WHO's Global Health Observatory database, particularly various indices of International Healthcare Regulation as proxies for multiple dimensions of PHE. We merged this data with the Penn World Database to create the main dataset for this study. The WHO's International Health Regulation (IHR) database is only available from 2010 while reporting for 2020 was affected by Covid-19. We decide to restrict the sample to years absent of shocks focusing on years 2010 to 2019. Matching various datasets comes at the price of missing data. We drop missing data to achieve a balanced panel. This leaves us with 170 countries over ten years (from 2010 to 2019), which we refer to as the full sample.

3.2. Model Specification and Variable Definition

This paper uses the standard neoclassical growth model with Cobb-Douglas production function as a baseline economic model. It follows the main growth decomposition used in seminal studies that tried to explain the difference in growth across countries such as the widely cited Jones (2016) and Hall and Jones (1999). Recent relevant studies on total factor productivity follow the same neoclassical growth model. Thus, in this paper we take productivity as labour augmenting, whereas the labour is a product of physical labour and human capital (in line with the Hall and Jones 1999 approach). This suggests the following growth equation:

$$Y_{it} = K_{it}^{\alpha}(A_{it}H_{it})^{1-\alpha} \quad [1]$$

Where *Y* represents the aggregate output, *K* total capital, *A* productivity, and *H* total human capital (which is a product of total labour and human capital per unit of labour). Subscript *it* indicates country *i,* in time period t. After performing basic mathematical operations[2], our baseline economic model becomes:

$$\ln\_y_{it} = \frac{\alpha}{1-\alpha}\ln\_k_{it} + \ln\_hc_{it} + \ln\_A_{it} \quad [2]$$

Where *y* stands for the gross domestic product (GDP) per effective worker, the index *it* indicates the country *i* (taking values from 1 to 170, depending on the country observed) in period *t* (taking values from 2010 to 2019), *k* represents effective capital stock (i.e. capital stock per unit of output), is the standardly used capital share in the Cobb-Douglas production function taking the value 1/3, *hc* stands for average human capital, while *A* reflects the growth residual, i.e. total factor productivity (TFP) defined as difference in productiv-

[2] $Y_{it} = K_{it}^{\alpha}(A_{it}H_{it})^{1-\alpha} = K_{it}^{\alpha}(A_{it}N_{it}h_{it})^{1-\alpha}$
$Y_{it}^{\frac{1}{1-\alpha}} = K_{it}^{\frac{\alpha}{1-\alpha}}A_{it}N_{it}h_{it}$
$Y_{it} = (\frac{K_{it}}{Y_{it}})^{\frac{\alpha}{1-\alpha}}A_{it}N_{it}h_{it}$
$\frac{Y_{it}}{N_{it}} = (\frac{K_{it}}{Y_{it}})^{\frac{\alpha}{1-\alpha}}A_t h_{it}$

ity from a country observed relative to the US[3] For a detailed explanation of human capital and total factor productivity variables please refer to Penn World Tables.

This rearrangement allows us to solve the multicollinearity. We furthermore include both country and year fixed effect when running the regressions. The main contribution from this paper is applying this widely used growth equation to a different subsample of countries, depending on their level of PHE development. Hence, our main specification is as follows:

$$\ln\_gdp_{it} = \beta_0 + \beta_1 \ln\_capital_{it} + \beta_2 \ln\_hc_{it} + \beta_3 \ln\_tfp_{it} + \epsilon_{it} \quad [3]$$

Where *gdp* stands for the gross domestic product (GDP) per effective worker, the index *it* indicates the country i in period t (taking values from 2010 to 2019), k represents effective capital stock (i.e. capital stock per unite of output adjusted by relative share of capital to share to labour), *hc* is human capital, and *tfp* is the total factor productivity (TFP). Finally, ϵ is the error term.

To test our hypothesis, we run the regression [3] on five different subsamples, depending on their level of PHE development. This allows us to compare the parameters from [3] while fixing the level of PHE development. Effectively, we will pairwise test three parameters obtained from each of the five regressions (according to five levels of PHE development we distinguish). The alternative technically feasible approach could be creating joint variables for each of the factors and level of PHE development. However, this could rise certain concerns on economics side. In trying to be more pedantic and to comply with general conventions with performing growth regressions, we decide to run the regression on multiple subsamples in the first step, and then in second step we perform pairwise test of difference in parameters. With this approach, we provide more extensive analysis of how the changes in PHE level are reflected on TFP parameters and hence the output per effective worker. In further steps, we expand our analysis by focusing on each of the individual dimensions of PHE, namely innovativeness, proactivity and risk-taking. In each of our specifications, we divide the countries depending on their total level of PHE development, or alternatively, the level of development of individual dimensions.

The raw data we use for creating PHE variables are ordered indices ranging from 0 to 100. We follow Rastoka et al. (2022) approach in identifying approximations for innovativeness, proactivity, and risk-taking. We also follow their approach in aggregating and averaging over the individual PHE dimensions to create a composite index of PHE development ranging from 0 to 100. We account for distribution of our available data and define the following relative levels of PHE development:

- Low (composite or individual index less or equal to 60)
- Low-Moderate (composite or individual index larger than 60 and less or equal to 70)
- Moderate (composite or individual index larger than 70 and less or equal to 80)
- High-Moderate (composite or individual index larger than 80 and less or equal to 90)
- High (composite or individual index larger than 90)

Here, we appreciate for the first possible caveat, that is setting the upper bound for our lowest-order category rather high. However, we are limited to the available data where there are not many observations distributed in lower bound of the index ladder. This way, as we want to interpret relative level of PHE development (relative to other countries), our boundaries had to be defined in such way. Notwithstanding, we keep in mind that having observations with larger dispersion of PHE development could provide much more information on what is going on as a country is 'climbing' from the bottom of PHE development ladder. Yet, until the new datasets become available, that is unfortunately unfeasible. Table 1 below shows the summary statistics for variables used in our main specification [3].

[3] For a detailed discussion on selection of indices for approximations of various entrepreneurial dimensions, please see Rastoka et al., 2022.

Table 1

Variable description and summary statistics for full sample

Variables	Variable description	Mean (Std. Dev.)	Source
ln_gdp	Natural logarithm of real GDP at constant 2017 national prices (in mil. 2017US$) per effective worker	10.211 (1.084)	PWT 10.01 (multiple variables combined)
ln_capital	Natural logarithm of capital stock at constant 2017 national prices (in mil. 2017US$) per output unit scaled by 1-α	0.641 (0.244)	PWT 10.01 (multiple variables combined)
ln_hc	Natural logarithm of human capital index	0.915 (0.293)	PWT 10.0
ln_tfp	Natural logarithm of total factor productivity (TFP) level at constant national prices (2017=1)	-0.0004 (0.085)	PWT 10.01

Notes. Author calculation.

When observing entrepreneurial dimensions, we follow literature studying entrepreneurship (Yoo, 2015; George & Marino, 2011; Wiklund & Shepherd, 2005; Lumpkin & Dess, 2001). We furthermore follow Rastoka et al. (2022) and use various indices of public healthcare performance as approximations for entrepreneurial dimensions. Hence, we approximate innovativeness, proactivity, and risk-taking with different IHR scores (laboratory, surveillance, risk communication, respectively)[4] For a detailed discussion on selection of indices for approximations of various entrepreneurial dimensions, please see Rastoka et al., 2022.

. Most empirical studies on entrepreneurship rely on questionnaires and interviews based on self-evaluation (Dempster & Kluver, 2019; Jacobson et al., 2015). One of the main downsides of collecting data on entrepreneurship in this manner is that people need not be educated about entrepreneurship to be entrepreneurially oriented. Hence, the misreporting is likely to happen due to ignorance (Lages et al., 2017). Finally, some authors mention that the drawback of interviews and questionnaires in studying healthcare is they focus on what is easily measurable regardless of fully reflecting the subject of measurement (Barzilay et al., 2018). Thus, aware of the caveat of using approximations such as IHR scores, we think the challenges outweigh the possibility of measurement errors imminent to alternative approaches to data collection in this field. In quantifying the PHE, we follow Rastoka et al. (2022) with the difference of using dummy variables for different levels of PHE development instead of scores. Table 2 below gives summary statistics for categorical variables we used for breaking down the sample into the subsamples to test difference in effects of PHE.

Table 2

Variable description and summary statistics for categorical variables used for breaking down the sample into the subsamples

Variables/ Subsample categories	Variable description	Mean (Std. Dev.)	Source
PHE-Low	DV=1 if a country has a low level of PHE development (0 otherwise); it takes value 1 when the composite index of PHE is less than or equal to 60	0.214 (0.410)	IHR (multiple variables combined and dummy encoded)
PHE-Low-Mod	DV=1 if a country has a lower moderate level of PHE development (0 otherwise); it takes value 1 when the composite index of PHE is higher than 60 and less than or equal to 70	0.133 (0.339)	IHR (multiple variables combined and dummy ecoded)

[4] For a detailed discussion on selection of indices for approximations of various entrepreneurial dimensions, please see Rastoka et al., 2022.

PHE-Mod	DV=1 if a country has a moderate level of PHE development (0 otherwise); it takes value 1 when the composite index of PHE is higher than 70 and less than or equal to 80	0.170 (0.376)	IHR (multiple variables combined and dummy encoded)
PHE-High-Mod	DV=1 if a country has a higher moderate level of PHE development (0 otherwise); it takes value 1 when the composite index of PHE is higher than 80 and less than or equal to 90	0.195 (0.396)	IHR (multiple variables combined and dummy encoded)
PHE-High	DV=1 if a country has a high level of PHE development (0 otherwise); it takes value 1 when the composite index of PHE is higher than 90	0.288 (0.453)	IHR (multiple variables combined and dummy encoded)
Inno-Low	DV=1 if a country has a low level of innovativeness within their public healthcare (0 otherwise); it takes value 1 when the innovativeness index is less than or equal to 60	0.242 (0.428)	IHR (laboratory index as in Rastoka et al., 2022 and dummy encoded)
Inno-Low-Mod	DV=1 if a country has a lower moderate level of innovativeness within their public healthcare (0 otherwise); it takes value 1 when the innovativeness index is higher than 60 and less than or equal to 70	0.093 (0.291)	IHR (laboratory index as in Rastoka et al., 2022 and dummy encoded)
Inno-Mod	DV=1 if a country has a moderate level of innovativeness within their public healthcare (0 otherwise); it takes value 1 when the innovativeness index is higher than 70 and less than or equal to 80	0.145 (0.353)	IHR (laboratory index as in Rastoka et al., 2022 and dummy encoded)
Inno-High-Mod	DV=1 if a country has a higher moderate level of innovativeness within their public healthcare (0 otherwise); it takes value 1 when the innovativeness index is higher than 80 and less than or equal to 90	0.151 (0.358)	IHR (laboratory index as in Rastoka et al., 2022 and dummy encoded)
Inno-High	DV=1 if a country has a high level of innovativeness within their public healthcare (0 otherwise); it takes value 1 when the innovativeness index is higher than 90	0.369 (0.483)	IHR (laboratory index as in Rastoka et al., 2022 and dummy encoded)
Proa-Low	DV=1 if a country has a low level of proactivity within their public healthcare (0 otherwise); it takes value 1 when the proactivity index is less than or equal to 60	0.192 (0.394)	IHR (surveillance index as in Rastoka et al., 2022 and dummy encoded)
Proa -Low-Mod	DV=1 if a country has a lower moderate level of proactivity within their public healthcare (0 otherwise); it takes value 1 when the proactivity index is higher than 60 and less than or equal to 70	0.104 (0.305)	IHR (surveillance index as in Rastoka et al., 2022 and dummy encoded)
Proa -Mod	DV=1 if a country has a moderate level of proactivity within their public healthcare (0 otherwise); it takes value 1 when the proactivity index is higher than 70 and less than or equal to 80	0.194 (0.395)	IHR (surveillance index as in Rastoka et al., 2022 and dummy encoded)
Proa -High-Mod	DV=1 if a country has a higher moderate level of proactivity within their public healthcare (0 otherwise); it takes value 1 when the proactivity index is higher than 80 and less than or equal to 90	0.188 (0.391)	IHR (surveillance index as in Rastoka et al., 2022 and dummy encoded)
Proa -High	DV=1 if a country has a high level of proactivity within their public healthcare (0 otherwise); it takes value 1 when the proactivity index is higher than 90	0.322 (0.468)	IHR (surveillance index as in Rastoka et al., 2022 and dummy encoded)
Risk-Low	DV=1 if a country has a low level of risk-taking within their public healthcare (0 otherwise); it takes value 1 when the risk-taking index is less than or equal to 60	0.399 (0.490)	IHR (risk-communication index as in Rastoka et al., 2022 and dummy encoded)

Notes. Author calculation.

In each of the specifications used, we employ the year-fixed effect (along with country-fixed effect). We use Pearson's correlation coefficients to test the main dataset for multicollinearity. As Table 3. shows, the correlation coefficients are low to weak (Akoglu, 2018), suggesting absence of multicollinearity.

Table 3

Matrix of correlations

Variables	(1)	(2)	(3)
(1) *ln_capital*		1.000	
(2) *ln_hc*	0.366	1.000	
(3) *ln_tfp*	-0.17 6	-0.06 1	1.00 0

Notes. Author calculation.

3.3. Methodology

Following relevant studies (Leszczensky & Wolbring, 2018; Vaisey & Miles, 2017), we use panel data setting, more precisely, difference-in-difference specification. We used a fixed effect estimator, given its main advantage of the ability to control for systemic differences across clusters. Fixed effect estimator acts as a quasi-experiment, allowing us to observe the actual effects free from noise (Ghani et al., 2014; Fritsch & Falck, 2007). The advantage of the panel data fixed effect method is dealing with endogeneity issues by extracting the correlatedness between the variable of interest and part of the residual. This way, the fixed effect observes the error term as a composition of the idiosyncratic and time-invariant part (Card, 1999).

We acknowledge the well-known issues from dynamic panels with fixed effects, especially given the relatively short period our data covers. To mitigate the potential problems, we follow other studies that used economic growth as dependent variable (Besley et al., 2005) and use clustered standard errors. As suggested by econometrics literature (Angrist & Pischke, 2009), using standard errors clustering at country level allows us dealing with possible correlation in modelling residuals. This way the standard errors are robust against autocorrelation and heteroskedasticity (they allow for autocorrelated errors and heteroskedasticity within an entity, but not correlation across entities what makes them consistent).

4. Empirical Results

Table 4 shows results for our main specification. Column (0) is a baseline growth regression where we impose no assumptions regarding the level of PHE development. As expected, the effect of all factors of production on output per effective worker is statistically significant and positive. High value of R-squared is implied by the construction of PWT data, which calculates TFP as a growth residual.

Columns (1) through (5) show the results for our main conjecture, i.e. the output growth *inter alia* depends on the PHE level. To test our main hypothesis, we test the statistical significance of differences between TFP coefficients across each of the specifications from column (1) through (5). We appreciate that a country's PHE development does not necessarily follow a continuous path. That is, a country can possibly switch from one to any category, and not just to the immediately next or immediately previous order category. Therefore, we make pairwise comparisons between *ln_tfp* coefficients (i.e. 3 parameters from [3]) for each of the columns (1) through (5). The results of pairwise tests unambiguously show that the for the Low-PHE coefficient is statistically smaller than any of the coefficients from the remaining four categories. The levels of significance are as follows: 1% when compared to Low-Mod, 10% when compared to Mod, 1% when compared to High-Mod, and 10% when compared to High-PHE-level. Altogether, this suggest that increasing PHE-level from low to any other higher-order level, is associated with larger magnitude of effects of productivity on growth. In simple words, increasing productivity is associated with greater increases in economic growth generated through productivity, as a country increases the level of PHE. Apart from statistical significance, as it can be observed from Table 4, the size of differences is also economically significant. For example, increasing TFP by 1%[5] By construction of this variable, this would mean an increase relative to the baseline, which is the US TFP.

while having a low level of PHE development is associated with 1.59% increase in output per effective worker, whereas increasing TFP by the same level (1%) while having a lower moderate level of PHE development is associated with 2.32% increase in output per effective worker. Given the difference of 0.73 percentage points, the economic significance is substantial.

We next test the differences between TFP coefficient for Low-Mod group to that of the higher-order levels of PHE development groups. Compared to Mod, the coefficients statistically do not differ. However, compared to High-Mod and High, the coefficients for Low-Mod turn out to be higher (the difference is established at 5% and 1%, respectively). This suggests that the benefits from increasing TFP are larger with lower moderate PHE development, than they are with higher moderate or high level of PHE development. Furthermore, we test whether Mod coefficient differs from High-Mod and High coefficients. Pairwise test shows no statistical difference between TFP coefficients for moderate and higher moderate level of PHE development. Compared to High, we find marginally significant (at 10%) difference suggesting that the coefficient for Mod is higher. Fi-

[5] By construction of this variable, this would mean an increase relative to the baseline, which is the US TFP.

nally, we compare High-Mod and High coefficient. At 10% significance, we establish that the High-Mod coefficient is larger. In summary, the results from Table 4 suggest that moving away from a low level of PHE development is associated with greater effects from productivity increases on economic growth. However, there seems to be an upper limit of PHE development after which a further increase in PHE development is associated with slightly diminishing effects of productivity on output per effective worker. Clearly, these results suggest a curvilinear relationship between PHE development and economic growth.

Table 4

Empirical results for the main specification

	(0)	(1)	(2)	(3)	(4)	(5)
Variables	*ln_gdp*	*ln_gdp*	*ln_gdp*	*ln_gdp*	*ln_gdp*	*ln_gdp*
ln_capital	1.528***	1.461***	2.381***	2.163***	1.705***	1.324***
	(0.152)	(0.051)	(0.579)	(0.294)	(0.252)	(0.047)
ln_hc	0.976***	-1.429	1.243***	0.507	0.629***	1.085***
	(0.104)	(1.249)	(0.243)	(0.439)	(0.150)	(0.049)
ln_tfp	1.887***	1.590***	2.322***	2.064***	1.977***	1.839***
	(0.065)	(0.145)	(0.247)	(0.190)	(0.077)	(0.063)
PHE level	n/a	Low	Low-Mod	Mod	High-Mod	High
Observations	589	33	36	87	109	230
R-squared	0.949	0.999	0.999	0.966	0.984	0.982

Notes. Author calculation. In parentheses are standard errors which are robust against heteroskedasticity and adjusted for clustering at the state level: *** p<0.01, ** p<0.05, * p<0.1.

To further investigate where the non-linearities possibly come from, we next decide to focus on each of the PHE dimensions separately. Hence, we first repeat our main specification studying only the effects of changes in innovativeness within the public healthcare. After performing pairwise tests for *ln_tfp* coefficients from columns (1) through (5) from Table 5, at 5% significance we establish that the coefficient from Low group is greater than that of the High group. Furthermore, at 10% significance we establish that both coefficients from Low-Mod and Mod groups are greater than that of the High group. The other pairwise differences are not statistically significant. As such, these findings suggest that as the level of innovativeness within public healthcare continues to grow beyond a certain extent, the effect of productivity increases on growth start diminishing.

Table 5

Empirical results for focusing only on innovativeness within the public healthcare sector

	(1)	(2)	(3)	(4)	(5)
Variables	*ln_gdp*	*ln_gdp*	*ln_gdp*	*ln_gdp*	*ln_gdp*
ln_capital	1.877***	2.291***	2.170***	1.424***	1.508***
	(0.273)	(0.366)	(0.240)	(0.475)	(0.158)
ln_hc	0.964***	0.627	1.318***	0.742**	0.564***
	(0.263)	(0.466)	(0.295)	(0.296)	(0.129)
ln_tfp	1.907***	1.872***	1.765***	1.718***	1.403***
	(0.148)	(0.154)	(0.125)	(0.276)	(0.113)
Innovativeness level	Low	Low-Mod	Mod	High-Mod	High
Observations	174	73	133	155	385
R-squared	0.945	0.975	0.918	0.890	0.840

Notes. Author calculation. In parentheses are standard errors which are robust against heteroskedasticity and adjusted for clustering at the state level: *** p<0.01, ** p<0.05, * p<0.1.

Next, we repeat the same test with considering only proactivity. At 10% significance, we establish that *ln_tfp* coefficient for low level of proactivity within the public healthcare is larger than the coefficient from Mod group. However, at 5% significance, we establish that Low-Mod coefficient is smaller than each of the Mod, High-Mod and High coefficients. This suggests that as proactivity increases beyond a certain level, the effects of productivity on growth possibly diminish. However, as proactivity continues to grow and passes a certain threshold, the effects of productivity on growth start increasing again.

Table 6

Empirical results for focusing only on proactivity within the public healthcare sector

Variables	(1) *ln_gdp*	(2) *ln_gdp*	(3) *ln_gdp*	(4) *ln_gdp*	(5) *ln_gdp*
ln_capital	1.666***	1.357***	1.676***	1.985***	1.489***
	(0.279)	(0.479)	(0.455)	(0.547)	(0.175)
ln_hc	1.181***	0.430*	0.798***	0.812***	0.827***
	(0.326)	(0.242)	(0.284)	(0.266)	(0.087)
ln_tfp	1.654***	1.191***	1.963***	2.030***	1.713***
	(0.199)	(0.236)	(0.235)	(0.272)	(0.112)
Proactivity level	Low	Low-Mod	Mod	High-Mod	High
Observations	150	89	164	173	344
R-squared	0.878	0.889	0.932	0.947	0.890

Notes. Author calculation. In parentheses are standard errors which are robust against heteroskedasticity and adjusted for clustering at the state level: *** p<0.01, ** p<0.05, * p<0.1.

Finally, we test how are the changes in risk-taking related to the effects of productivity on growth by observing the changes in risk-taking. At 5% significance we establish that *ln_tfp* coefficients for low level of risk-taking is larger than the coefficients for both higher moderate and high level of risk-taking. Interestingly at 10% significance we establish that Mod coefficient is smaller than the High-Mod coefficient, but also larger than the High coefficient. Finally, at 1% significance we establish that High-Mod coefficient is lower than the High coefficient. Altogether, this reconfirms the non-linear relationship between PHE dimensions and output per capita. Namely, as risk-taking increases beyond certain level, the effects of increases in TFP on output per effective worker first decline, but then they recover (and possibly again decline, and finally arise).

Table 7

Empirical results for focusing only on risk-taking within the public healthcare sector

Variables	(1) *ln_gdp*	(3) *ln_gdp*	(4) *ln_gdp*	(5) *ln_gdp*
ln_capital	1.728***	1.768***	2.742***	1.227***
	(0.237)	(0.449)	(0.390)	(0.172)
ln_hc	1.234***	0.683**	1.200**	0.681***
	(0.230)	(0.328)	(0.575)	(0.088)
ln_tfp	1.846***	1.865***	2.379***	1.465***
	(0.141)	(0.244)	(0.206)	(0.134)
Risk-taking level	Low	Mod	High-Mod	High
Observations	310	144	122	330
R-squared	0.890	0.912	0.901	0.896

Notes. Author calculation. Low-Mod subsample is omitted due to insufficient observations. In parentheses are standard errors which are robust against heteroskedasticity and adjusted for clustering at the state level: *** p<0.01, ** p<0.05, * p<0.1.

5. Discussion

Overall, the results support the main hypothesis, stating that developing entrepreneurial orientation in the public healthcare sector is associated with increases in a country's economic growth measured by output per worker. However, the evidence suggests that after reaching a certain level of PHE development, the effects start diminishing. Namely, as a country moves away from a low level of PHE, it seizes higher growth through increases in effects of productivity on growth. That is, 'productivity becomes more growth-enhancing', meaning a same relative increase in TFP while having low level of PHE development is associated with lower effects on growth, compared to the effects that are achieved from increasing productivity as a country moves away from a low level of PHE development. As a country continues to increase PHE level, it possibly reaches an upper bound, after which any further increases lead to a situation where increases in TFP will produce less effects on growth. Altogether, this provides strong evidence for the curvilinear relationship (either an inverted U-shaped or a higher than second order) between PHE and output per effective worker.

To examine where the nonlinearities come from, we focus on examining the effects of changing each of the individual PHE dimensions. In case of innovativeness, we see that as a country moves to a higher than what we defined as a low level of innovativeness, the effects of productivity on growth start marginally diminishing. This would suggest the existence of an upper bound for productive innovativeness withing the public healthcare. That is, after achieving a certain level of innovativeness, there is no more room left for seizing growth opportunities from this source, as congestions takes place and further increasing innovativeness lowers the total factor productivity effects on growth. This could be the reflection of the right-hand side of the inverted U-shaped function. For productivity, we find that moving upward from a low level of proactivity first shrinks the effects of productivity on growth, but as productivity continues to grow, the effects of productivity on growth start increasing again. Such behaviour reflects a U-shaped (regular not the inverted) relationship along the observed interval. Finally, for risk-taking our findings are similar to proactivity results. Namely, increasing risk-taking beyond low level, first results in lower effects of productivity on growth, but as risk-taking increases, the effects of productivity increase. However, continued risk-taking up until high level, again decrease the productivity effects, but as a country reaches a high level of risk-taking, the effects of productivity increase again. This effectively shows 'double U-shaped' on the interval observed.

In summary, our results show that countries at lowest levels of PHE development benefit most from fostering public healthcare entrepreneurship. However, as they reach certain extent of PHE development, the relationship could go either way – either upward of downward. Unambiguously this suggests a non-linear relationship between PHE and productivity effects on growth. According to our findings, the relationship is at least quadratic, but perhaps more likely a cubic or a higher order. Furthermore, this means there are possibly multiple equilibria where a country could end up seizing highest growth opportunities. This leads to some interesting conclusions. First, a country could be stuck at an inferior equilibrium in the absence of big enough push to the superior equilibrium state. Secondly, the changes are dynamic, given that as soon as a country has reached new level of PHE development, the new equilibrium possibly changes. This means there is no unique path, nor a unique equilibrium as far as the PHE level is concerned.

As for the potential channels through which PHE allows for larger effects of productivity on economic growth, we believe it is through increasing effective labour and enhancing labour productivity. Namely, entrepreneurship in public healthcare could contribute to higher quality of provision of healthcare services, what would result in better health and well-being of workers. This would be aligned with findings from other studies that show positive effects of entrepreneurship on provision of public services (Andrews et al., 2020). Improvements in health and well-being of workers would mean less absenteeism (involving average hours worked) and higher productivity. Some authors (Novakov, 1993) explain that when oppressed by poverty, they do not leave their jobs regardless of their health condition. If an

individual falls ill, they might not be absent, yet show up at work with decreased productivity. Furthermore, from an economic perspective, shorter sick leave, and generally a shorter stay in stationary healthcare institutions reduce costs. Another possible channel through which entrepreneurship in public healthcare sector benefits growth would involve restraining the adverse effects and fighting the detrimental effects of diseases. As recent studies argue (Liu et al., 2020), the importance of entrepreneurship in fighting the outbreaks of diseases was particularly emphasized during the Covid-19. This means that amidst negative shocks to the economy PHE help mitigating the costs.

Generally, the part about positive impact of entrepreneurship on growth aligns with earlier studies on this topic (Stuetzer et al., 2018; Audretsch and Keilbach, 2005). Our findings complement studies (Ehrlich & Liu, 2017) arguing that entrepreneurial capital in terms of entrepreneurial orientation contributes to growth. Our study does not offer a decisive response to what are the exact channels through which PHE affects productivity and thereby growth. However, plentiful studies (Ács et al., 2018; Nightingale & Coad, 2014; Ács &Varga, 2005) suggest that entrepreneurship affects growth directly and indirectly, meaning the relationship between entrepreneurship and growth is not explicit. In this regard, the growing body of literature argues in favour of a non-linear, i.e. the inverted U-shape relationship between entrepreneurship and growth (Wennekers et el., 2010; Ács & Sanders, 2012; Ács, 2006). For example, Ács (2006) postulates the U-shape relationship between entrepreneurship and growth. This standpoint suggests that entrepreneurship largely occurs in countries with deficient economic growth, when it is mainly manifested as necessity-based entrepreneurship. As a country develops, the necessities shrink, and so does entrepreneurship. Furthermore, as the country reaches a high level of economic growth, opportunities sharply jump, which triggers entrepreneurship. However, these studies consider entrepreneurship generally and/or in terms of firms' formation and self-employment. As our study deals with public entrepreneurship, i.e. intrapreneurship, we conjecture that the relationship is likely even more complex, hence at least quadratic, but more likely cubic or of a higher order.

Furthermore, despite finding evidence of a positive relationship between the entrepreneurial orientation of public healthcare and economic growth, this study does not offer an ultimate response regarding the directions of causality. That is, we do not consider the feedback loop that economic growth creates on PHE. Establishing causality accounting for reverse causality is considered the most significant caveat of research in social sciences (Vaisey and Miles, 2017; Kennedy, 2003). Reverse causality is the phenomenon of the dependent variable creating feedback loop on the independent variable. It causes the correlation of the independent variable with errors, which makes drawing reliable conclusions difficult (Leszczensky & Wolbring, 2018; Kennedy, 2003). In the context of this study, reverse causality would imply growth affecting the entrepreneurial orientation of the public healthcare sector. The available literature offers arguments for causality flowing in both directions between economic growth and healthcare sector, despite not discussing the PHE per se. Generally, higher growth allows for a higher development of a country, including the development of public healthcare and, consequentially, its performance (Smith, 2011; Summers & Pritchett, 1996). Furthermore, if we accept the position that PHE positively affects productivity, this will imply that PHE also affects the productivity within the public healthcare. As such, the public healthcare is more likely to contribute to developing the entrepreneurial orientation. Moreover, scholars mention that entrepreneurship is inseparable from a two-way interaction with its environment and the factors that affect entrepreneurship and growth (Audretsch and Keilbach, 2005). Thus, entrepreneurship is seen as a multiplier, as the more a nation fosters entrepreneurship, the more it contributes to developing environmental factors that encourage further entrepreneurship development (Ács, 2006; Friis et al., 2004). However, many studies argue that growth is making a feedback loop to all growth factors, as higher growth allows an increase in aspects of production through their accumulation and advancement (Bassanini and Scarpetta, 2002). Notwithstanding, the methodology used in this paper substantially controls for all the reverse causalities and feedback loops. Yet,

as they cannot be eliminated, we do not attempt to dispute or rule them out. Ignoring these two-way relationships is the reason why some scholars claim that most research on entrepreneurship overemphasizes entrepreneurship and show a somewhat illusionary idea of entrepreneurship being the panacea for the underperformance of both countries and organizations (Ács et al., 2018; Nightingale & Coad, 2014; Ács & Varga, 2005).

6. Conclusions and Implications

We believe this study is the first that assesses the implications of International Healthcare Regulation on the macroeconomic level. In particular, the first study that bridges the IHR to economic growth through the notion of public healthcare entrepreneurship. The intuition of observing the IHR through the PHE lenses is adopted from the Rastoka et al., 2022. However, unlike their study which considers the effects of PHE on the public healthcare variables, we focus on a different outcome, that is the economic growth. Overall, our results show the statistical and economic significance of the effects changing the level of public healthcare entrepreneurship development has on economic growth. What is more, we establish that the relationship is at least quadratic, whereby the countries at lowest levels of PHE seize the most growth opportunities as they develop the PHE. However, after reaching a certain extent of the development, the effects on growth start shrinking. This suggest the relationship between PHE and economic growth being at least quadratic.

6.1. Theoretical implications

This main results from this paper contribute several areas of economics theory. First, it explores the nexus between public sector entrepreneurship and healthcare entrepreneurship, showing there is a role for the public healthcare entrepreneurship (PHE). We provide a thorough reasoning for what is the PHE and how it manifests. In particular, we conjecture that the PHE affects economic growth through the total factor productivity. We furthermore contribute the theory on economy growth, as we suggest a plausible explanation for part of differences in growth across otherwise fully comparable countries. Our findings also provide some contributions to public economics. If we think of PHE as something that is a part of, or something that affects the public healthcare infrastructure, we show that the relationship between improving public healthcare infrastructure and economic growth is not linear (as commonly discussed).

Most of all, our results provide contributions to the theory of entrepreneurship, particularly the role of entrepreneurship within the economy. Despite the existing studies on relationship between entrepreneurship and economic growth, they were predominantly focusing on firm formation and job creation. Here, we show that the effects of entrepreneurship on growth go beyond that. Besides, our results feed the existing theory on shape of the relationship between entrepreneurship and economic growth more broadly. Unlike the existing studies that argued either linear or inverted U-shape relationship, we provide evidence that the functional form of this relationship is at least quadratic, but more likely cubic or even of a higher order. Acknowledging such a shape of the relationship resulted in creating valuable empirical implications.

6.2. Policy and managerial implications

The practical contribution of this paper follows from the statistical and economic significance of the obtained results. That is, we find that productivity coefficients are statistically different depending on the level of the PHE development. At the same time, comparing the magnitudes of differences, we find they are substantial in terms of economics effects. This directly translates to several empirical (policy and managerial) implications. First, state governments, especially ministries of health, could use these findings as a guideline when organising public health institutions. This would suggest providing conditions that would enable a higher entrepreneurial orientation within the public healthcare. The insights from this paper may also be useful to international organizations, particularly the WHO. Our findings could help them in revisiting the existing regulation to better account for aspects that have a meaningful impact on economic outcomes.

Namely, so far, the IHR was in a way treated isolated, with the focus being meeting certain requests

(without showing evidence of the effects of meeting those requirements outside beyond the healthcare effects). The WHO could consider linking the IHR to aggregate economic indicators, as we did in this study with linking them to the output per effective worker. Proving evidence of the potential benefits of IHR could incentivise countries to provide a better compliance. This undoubtedly creates positive spillover effects across the borders. Moreover, given the non-linear relationship we established in this paper, the WHO could think of guidelines for countries on their path in developing PHE, and more broadly on their path to IHR compliance. Our results could be useful for informing policy making in part with making better choices when trading off between various IHR requirements. Given the constraints the public healthcare face, they could use our results to help them make most of the efforts made. For example, at the point when all growth opportunities from innovativeness (i.e. laboratory) are seized, they should focus on further developing their weakest point instead of continuing to develop that one. Finally, the WHO could use our results as a foundation for performing different studies on how various IHR indicators correlate with a country's macroeconomic outcomes.

6.3. Limitations and suggestions for future research

The main limitations of this study stem from its research subject. In the absence of universally developed PHE indicators, this study uses approximations. Whether the approximations used ideally reflect entrepreneurial orientations is, of course, subject to debate. However, an advantage of using proxies is avoiding the measurement error. Namely, the data on entrepreneurship based on self-evaluations is normally subject to misreporting with the likeliness of bias towards underreporting or overreporting. Further limitations are imminent to the research questions selected. Namely, the novelty of the research question comes at the price of lacking comparable, especially recent studies. Hence, these findings cannot be compared with other studied that explicitly consider the effects of PHE on economic growth. Still, given the breadth of related studies this paper refers to, we believe the discussion provides a reasonable comparison to relevant studies. Some of these limitations set grounds for further studies. Lastly, the interval we observe is rather limited, meaning we were unable to scrutinize what happens as a country starts developing the PHE 'from the scratch'. Namely, as there are insufficient observations for particularly low levels of PHE development, we were unable to see what is happening on a country's path from bottom to upper bound of the low level of PHE (and PHE dimensions) development.

Possible directions for future research could involve coming up with alternative metrics for PHE. Moreover, we believe studying public entrepreneurship within different industries (where the public sector share in the industry is high) could also be helpful—for example, studying the effects of entrepreneurship in education on economic growth. Some plausible channels for this relationship include human capital index, but also labour and productivity. Finally, this research question could be studied using different econometric specifications.

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Biography

Jelica Rastoka, an MSc in Economics candidate at the London School of Economics and Science. She holds an MSc in Economics for Development from the University of Oxford and a Master of Economics: Business Economics degree from the Faculty of Economics, University of Banja Luka. Jelica is a Senior Bank Analysis and Monitoring Associate at the Deposit Insurance Agency of Bosnia and Herzegovina (Currently on leave). Jelica is genuinely interested in macro-micro economic linkages, covering growth and development, banking and finance, political economy, and relationships between nature and economy. She has published papers in journals such as Sustainability, International Journal of Environmental Research and Public Health.

У потрази за савременим покретачима раста:
Да ли предузетништво у јавном здравству утиче на економски раст?

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предузетништво у јавном здравству (ПЈЗ), унутрашње предузетништво здравствене заштите, међународна здравствена регулатива, савремени раст

САЖЕТАК

Предузетништво је одавно препознато као суштински покретач економског раста. Опште је прихваћено да предузетништво повећава иновације, формирање предузећа, запосленост и укупни БДП. Упркос све већем броју истраживања о јавном предузетништву и предузетништву у здравству, ове различите области истраживања нису толико комбиноване. Да би се попунила ова истраживачка празнина, овај рад анализира да ли предузетништво у јавном здравству утиче на економски раст. Ова студија користи базу података Свјетске здравствене опсерваторије Свјетске здравствене организације (WHO) која приближава различите димензије предузетништва по специфичним аспектима усклађености са међународним здравственим прописима. Студија користи податке из 170 земаља од 2010. године до 2019. године. Користећи поставку панела са фиксним ефектом, студија тестира да ли побољшања предузетништва у јавном здравству (ПЈЗ) утичу на економски раст земље. Резултати сугеришу да је већа предузетничка оријентација у јавном здравству повезана са већим ефектима на производњу по глави становника, која се каналише кроз продуктивност. Међутим, након достизања одређеног нивоа развоја ПЈЗ, доприноси расту почињу да опадају. Налази из овог рада дају неколико импликација. Прво, истражујући везу између јавног предузетништва и предузетништва у здравству, оно уводи концепт предузетништва у јавном здравству објашњавајући његову теоријску и емпиријску важност. Даље пружа емпиријску и квантитативну подршку гледишту да развој предузетништва у јавном здравству игра улогу у постизању већег учинка по ефективном раднику. Стога, ова студија пружа доказе о нелинеарној вези између предузетништва у јавном здравству и економског раста. Коначно, имајући у виду статистички и економски значај резултата, ови налази мотивишу креаторе политике да размотре развој политика које усмјеравају развој предузетничке оријентације у јавном здравству. Вјерујемо да је ово можда прва студија која разматра предузетничку оријентацију у оквиру јавног сектора у дискусију о економском расту.

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Science Mapping the Research of Business Process Management: Patterns and Implications for Comparable Information Technology Fields

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ABSTRACT

Business ethics, as a content of formal higher education, occupies This paper maps the research and maturity of the Business Process Management (BPM) scientific field by using existing literature reviews and bibliographic methods to formulate generalizable patterns and implications, which could be proposed for comparable, multidisciplinary Information Technology (IT) fields. By applying text mining to the corpus of BPM conference and journal papers, systematically selected from Scopus, generalizable drivers of BPM evolution and maturity are determined, including the proposal of implications for comparable IT fields. Results showed four literature clusters, which relate reasonably well with the BPM lifecycle and PDCA/PDSA cycle concepts. BPM and comparable research fields seem to be driven by the maturing of technological capabilities and organizational acceptance in the sectors in which they are heavily applied. This study comprehensively analyzes BPM journal articles and conference proceedings using bibliometric analysis to provide new research directions.

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1. Introduction

This study looks at the drivers of literature development and maturity of the Business Process Management (BPM) field and the opportunities to generalize the empirical results obtained by the science mapping of BPM literature. The research discipline of BPM has progressed by growing within the disciplines of Computer science, Management Science, and Information systems science (Recker & Mendling, 2016; van der Aalst, 2013). Consequently, BPM is a field involving multi-disciplinary science concepts, methods, and tools (Glykas, 2013), making its evolution pattern an ideal case for potential generalization across comparable fields at the intersection of Computer and Information science(s).

A robust bibliometric approach of text mining has been applied as a method of choice for science mapping of the BPM literature, including international journals and conference proceedings, to explore the corpus of core BPM papers believed to belong to a newly emerging multi-disciplinary field. As a result, some important papers from the related (sub)fields, primarily from workflow management (e.g. (Rinderle et al., 2003; Sadiq et al., 2007)), have not been selected for analysis. This is both a limitation and a feature of the paper, which aims to analyze the bibliometric patterns of the core BPM corpus and identify those, which might be applicable to a range of emerging multi-disciplinary IT fields of study.

An attempt to generalize the research findings across the comparable multi-disciplinary fields located at the intersection of Computer and Information science(s), follows up on the recent empirical findings on the co-evolution of 28 research fields (Iwami et al., 2020). Their conclusions of field co-evolutions (op. cit., p. 14) suggest a historical pattern of literature development based on the linkages with underlying technologies and methodological tools. We use the results of science mapping the BPM field to develop generalizable formal propositions of drivers relevant for theorizing and literature maturity across a range of comparable multi-disciplinary fields.

The objective of the paper is to analyze the bibliometric patterns of the BPM corpus and its trends by focusing on the following research questions:

- Which journals and authors influenced the Business Process Management literature the most?
- Which themes attracted the greatest attention from BPM scholars, are there any trends to be recognized?
- What is the potential application of identified BPM patterns in multi-disciplinary IT fields?

The paper is organized as follows. After the introduction, the second section describes the BPM field using the available literature reviews. The third section identifies the data retrieval strategy, methods, and software used. The fourth section presents the empirical results of science mapping the

BPM literature, while the fifth section contains text mining results. Discussion (the sixth section) generalizable propositions of development and maturity of BPM and comparable multi-disciplinary fields are developed. The seventh section outlines the study's limitations and recommendations for the future research agenda, including a preliminary conclusion of the study.

2. Literature review

After three decades, the BPM discipline reached a certain level of maturity (Houy et al., 2010; van der Aalst, 2013), which can be assessed from an overview of BPM literature presented in Table 1. Those have been identified based on a systematic search for BPM literature reviews performed in the last ten years, confirming the relevant corpus of literature, which can be analyzed using bibliometric methods. Nevertheless, except for using citation and co-citation analyses (Klun & Trkman, 2016), the contemporary bibliometric methods, such as the recent developments in text mining and citation analysis tools (van Eck & Waltman, 2017), have been applied only partially to this corpus (see Table 1).

Table 1

BPM literature reviews and application of bibliometric methods

Authors	Scope of review	Focus of review	Methods used
Sidorova and Isik, 2010	Abstracts of journal articles in EBSCO database between 1927-2008	Broad: Themes in Business Process research	Latent semantic analysis (LSA.)
Houy et al., 2010	Journal articles between 1991-2008 in databases WOS SCI and EBSCO	Specific: Empirical BPM research	Not named
vom Brocke and Sinnl, 2011	Journal articles and conference papers until 2009	Specific: Research on culture in BPM.	Not named
Niehaves and Plattfaut, 2011	Journal articles and conference papers until 2009	Specific: Research on Collaborative BPM.	Not named
van der Aalst, 2013	Paper published in the BPM conference proceedings, 2003-2012	General: BPM research use cases	Not named
Anand et al., 2013	Articles from AIS top journals and articles from the Science Direct database, 2005-2011	Broad: Multiple characteristics of articles	Not named
Recker and Mendling, 2016	Papers published in the BPM conference proceedings, 2003-2014	Multiple characteristics of BPM conference papers	Citation analysis
Klun and Trkman, 2018	Papers published in peer-reviewed journals in SCI and SSCI of the Core collection of WoS	Broad: Current state of the field	Citation, co-citation and cluster analysis
Danilova, 2018	Academic journals in the citation databases Emerald, EBSCO Business Source Complete, ScienceDirect and Taylor & Francis	Specific: Process owners in BPM.	Not named

Notes. Adapted and extended from Recker & Mendling, 2016.

Sidorova & Isik (2010) provide a cross-disciplinary perspective on business process (BP) research and identify the key research themes within the BP field (design, IT, organizational implementation, and management & control), along with the research associated with TQM, supply chain management, and e-commerce.

Niehaves & Plattfaut (2011) contains reviewed state of the collaborative BPM and contributed to identifying five clusters of literature relevant for future research: (1) certification and auditing, (2) simulation, (3) collaboration through non-contractual agreements, (4) collaborative BPM and (5) research towards the theoretical understanding of collaborative BPM Additional specialized reviews have been performed by (vom Brocke & Sinnl, 2011) on the role of culture in BPM and process ownership in BPM practicing organizations (Danilova, 2018).

Paper, written by van der Aalst (2013), provides an overview of the state-of-the-art topics in BPM and discusses the following key concerns: (1) process modeling languages, (2) infrastructure for process enactment, (3) process model analysis, (4) process mining, (5) process flexibility, and (6) process reuse.

In their review, Recker & Mendling (2016) aimed to cover the research approach, methods, and impact of papers presented at BPM conferences. The authors included 347 conference papers, which were classified and used to develop a set of recommendations to increase the maturity of future BPM research.

Klun & Trkman (2016) identified six clusters of BPM topics in scientific journals, which include: (1) practice-oriented BPR, (2) workflow management, (3) BPM concepts, (4) methods in business process modeling, (5) information technology and (6) BPM success factors. They describe the evolution of BPM, since its Business Process Reengineering (BPR)-related roots, in terms of the constant need for re-invention: firstly, from the radical BPR agenda to a more realistic workflow approach and, currently, from a state of fragmentation into multiple specialized subtopics, toward a more holistic discussion of the role of processes in digital transformation, social networks, and other relevant IT constructs.

The issues raised by Klun & Trkman (2016) question the generalizability of the constructs, such as the process orientation, and introduce a limit to theorizing, which questions the very definition of BPM as a holistic management approach (Rosemann & Brocke, 2010). This would certainly, limit the opportunities for epistemologically oriented research, looking to develop and test generalizable theories from the analysis of the BPM literature corpus. Nevertheless, a previous theory review of BPM empirical studies, published in the same journal (Houy et al., 2010), made a strict difference between those belonging to the epistemological 'school of thought' versus those using the applied approach, looking to develop new IT tools and models. Houy et al. (2010) labeled the two types of BPM empirical studies as 'behavioral' and 'design' science, constituting 55% vs. 45% of papers, as analyzed by their systematic literature review. The very amount of 'behavioral' studies indicates a potential for epistemological BPM research.

On the other hand, Anand et al. (2013) found that most of the top Association for Information Systems Research (AIS) journals did not, historically, devote much attention to business-process-related research. This is supported by a study, that found the amount of papers, developing the applied ('Mode 2') BPM knowledge, to be equal to 64.1% of papers, published in the Business Process Management Journal, as a principal publication outlet in the BPM field (Veit et al., 2017). Since the 'Mode 2' knowledge production is inter-disciplinary and driven by application and partnerships, as opposed to the traditional 'Mode 1' knowledge production, based on epistemologically oriented, traditional academic disciplines (Gibbons et al., 2010), those concepts could approximate the 'behavioral' vs. 'design' science notions.

Although the epistemological orientation of the BPM core literature corpus is not in the focus of this study, *results hinting at the applied nature of the majority of BPM literature could have significant implications for the analysis of the BPM field development and maturity, as well as its generalizability.*

3. Methodology

Bibliometric literature reviews can process a considerably higher volume of studies, published over a longer timespan, with a lower investment of time and resources while providing a comprehensive picture of the research topic (Hernández-Torrano & Ibrayeva, 2020). Bibliometric analyses use bibliographic information from scholarly databases (e.g., Web of Science, Scopus, PsycINFO, ERIC) (Andres, 2009). Bibliometric mapping is considered an important subject matter (Morris & Van der Veer Martens, 2008), as it reveals the structure and dynamics of a particular line of research (Zupic & Čater, 2015). The advances in bibliometric software enable the researchers to perform text mining techniques, which present an additional input to bibliometric studies and science mapping as a specific approach to systematic literature review (Sinoara et al., 2017).

To understand the drivers of development, relevant to fields on the intersection of computer and information science(s), this study uses the BPM discipline as a potentially generalizable case, which is analyzed by applying text mining and science mapping, considered to be useful when the research goal is to provide an overview of trends in a field, based on a broad corpus of research items and application of specialized software (Bu et al., 2020; Chen et al., 2014). Systematic mapping represents a specific type of systematic literature review (Sinoara et al., 2017).

We used text mining and clustering to synthesize the characteristics of the BPM core corpus. Text mining applies data mining to text files (Kotu & Deshpande, 2015) and supports knowledge discovery (Kaur & Chopra, 2016; Sinoara et al., 2017). In addition, it makes it possible to locate similar studies within bibliographic data (Justicia De La Torre et al., 2018).

3.1. Data retrieval and procedure

The Scopus database is chosen for the bibliometric analysis since it has broader coverage than the Web of Science (WoS) database (Hallinger &

Kovačević, 2019). The first step of a literature review study is to locate the relevant literature (Creswell & Creswell, 2018), so an advanced Scopus search was performed in April 2020. Three inclusion criteria were applied:

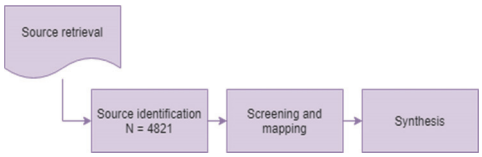
- Document type: journal
- Document type: conference paper
- Language: English

We aimed to include articles and conference papers whose title, abstract, or keywords contained the "business process management" phrase. The resulting keyword string, used for the identification of bibliographic items was as follows: TITLE-ABS-KEY ("business process management") AND (LIMIT-TO (DOCTYPE, "cp") OR LIMIT-TO (DOCTYPE, "ar")) AND (LIMIT-TO (LANGUAGE, "English")). We wanted to provide insight into the current state of BPM research and did not restrict the bibliographic search in terms of research topics or the field.

The process conducted is shown in Figure 1, which follows the generic methods and process of bibliometric research, regardless of the science field being mapped (Andres, 2009). Such a methodology has been applied in various fields ranging from business management and organization (Zupic & Čater, 2015) to education leadership (Hallinger & Kovačević, 2019).

Figure 1

The generic bibliometric research process

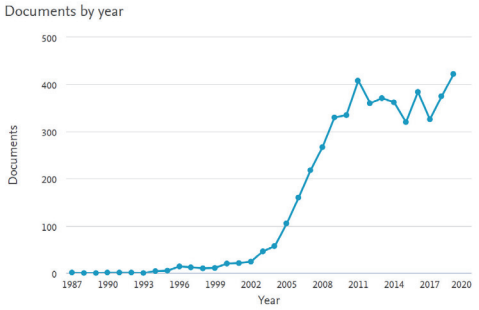


Notes. Authors' presentation of the research process.

The search resulted in 4821 documents published between 1987 and April 2020. Only 31.2 % of listed documents are journal articles, which demonstrated the knowledge gap in the existing studies, which avoided mapping of the conference proceedings in the field of BPM. Although the field of BPM is a new one (starting in the late 1980s), its growing popularity is evident, with the majority of research items being published from 2001 onwards, with exponential growth from 2002 to 2011 (see Figure 2).

Figure 2

Distribution of BPM-related documents in the Scopus database



Notes. Results of empirical research (authors' calculation).

The authors downloaded documents' bibliographic data and imported them to Excel from the Scopus database website. The Scopus data included the authors' names, article titles, year, source title, volume, issue, citation data, abstracts, keywords, and references. Various software tools were used for bibliographic analyses, as described in the following section of the paper.

3.2. Software tools used

Bibliographic data, derived from 4,821 documents indexed in Scopus, was analyzed using MS Excel and the specialized VOSviewer software, version 1.6.15.

Excel has been used for pre-processing and filtering data to obtain the number of citations and link strength and to sort full names of authors, sources, and documents for preparing the thesaurus files. Those are used to reduce unwanted redundancy, i.e. merge different variants of authors' names

(e.g. "van der aalst, w.", "van der aalst, w.m.p.", "van der-aalst, w." and "van der aalst, w.m." - belonging to a single author).

VOSviewer is a free software for creating and visualizing bibliometric maps (Jan & Ludo, 2010) and text mining, used to create term maps based on a corpus of documents (Eck & Waltman, 2011; Jan & Ludo, 2010), showing the relatedness of concepts in a science field. The text mining procedure starts with the identification of noun phrases. Word sequences that end with a noun are selected, and plural phrases are transformed into singular ones.

The second step relates to selecting the most relevant noun phrases (also referred to as terms), followed by mapping, clustering, and visualizing the obtained results. The terms' relatedness in this paper is determined based on co-occurrences in paper abstracts.

3.3. Fundamental bibliometric characteristics of the core Business Process Management (BPM) literature

To complement the analysis of the existing literature reviews (see Section 2), in this section, the BPM core literature is briefly described by using the standard bibliometric indicators obtained by using the citation and co-citation analyses. Since a similar study (Klun & Trkman, 2016) provides a similar coverage of Web of Science-based coverage of journal papers, we provide a limited amount of fundamental bibliometric information by using the traditional citation analysis (Eugene, 1972) and the two standard weight attributes - the links and the total link strength (Eck & Waltman, 2011).

The citation analysis of authors has resulted in the identification of 7,976 authors, with the twenty most-cited authors of the core BPM literature identified in Table 2, along with the number of documents, number of citations, and citations per document. According to the link strength, the top authors are ranked as calculated by the VOSviewer software (with the minimum threshold for the number of documents per author and citations per author set to two).

Table 2

Top twenty BPM authors published in the Scopus database

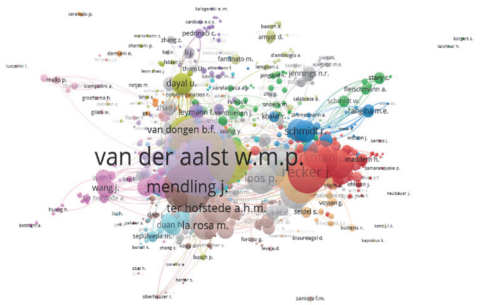
Rank	Author	Number of documents	Number of citations	Citations per document	Total link strength
1	van der Aalst, WMP.	79	5415	68.54	1323
2	Mendling J.	69	1532	22.20	708
3	Reijers H.A.	34	1408	41.41	592
4	Recker J.	31	1158	37.35	540
5	Rosemann M.	42	1359	32.36	470
6	Weske M.	58	1533	26.43	445
7	Trkman P.	10	910	91	413
8	Song M.	14	1584	113.14	410
9	Becker J.	42	367	8.74	362
10	Ter Hofstede A.H.M.	26	840	32.31	353
11	Loos P.	50	543	10.86	337
12	Verbeek H.M.W.	7	809	115.57	329
13	Roglinger, M.	20	266	13.3	325
14	La Rosa, M.	20	642	32.1	303
15	Schmiedel, T.	13	383	29.46	302
16	Indulska M.	19	786	41.37	275
17	Fettke, P.	33	437	13.24	270
18	Van Dogen B.F.	8	1179	147.38	256
19	Janiesch, C.	23	191	8.3	241
20	Vom Brocke, J.	19	439	23.1	239

Notes. Authors' presentation.

Out of the citation map, including 2,010 authors who met the thresholds, 985 authors with the greatest total link strength were selected to obtain a more accessible map (see Figure 3). According to the Scopus search criteria, author Wil van der Aalst proved to be the most productive and most cited author in the BPM core literature corpus, with 79 items and 5,415 citations. The result is consistent with his H-index of 147, demonstrating over 100,000 citations the author received in the broad field of Information Technology. Mendling (69 items) and Weske (58 items) follow, each receiving over 1,500 citations. A slightly larger number of citations is attributed to Song, for whom 14 items have been identified, therefore receiving one of the largest ratios of citations per document.

Figure 3

Citation map of the BPM core literature, ased on the total link strength



Notes. Authors' presentation.

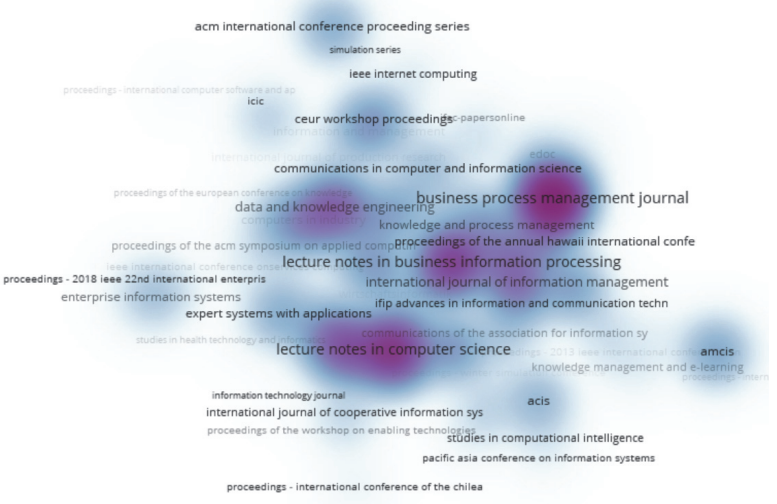
To visualize the most cited sources with the most significant impact in the BPM field, as well as to obtain an overview of the general structure of the BPM body of knowledge and the publication outlets (Jan & Ludo, 2010), the density visualization is used (see Figure 4).

The map is created using the total link strength metric and the map colors, depending on the number and the importance of the neighboring items. A thesaurus file has been made to eliminate redundancy among sources. The threshold has been set to at least five documents per source, which generated 98 highly cited Scopus sources out of 1,599 BPM-related sources.

A source with the highest total link strength is the *Business Process Management Journal,* while the Lecture Notes publish the highest number of items in Computer Science (N=479). When this source is excluded from analysis, the highest number of Scopus items belongs to the CEUR Workshop Proceedings (N=196), followed by the Business Process Management Journal (N=168). Of the top twenty sources, 30% belong to conferences (N=6), while the majority fit the academic journals (N=12), which could have been expected. Table 3 shows the calculated total strength, number of documents, and number of citations for each source

Figure 4

The map of most cited Scopus sources in the BPM field



Notes. Authors' presentation.

Table 3

Top twenty highly cited BPM sources in the Scopus database

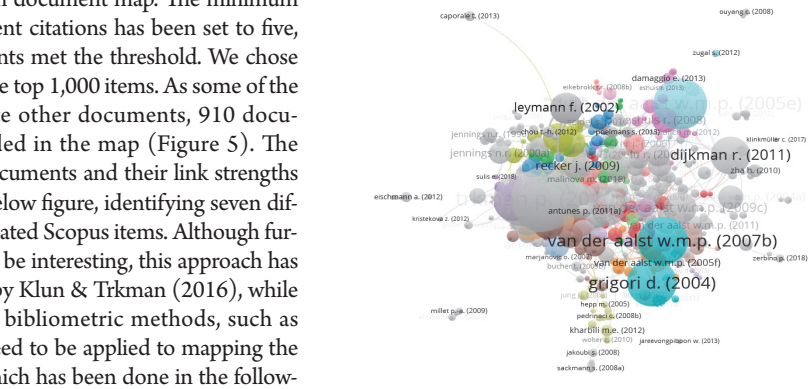
Rank	Source title	Number of documents	Number of citations	Total link strength
1	Business Process Management Journal	168	4105	629
2	Lecture Notes in Business Information Processing	404	2083	317
3	Lecture Notes in Computer Science	479	6319	315
4	Information Systems Journal	29	1729	209
5	Data and Knowledge Engineering Journal	18	1496	208
6	International Journal of Information Management	10	853	150
7	Business and Information Systems Engineering Journal	21	403	104
8	ECIS - European Conference on Information Systems	70	705	100
9	Computers in Industry Journal	18	894	99
10	Decision Support Systems Journal	25	990	98
11	AMCIS - Americas Conference on Information Systems	89	333	88
12	Total Quality Management and Business Excellence Journal	11	304	88
13	CEUR workshop proceedings	196	627	85
14	Proceedings of the Annual Hawaii International Conference on System Sciences	49	629	84
15	Information and Software Technology Journal	18	665	78
16	ACM international conference proceeding series	94	257	73
17	Knowledge and Process Management Journal	18	290	72
18	Expert Systems with Applications Journal	27	503	71
19	ACIS - Australasian Conference on Information Systems	40	765	59
20	Information Systems Frontiers Journal	14	211	58

Notes. Authors' presentation.

The citation analysis aimed to identify highly cited documents, and more importantly focus was to present a citation document map. The minimum number of document citations has been set to five, and 1,733 documents met the threshold. We chose to select links for the top 1,000 items. As some of the documents did cite other documents, 910 documents were included in the map (Figure 5). The most important documents and their link strengths are shown in the below figure, identifying seven different clusters of related Scopus items. Although further analysis would be interesting, this approach has already been used by Klun & Trkman (2016), while the contemporary bibliometric methods, such as text mining, still need to be applied to mapping the BPM literature (which has been done in the following section).

Figure 5

Citation analysis of the BPM field



Notes. Authors' presentation.

The top-cited documents from our limited search (see Table 4) are sorted by link strength, with the highest number of Scopus citations belonging to a study on the critical BPM success factors by Trkman, followed by a study of BPM competitive strength by Zairi and van der Aalst et al., related to handling the BPM use cases.

Table 4

Top twenty most cited BPM studies from the core literature corpus, indexed by the Scopus database.

Rank	Scopus document	Scopus citations	Links
1	Trkman, P. (2010). The critical success factors of business process management. *International Journal of Information Management, 30*(2), 125-134.	440	68
2	Zairi, M. (1997). Business process management: A boundaryless approach to modern competitiveness. *Business Process Management Journal*, 3(1), 64-80.	243	54
3	Van Der Aalst, W. M. P., Weske, M., & Grünbauer, D. (2005). Case handling: A new paradigm for business process support. *Data and Knowledge Engineering, 53*(2), 129-162.	505	49
4	Hung, R.Y.-Y. (2006). Business Process Management as a competitive advantage: A review and empirical study. *Total Quality Management and Business Excellence, 17*(1), 21-40.	158	46
5	van der Aalst W. M. P., Reijers, H. A., Weijters A. J. M. M., van Dongen B.F., Alves de Medeiros, A. K., Song M., & and Verbeek, H. M. W. (2007). Business process mining: An industrial application. *Information Systems, 32*(5), 713-732.	494	45
6	Grigori, D., Casati, F., Castellanos M., Dayal U., Sayal M., & Shan M. -C. (2004). Business Process Intelligence. *Computers in Industry*, *53*(3), 321-343.	343	44
7	Houy C., Fettke P., & Loos, P. (2010). Empirical research in business process management - analysis of an emerging field of research. *Business Process Management Journal, 16*(4), 619-661.	120	34
8	Dijkman R., Dumas M., Van Dongen B., Krik, R., & Mendling, J. (2011). Similarity of business process models: Metrics and evaluation. *Information Systems, 36*(2), 498-516.	412	32
9	Pritchard, J.-P., & Armistead, C. (1999). Business process management – lessons from European business. *Business Process Management Journal*, *5*(1), 10-35.	92	32
10	Weske, M., Van Der Aalst, W. M. P., & Verbeek, H. M. W. (2004). Advances in business process management. *Data and Knowledge Engineering, 50*(1), 1-8.	156	29
11	Rosemann, M., & De Bruin T. (2005). Towards a business process management maturity model, in *Proceedings of the 13th European Conference on Information Systems, Information Systems in a Rapidly Changing Economy (ECIS)*. (pp. 1-12).	197	27
12	Armistead C., Pritchard J.-P., & Machin, S. (1999). Strategic business process management for organizational effectiveness. *Long Range Planning, 32*(1), 96-106.	101	26
13	Van Der Aalst W. M. P., Pesic, M., & Schonenberg, H. (2009). Declarative workflows: Balancing between flexibility and support. *Computer Science - Research and Development*, *23*(2).	346	25
14	Leymann, F., Roller, D., & Schmidt M. T. (2002). Web services and business process management. *IBM Systems Journal*, *41*(2), 198-211.	376	23
15	Ko, R. K. L., & Lee, S. S. G., & Lee E. W. (2009). Business process management (BPM) standards: A survey. *Business Process Management Journal, 15*(5), 744-791.	240	23
16	Erol, S., Granitzer, M., Happ, S., Jantunen, S., Jennings, B., Johannesson, P., Koschmider, A., Nurcan, S., Rossi, D., & Schmidt, R. (2010). Combining BPM and social software: Contradiction or chance? *Journal of Software Maintenance and Evolution*, 22, 449-476.	104	22
17	Smart, P. A., Maddern, H., & Maull R. S. (2009). Understanding business process management: Implications for theory and practice. *British Journal of Management, 20*(4), 491-507.	68	22

18	Recker, J., Rosemann, M., Indulska M., & Green, P. (2009). Business process modeling - A comparative analysis. *Journal of the Association for Information Systems, 10*(4).	240	20
19	Bruno, G., Dengler, F., Jennings, B., Khalaf, R., Nurcan, S., Prilla, M., Sarini, M., Schmidt, R., & Silva, R. (2011). Key challenges for enabling agile BPM with social software. *Journal of Software Maintenance and Evolution, 23*(4),	109	20
20	Eshuis, R., & Grefen, P. (2008)." Constructing customized process views. *Data and Knowledge Engineering, 64*(2), 419-438.	121	18

Notes. Authors' presentation.

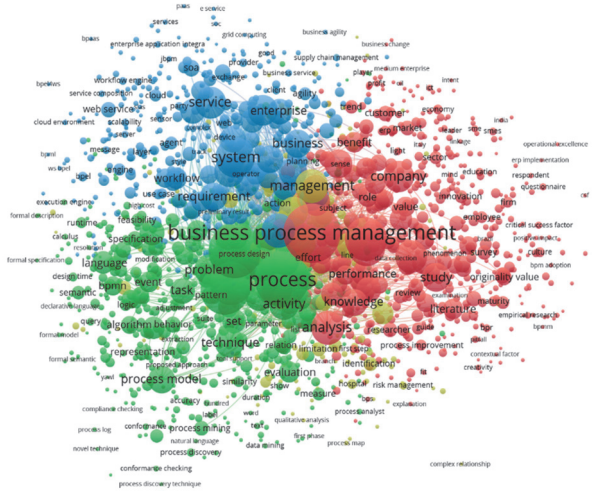
3.4. Mapping the BPM core literature: In search of generalizable patterns

In the science mapping of the BPM core literature corpus, the bibliometric data were analyzed using text mining and similarity visualizations. Text mining helps avoid manual screening of more than 4,800 titles and abstracts (Ananiadou et al., 2009), with the abstract field used to identify noun phrases, which is useful for analyzing co-occurrences (see Section 3.2.).

From the total number of 52,192 noun phrases occurring in at least ten publications in the corpus, the term map contains 1,694 most relevant, weighted by the total link strength. The term "paper" was excluded from the analysis, and the minimum number of items per cluster was set to 88. These were technical preconditions for visualizing the relatedness of the analyzed terms based on their co-occurrences in the core BPM corpus. Text mining resulted in four clusters (see Figure 6), numbered according to their size (Cluster 1 is the largest, and Cluster 4 is the smallest).

Since visualization helps with interpreting the text mining (Justicia De La Torre et al., 2018), it was easy to use the resulting map to point out the most frequent terms in each cluster (see Table 5), whose frequencies in the core BPM corpus help to describe and interpret the literature patterns, based on BPM terms' co-occurrence.

Figure 6
Visualization of the key themes (clusters) in the BPM field.



Notes. Authors' presentation.

Table 5

Scopus clusters of BPM literature and the key cluster terms (with noted frequencies for each term)

Cluster number	Cluster 1 (red)	Cluster 2 (green)	Cluster 3 (blue)	Cluster 4 (yellow)
Number of items	572	536	394	192
The most frequent phrases	business process management (2551), bpm (1398), analysis (852), intent (14), initiative (171), benefit (307), knowledge (540), performance (392), indicator (60), research (782), study (620), development (620), role (288), first step (58), understanding (230), impact (284), need (583), organization (1100), company (726)	business process (2099), approach (1820), tool (734), process (2264), user (327), feature (214), modelling (104), technique (679), data (699), activity (711), event (306), problem (667), model (1385), evaluation (340), information (605), documentation (65), task (487), input (81), time (617), runtime (90), experiment (146), domain (336), context (628), process mining (165), feasibility (134), rule (253), simulation (153), measure (125), process analysis (38), order (834)	System (1188), application (743), service (769), platform (299), technology (659), infrastructure (186), business process execution (54), integration (446), workflow (361), requirement (583), architecture (473), implementation (603), resource (419), attribute (35), application integration (16), framework (871)	Improvement (361), effectiveness (212), limitation (156), quality (382), efficiency (344), synthesis (25), management (841)

Notes. Authors' presentation.

The obtained results in the form of four clusters are similar to the BPM lifecycle stage concept used to classify the BPM literature in a review by Santos Rocha & Fantinato (2013). Although there is no overall agreement on the number or names of the BPM lifecycle phases, they are usually conceptualized in terms of the definition, execution, follow-up, control, and analysis of business processes, in addition to their improvement (Hernández González et al., 2019). This framework can be further simplified into four general stages related to van der Aalst (2013): (1) business process modeling, (2) an enactment (process implementation involving the configuration of the information systems); (3) analysis (diagnosing problems by using the process model/maps) and (4) management (involving all other BPM activities, including additional adjustments of the process).

Another classification, following the notion of analyzing, planning, implementing, and evaluating management plans, is provided by Santos Rocha & Fantinato (2013), who recognizes the following BPM lifecycle stages: (1) design & analysis; (2) configuration; (3) enactment and (4) evaluation. Those would fit the obtained mapping rather well, with Cluster 1 easily identified as corresponding to the design & analysis, Cluster 2 to the configuration (implementation), Cluster 3 to enactment, and Cluster 4 to the evaluation stages.

Based on the year publication, the key terms in the BPM literature have also been analyzed to describe the trends and dynamics of the BPM core literature corpus. Mapping historical developments is easier for bibliometric studies in more established fields, such as organization and management (Zupic & Čater, 2015), or even specialized ones, such as education management and leadership (Hallinger & Kovačević, 2019). As BPM rapidly evolves for twenty years, the obtained research results can be used as an indication of its development.

The initial literature belongs to Cluster 3, which could be interpreted in terms of the Enactment stage in the BPM lifecycle, which is fairly logical due to the emphasis on the actual cases of implementing the BPM concept and the supporting technologies/information systems. More recent concepts include: "digitalization", "agility", "contextual factor", "process mining technique", "process discovery", "novel technique", "cloud" and "cloud computing". Except for the technological development of cloud computing, those terms are 'scat-

tered' around different stages of the BPM lifecycle, making it somewhat inaccurate to describe the historical development of the BPM core literature.

Nevertheless, our results resonate with the empirical findings of Recker and Mendling (2016), who notice that as much as 56% of BPM conference papers cover process discovery, while only 6% and 2% discuss process re-design and evaluation. This is consistent with the analysis of the BPM research conducted by van der Alst (2013), who notices an (over)emphasis on process modeling and modeling languages in the BPM literature in general, with the topics of process mining and enactment infrastructures (usually based on cloud software) gain prominence in recent literature.

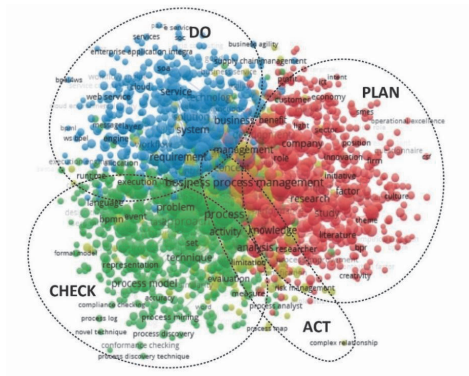
Overall evaluation of the BPM literature mapping, based on the lifecycle stage, seems to *support its connections to the technological developments and their implementation in the earlier stages of the BPM lifecycle, which involve the initial design of the process models and supporting IT infrastructure. This puts into question a supposedly high level of the BPM literature maturity, which could be further supported by a descriptive approach to research in BPM conference papers.* This has been established by Recker and Mendling (2016), who found only a handful of papers using hypotheses testing, with only 2% of papers using surveys for data collection and 4.3% applying the experimental evaluation of data.

Another conceptual framework, the PDCA cycle, can also be used for the science mapping of the BPM field. It is an interactive four-step strategy for solving problems and improving business processes (Arveson, 2020; Moen & Norman, 2009). It is also referred to as the PDSA (Plan, Do, Study, Act) cycle (Moen & Norman, 2009; Sokovic et al., 2010) to emphasize the importance of organizational learning, which makes it a good choice for the analysis of historical literature development and its drivers. Another benefit of the PDCA/PDSA cycle, when used as a conceptual tool for science mapping, is that its steps are typical, clearly demarcated stages, implying that an organization moving through them achieves a higher level of learning and continuous development. This is clearly shown by the conceptual identification of the multiple cycles of implementing the PDCA/PDSA methodology with the Japanese continuous improvement philosophy of 'kaizen', leading to a higher level of organizational quality and performance (Huda & Preston, 1992). In addition, this framework has already been used as one of the dimensions in the classification of the Green BPM literature (Opitz et al., 2014), as well as a classifying framework in the recent review of literature in the field of Smart Cities (Ninčević Pašalić et al., 2021) and in field of simulation modeling (Jadric et al., 2020), which supports its usage in the context of evaluating the core BPM literature corpus.

Figure 7 shows the obtained visualization of the BPM field mapping based on the PDCA/PDSA cycle, resulting in three large and one underdeveloped literature cluster. Cluster 1 and the associated terms (identifying and analyzing problems, determining goals, objectives, and defining targets) are linked to the Plan stage; Cluster 3 (related to BPM implementation) to the Do stage; Cluster 2 (related to measuring of BPM results and their evaluation) to the Check stage; Cluster 4 (related to organizational learning and change/improvement) to the Act stage. Once again, the lack of BPM literature in the Act stage resonates with the findings, which were evaluating the BPM conference papers only. This *suggests a lower level of the BPM field maturity, compared to the arguments of the increasing maturity, based on the growth of the literature items, dealing with BPM topics.*

Figure 7

Mapping of the BPM core literature to the PDCA conceptual framework



Notes. Authors' presentation.

It is very important to compare the obtained results of the BPM science mapping to a similar study of the Smart Cities literature, which is developing on the intersection of IT, information science, urban, and social studies. The PDCA-based evaluation of this literature tends to concentrate on the Plan stage (Ninčević Pašalić et al., 2021), which could serve as an indication that the positioning of literature is linked to the stage of the development, related to the underlying technologies and (business) practices in the sectors, in which the concept is heavily applied. This finding will be further discussed in the following section of this study.

4. Discussion

BPM could be located on a map of IT fields, located at the intersection of Computer and Information science(s), which has been developed by (Iwami et al., 2020), in their study of scientific field(s) co-evolution, based on the bibliometric indicators and time series analysis. Those fields could be described in terms of the Applied Science, IT Systems and Networks section of the IT fields research map created by these authors (Iwami et al., 2020, p. 11), and refer to a potentially wide range of topics, such as Business Intelligence (BI) and Big Data (BD), Cloud Computing (CC), Knowledge Management (KM), Smart Cities (SC), etc.

There are several bibliometric studies of these fields, such as a paper by Liang & Liu (2018), providing a descriptive overview of the BI and BD literature. It includes the identification of four relevant literature clusters, although their historical mapping is not conducted. Another study uses a complex classification of the intelligence literature throughout four periods to describe the thematic evolution of the field (López-Robles et al., 2019). With a number of themes identified, they point to two major theoretical 'motor themes', driving the evolution of the literature. However, their conclusions might not be applicable to IT research, as the analyzed literature consists of all conceptual papers related to intelligence in various fields of study, from marketing to political science, disaster management, etc.

In a similar, cross-disciplinary field of KM, authors (Qiu & Lv, 2014) provide a descriptive commentary on the development of the KM core literature, finding an exponential growth of the literature and a well-established network of journals, researchers, and institutions. Additional evidence on the development of the KM field is provided by Gaviria-Marin et al. (2019), who draw on the conceptual work of Sadiq et al. (2007), to develop a map of KM literature development based on the increasing maturity of the knowledge concept.

The CC field, as a fairly new research topic, develops mainly by means of conference proceedings and seems to be dominated by computer science authors (Heilig & Voß, 2014). The analysis of CC literature keywords confirms the current orientation on technologies and their characteristics, with a shift toward socio-economic issues when future research trends are accounted for (Heilig & Voß, 2014).

Unfortunately, none of these studies provides a historical analysis of the field's literature and the recognition of its development drivers, which could be useful to further explore the drivers of the co-evolving IT fields, which were hinted by Iwami et al. (2020). Therefore, our results can be extremely helpful, not only in understanding the drivers of theorizing in the BPM field of research but also in proposing how the patterns of BPM theory development could help uncover the trends in the 'borderline' Computer/Information Science research fields.

Results obtained by the previous analysis of the epistemological vs. applied nature of BPM literature (Houy et al., 2010; Veit et al., 2017), as well as by science mapping of the BPM literature hint there could be a relationship between the historical development stage of the field and the positioning of its literature, according to the focus on underlying technologies and methodological tools. We propose that such a development pattern could be generalized across multiple multi-disciplinary fields, relation to Computer and Information sciences. If such a proposition is accepted, it will imply that theorizing in these fields is driven by the development of underlying technologies and (business) practices. This would not be a completely new phenomenon, as a comparable trend has been observed in Quality

Management literature (Fundin et al., 2018). However, there have not been any similar studies in the Computer/Information science literature.

Based on the results obtained by applying the PDCA/PDSA cycle to the BPM literature mapping, we believe it is possible to assess the literature maturity and link it to the maturity of underlying technologies. Namely, the notion of maturity is a well-defined term in IT theory and practice, describing the evolution of technology, an organization, or a specific intellectual construct, along the path from the less to a highly developed stage (Reis et al., 2017). Therefore, we also propose that, for the fields and topics on the intersection of Computer and Information sciences, the maturity of the literature/field is driven by the maturity of the underlying technological capabilities and their acceptance in major organizations in industry and other relevant sectors.

The research limitations and the future research agenda related to the testing of the two research propositions are described in the following section.

5. Conclusions and implications

The empirical results indicate that, although there is a certain level of maturity in the BPM literature, after reaching three decades of existence (Houy et al., 2010; van der Aalst, 2013), it is still a developing field, with the research topics currently tend to cluster outside of the Act stage of the PDCA cycle, when used as a classification device. Our results are similar to a previous study, categorizing the majority of specialized literature on 'Green BPM' into the Plan stage of the PDCA cycle (Hernández González et al., 2019) when considering its management activities dimension. In addition, the results we obtained for the BPM field are supported by the conclusions of similar recent bibliographic research (Jadric et al., 2020; Ninčević Pašalić et al., 2021) and the previous trends in other fields (Fundin et al., 2018).

5.1. Theoretical implications

The findings presented in this study carry several significant theoretical contributions for both the field of Business Process Management (BPM) research and the broader landscape of Computer/Information Science research. Based on the initial analysis of BPM literature, we propose that the patterns of the BPM literature development can be generalized to a number of fields on the intersection of Computer and Information science(s). We propose that their theorizing might be driven by the development of underlying technologies and (business) practices, which is applicable to the maturity of those fields, as well.

5.2. Policy and managerial implications

The findings described bring several implications for researchers and practitioners in the BPM field. The proposed linkage between the maturity of BPM literature/field and the maturity of underlying technological capabilities suggests that as technological innovations progress and become accepted within industry and other sectors, the BPM literature also matures in response. Managers and practitioners in BPM can utilize this insight to make informed decisions regarding technology adoption and its impact on their business processes. In addition, this insight has broader implications for researchers in various interdisciplinary domains, offering a framework for understanding the dynamics of theory development in relation to technological advancements.

5.3. Limitations and suggestions for future research

There are some limitations to the current study. Our analysis solely relied on the Scopus database as the source, which means that there is a possibility of relevant studies and instances that might have been excluded. This is a significant limitation as it restricts the scope of the research. Search strategy included only papers with the title, abstract, or keywords with the exact term "business process management". This resulted in some significant papers belonging to the adjacent (sub)fields, such as workflow management, being excluded by a narrower search strategy. However, we believe this is not a significant obstacle to identifying patterns of core BPM studies, which could be generalized as to describe some general trends in the development of specialized, multi-disciplinary IT fields.

The principal limitation is the screening of abstracts only (instead of the entire text) for text mining since the full-text analysis would require currently unavailable resources. In addition, the software used (VOSviewer) does not provide, in its current version, the functionality of filtering the visualizations and linking the results of the text mining to specific papers and authors. The analyzed corpus of documents included only Scopus items in English, with the books and book chapters excluded from the analysis.

These limitations of the bibliometric analysis should be addressed by future research, which should be replicated across a range of specialized, multi-disciplinary research fields on the intersection of Computer and Information science(s). Future work should also expand to other relevant scientific databases as well as to grey literature and comparison of the results should be made.

CRediT authorship contribution statement

I.N.P.: Conceptualization, Formal analysis, Writing – original draft, Writing – review

T.M.: Conceptualization, Methodology, Writing – original draft, Writing – review

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Biography

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Научно мапирање истраживања менаџмента пословним процесима: обрасци и импликације за упоредна поља информационих технологија

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Кључне ријечи:
менаџмент пословним процесима, мапирање науке, рударење текста

САЖЕТАК

Овај рад мапира истраживање и зрелост научне области Менаџмент пословним процесима (БПМ) користећи постојеће прегледе литературе и библиографске методе да би се формулисали обрасци и импликације које се могу генерализовати и које би се могле предложити за упоредиве, мултидисциплинарне области информационих технологија (ИТ). Примјеном рударења текста на корпус БПМ конференција и радова из часописа, систематски одабраних из Scopus-а, утврђују се генерализовани покретачи еволуције и зрелости БПМ-а, укључујући приједлог импликација за упоредива ИТ поља. Резултати су показали четири кластера литературе, који су прилично добро повезани са концептима животног циклуса БПМ-а и ПДЦА/ПДСА циклуса. Чини се да су БПМ и упоредива истраживачка поља вођени сазријевањем технолошких способности и организационим прихватањем у секторима у којима се у великој мјери примјењују. Ова студија свеобухватно анализира чланке из часописа БПМ и зборнике конференција користећи библиометријску анализу како би пружила нове правце истраживања.

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Individual and social influence on students' attitudes towards business ethics

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ABSTRACT
Business ethics, as a content of formal higher education, occupies an important place in the curricula of higher education. Based on previous research results, it is essential to determine which factors influence students' attitudes and behavior in adopting the principles of business ethics and social responsibility. This paper investigates a series of individual and social influences on students' attitudes toward business ethics. Using a sample of 211 students from the University of Banja Luka, Bosnia and Herzegovina (B&H), and the University of Niš, Serbia, we empirically test factors, influencing students' attitudes toward business ethics and social responsibility. The paper employs statistical methods of descriptive analysis, clustering, and statistical testing of mean differences using non-parametric tests (Mann-Whitney U and Wilcoxon Z). After analyzing the empirical results, recommendations are given for improving educational programs and adopting the principles of business ethics and social responsibility in business. Additionally, recommendations are provided aimed at public authorities in creating public policies that would strengthen the focus of young generations on business ethics.

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1. Introduction

Teaching business ethics has been considered one of the critical aspects of education in business schools since the 1980s, both in the field of analytics and through various applied courses and topics (Gandz & Hayes, 1998). While in the 1980s, courses in business ethics in higher education were still rare (Hosmer, 1985), numerous corporate scandals in the 1990s and early 2000s focused attention on the role and readiness of business schools to educate ethical leaders in the business world (Crane, 2010). However, case studies of corporate fraud and scandals help teach ethical decision-making and create positive perceptions of business ethics among students (Cagle & Baucus, 2006).

Business ethics cannot be considered only an addition to the usual curriculum of business schools, as the very foundations of business and entrepreneurship as activities aimed at achieving individual interest in efficient markets are increasingly being questioned. If, instead of the traditional assumptions of business education, one starts from the assumptions that business and entrepreneurship should be based on the mission of the company, that value is created with the help of relationships with stakeholders, and that most people behave ethically (Freeman et al., 2010), teaching ethics can be put at the forefront of education in business schools.

Student attitudes and behavior are often seen as critical outcomes of ethically oriented higher education, raising the question of whether they depend on the characteristics and personality of students who choose faculties as already formed individuals or whether attitudes and behavior can be influenced within higher education (Trow, 1976; King & Mayhew, 2002), which also considers its ethics as an important factor in ensuring the quality of education (Prisacariu & Shah, 2016). Therefore, it is imperative to identify which factors influence students' ethical attitudes and behavior, since changes in the global and regional environment can influence the factors, relevant to students' evaluation of business ethics and social responsibility. Although these factors were previously discussed in the global literature, the contribution of this paper is related to their identification and empirical evaluation in the regional context.

An online survey was conducted at three selected higher education institutions (economic faculties) in two countries in the region (B&H and Serbia) to determine whether there are differences in attitudes towards business ethics and social responsibility in business among groups of students. The results obtained can provide helpful information and be a relevant indicator and comparison of the differences in the development of teaching business ethics and social responsibility between the selected higher education institutions in the region, as well as which factors students consider important in influencing a greater orientation towards ethics and social responsibility in business.

We focus on factors that improve business ethics (teaching ethics in business schools, industrial ethical codes, regulation by government, and participation of civil society and religious leaders) as used in the influential work by Arlow and Urlich (1988). In addition, we analyze claims related to student interest in social activism and intention of socially responsible behavior by choosing a socially responsible employer. The results show that groups of students, to a greater or lesser extent, are oriented toward business ethics. Students perceive the influence of government intervention and control on the development of business ethics and social responsibility in the country/society, which from a theoretical aspect, is not explainable. The research results also indicate a significant correlation between Machiavellianism as a moral orientation and the level of business ethics and social responsibility in business.

The obtained empirical results are believed to help inform public authorities in creating policies that are not limiting but stimulating for entrepreneurs/business associations.

The structure of the study is as follows: after a review of the literature (in the second section), a description of the research methodology (in the third section), a presentation of the obtained results and their interpretation (in the fourth section), and

a discussion of the results (in the fifth section) and conclusions (in the sixth section).

2. Literature review and hypothesis development

When considering the essential demographic characteristics of students, there is almost universal agreement that women have a higher level of sensitivity to ethical issues, as well as a greater inclination towards ethical attitudes and behavior than men, and the same applies to older as opposed to younger students (Borkowski & Ugras, 1998). Haski-Leventhal et al. (2015) arrived at similar conclusions based on a global sample of 1,300 students, finding that female students (compared to male students) and older students (compared to younger ones) more fully embrace the values of business ethics and social responsibility and support the introduction of courses that deal with business ethics.

On the other hand, although teaching business ethics in higher education is generally shown to be helpful in terms of better identifying ethically questionable attitudes and changing general attitudes (Murphy & Boatright, 2010; Williams & Dewett, 2016), it probably cannot have a lasting impact on the development of morals and ethical behavior in students (Hummel et al., 2016). This is logical since the student population enters higher education with already formed attitudes, values, and beliefs about the ethics of certain behaviors. However, some studies show that students more fully and permanently accept the values promoted by business ethics courses. In contrast, female students are more likely to adopt a relativistic view of ethical behavior after completing academic content in business ethics (Wang & Calvano, 2015). There is no clear explanation in the literature for the different research results.

Different character traits and other psychological factors contribute to accepting or rejecting business ethics and its teaching in higher education. Burton and Hegarty (1999) empirically showed that the level of Machiavellianism (orientation towards achieving goals regardless of possible manipulation and unethical behavior) is negatively correlated with attitudes towards business ethics and social responsibility. Brown et al. (2010) empirically found a positive correlation between ethical decision-making in business and empathy, as well as a negative correlation between narcissism (self-centered orientation) and ethical decision-making. These results are significant, as business students show increased narcissism and decreased empathy levels (Sautter et al., 2008).

Fitzpatrick (2013) showed in her empirical study of 46 students that religiosity positively correlates with acceptance of attitudes towards the need for socially responsible business. A similar conclusion is confirmed by a much larger empirical study conducted on a sample of 850 American students (Conroy & Emerson, 2004). However, a national culture largely influences the relationship between religiosity and acceptance of business ethics, as Rashid and Ibrahim (2007) found in their study of 767 business students from Malaysia, China, and India.

The next factor that could influence students' ethical attitudes and behavior relates to accepting existing ethical codes, i.e., initiatives from employers, the government, or other influential individuals and organizations in ethical and social issues. When it comes to the government, Thompson (1992) discusses ethics in the public sector and emphasizes the crucial role of government officials responsible for implementing ethical codes in the public sector and their continuous and visible impact on all public sector employees and their acceptance of democratic values. In recent times, however, instead of directly prescribing forms of ethical behavior through ethical demands and codes, there is a trend of collaboration between governments and companies that need to work in cooperation with nonprofit and social organizations to promote business ethics and social responsibility (Albareda et al., 2008).

Regarding work or business experience, it has been shown that students are more skeptical about business ethics than experienced businesspeople and tend to accept ethically questionable business decisions more easily (Cole & Smith, 1996). On the other hand, the previous entrepreneurial experience of students, due to the idea of entrepreneurship as "creative destruction," should be associated with increased rejection of traditional rules and forms of behavior, including traditional forms of ethical decision-making in business (Brenkert, 2009). On the expressed opinion

about the necessary conflict between innovative entrepreneurship and traditional business ethics, it can be added that entrepreneurs create new approaches to ethical decision-making and new ethical norms (Kaptein, 2019).

Students without previous work experience will not be able to realistically assess the issues of business ethics in practical business operations, which is why the possibilities of researching their possible choices of ethical behavior and decision-making in business situations are limited. Therefore, investigating the intention to work for an ethical and socially responsible employer (as opposed to limitations related to salary, benefits, and the like) is a realistic approach to researching business ethics among undergraduate students. The research results show that newer generations of students, at least in principle, consider the employer's ethics to be a very significant factor when choosing a job (Ngoc et al., 2022). However, slightly older research emphasized that the principled orientation towards ethics can generally be overcome by offering higher salaries or benefits and emphasizing the ethics of relationships in the workplace (Leveson & Joiner, 2014).

The extent to which students were previously engaged in volunteering or other socially responsible behavior is also significant. Although student volunteering is very popular, Smith et al. (2010) argue that it will lead to more lasting changes in the attitudes and motivation of young people only if it involves longer-term volunteering. Occasional volunteering is less associated with altruism and more with positive social effects, such as citing volunteering experience in a resume, gaining an advantage in further education and employment, etc. It should also be noted that only one form of possible volunteering may not suit every student, so higher education institutions should offer various forms of volunteering and social engagement to their students (Hudson & Brandenberger, 2022).

Despite the research mentioned above, which suggests limitations in changing the behavior and moral characteristics of the student population, students generally show progress in accepting attitudes toward business ethics and responsible business behavior after taking courses in business ethics (Weber & Glyptis, 2000). Of course, there is a big difference between general attitudes and behavior and a person's overall orientation towards morality (ethics).

A person can express highly ethical attitudes but may not do anything to put them into practice or even behave contrary to the expressed attitudes. It is also essential to be aware of the limitations of teaching ethics in higher education. Effective teaching at the undergraduate level cannot rely on case studies and work experience, as is the case with graduate students (Pamental, 1989). However, the practical orientation of ethical courses and various teaching methods based on workshops and interactive work with students are generally considered effective in business ethics (Medeiros et al., 2017).

One of the older, but still most comprehensive and popular studies of a series of influential factors on the attitudes of students and businesspeople towards ethics was conducted by Arlow and Urlich (1988), who showed the existence of stable attitudes about the possibilities for improving business ethics in society. According to their research, which we used as a starting point for further comparative research of students at the University of Banja Luka (B&H) and the University of Niš (Serbia), the following factors can positively influence the development of business ethics: the development of general ethical principles, the teaching of business ethics in higher education, and the application of ethical codes. The respondents in this study believe that state influence (regulation) and the actions of religious leaders cannot affect the ethical development of business.

It should be noted that within the same study, it was also found that with work experience, less importance is attached to teaching ethics in educational institutions, and greater importance is attached to the influence of individual religiosity and good practices in companies and business practice. Both students and businesspeople are the most critical factor influencing the ethics of business students.

Based on the previously presented theoretical background, this paper addresses the following research question: What are the leading causes of differences between groups of students according to the

level of their orientation towards business ethics and social responsibility in business?

To analyze the formulated research question, the following hypotheses, and auxiliary hypotheses were developed:

H1 - Students differ significantly in their attitudes toward business ethics and social responsibility determinants.
H1.1. - Students differ significantly in their attitudes toward the impact of teaching business ethics in universities.
H.1.2. - Students differ significantly in their attitudes towards introducing a code of ethical conduct in the industry.
H.1.3. - Students differ significantly in their attitudes towards the impact of state regulation and control.
H.1.4. - There are groups of students who differ significantly in their attitudes towards the impact of leaders of religious and other nonprofit organizations.
H 1.5. - Students differ significantly in their attitudes towards involvement in activities for protecting human rights, promoting unity and understanding among people, and improving society (social activism).
H 1.6. - Students differ significantly in their attitudes towards the choice of job and employer.
H2 - Students who differ in their attitudes towards business ethics and social responsibility significantly differ in their level of Machiavellianism.

3. Research methods

The empirical research has been conducted on a convenience sample of undergraduate business students at the School of Social Science and the two public business schools in B&H and Serbia, i.e., the University of Banja Luka and the University of Niš. Since the lists of all students at those two institutions were not available, it was not possible to develop a random sampling procedure. The limitation of this sampling approach is that the results are only indicative, but they do provide an interesting evaluation of the student's attitudes.

The research was conducted online using a survey questionnaire, which was sent along with an invitation (containing a request for voluntary participation in the anonymous research and a link to the web address where the survey was located). The survey questionnaire was formed based on previously described empirical studies and consisted of three parts.

The first part of the research instrument consisted of nine items taken from the short-form instrument for measuring the level of Machiavellianism MACH* (Rauthmann, 2012), which measures cynicism and misanthropic behavior. These items are

- "Those who completely trust other people sooner or later get into trouble";
- "It is safest to assume that all people have hidden evil intentions, which will come to the fore only if they have the opportunity";
- "It is not necessary to reveal the real reason for behavior unless it will be useful or profitable";
- "Most people are good and kind by nature";
- "The biggest difference between criminals and others is that criminals were stupid enough to get caught."

The other four items analyzed attitudes related to evaluating the importance of factors for improving business ethics and responsibility in society, taken from the previously mentioned influential study by Arlow and Ulrich (1988). They relate to: the introduction of compulsory subjects on business ethics at universities; the introduction of a code of ethical behavior in the industry; the influence of state regulation and control; and the influence of leaders of religious and nonprofit organizations.

The second part of the research instrument (survey questionnaire) contained six items that measured the orientation towards business ethics, observed from the perspective of economic responsibility as opposed to social responsibility for the business. The items were taken from the study by Summer and Childs (2007) and adapted to measure the influence on business ethics based on the original scale of responsibility towards the natural environment. The items relate to:

- satisfying individual needs as a critical motivation for entrepreneurship;
- the belief that profit maximization is the 'natural right' of entrepreneurs; the belief that profit can be

limited to achieve the social responsibility of entrepreneurs;

- the belief that irresponsible entrepreneurs can be a danger to society and the community; the belief that complete market freedom can affect economic growth and development;
- the belief that societies in which entrepreneurs operate according to the principles of socially responsible business should be emulated.

The third part of the survey questionnaire contained demographic variables such as gender, age, choice of faculty, etc. This part of the questionnaire also included several control variables. They included two items, which were used to measure student involvement in social activism and their intention of socially responsible business, expressed through their preference for employment with socially responsible employers. All items were measured on a Likert response scale with nine levels: from one (strongly disagree) to nine (strongly agree).

The collected data was processed in the SPSS software package using descriptive and exploratory statistical methods.

4. Empirical results

4.1. General characteristics of the sample

The research was conducted on a convenience student sample (N=211) from three selected higher education institutions in two countries: Bosnia and Herzegovina (the entity of the Republic of Srpska) - at the Faculty of Economics of the University of Banja Luka and the Faculty of Philosophy of the University of Banja Luka, and in Serbia - at the Faculty of Economics of the University of Niš. Most of the participants were from business faculties (89.6% - from the Faculty of Economics of the University of Banja Luka, 93 students or 44.1%, and the Faculty of Economics of the University of Niš, 96 students or 45.5%), while the percentage of participants from the Faculty of Philosophy of the University of Banja Luka was relatively low - 22 students or 10.4%.

Although the targeted sample was N=600, with 200 students from each of the three higher education institutions (planned according to the average number of enrolled students), the response rate was 35.2%. Therefore, a final sample of 211 questionnaires was obtained, so differences between individual institutions will not be tested, considering their area. This represents a limitation of this study, which should be addressed in future research, and the same applies to the gender balance of the participants (82.9% women and 17.1% men).

Regarding the study level, most participants attended undergraduate studies (76.7% - 36.2% in the 1st year, 24.3% in the 2nd year, and 16.2% in the 3rd year). However, it is noteworthy that there was a lower motivation among graduate students to participate in the research (23.3%) voluntarily and among part-time students (only 0.9%). Data on the participants' status show that just over half are regular students whose education is financed from the state budget (61.1%). A third are regular students who self-finance their education (37.9%). The average grade of the study was 7.89 (considering a grade scale with a standard deviation of 0.9443 (on a scale of 5 to 10, which is applied at the higher education institutions attended by the surveyed students).

Most participants' parents have formal secondary education (67%). Approximately one-third of the participants state that their parents have higher or tertiary education (father - 26.8%, mother - 31.9%). Given the above, the data obtained on the participants' socio-economic status are expected and show that most of the participants belong to middle-class families (71.6%). The majority of participants also report that they have not gained any work experience so far (58.3%) nor entrepreneurial experience (89%). Still, they have stated that they know someone who is a successful entrepreneur in their environment (85.2%). Considering the previously presented data, just under half of the participants come from entrepreneurial families (40.5%).

4.2. Descriptive statistics of the basic constructs of the research

First, we calculated the level of students' orientation towards business ethics, observed through the opposition of economics to the social responsibility of companies. The study used six modified and

adapted items based on Summer and Childs (2007). The index of business ethics orientation level was obtained by quantifying the respondents' answers as the mean value of items measured on a Likert scale with nine levels of agreement with predefined statements. The lowest value of this variable is 4.17, and the maximum is 9, with a mean of 6.2875 and a standard deviation of 0.94421 (Table 1).

Table 1

Components and calculation of the average level of business ethics orientation observed from the economic responsibility of entrepreneurs/business people

	Min.	Max.	Mean	Std. Dev.
All people should primarily focus on satisfying their needs, which is the essential goal of their economic activity.	1	9	4,96	2,027
Entrepreneurs and businesspeople have a natural right to maximize profits in their businesses and jobs.	1	9	6,26	2,043
Entrepreneurs and businesspeople should limit the pursuit of profit in their businesses and jobs when such behavior harms the community and society.	1	9	6,91	1,974
I believe that in my community, or the country where I live, there is a great danger from irresponsible entrepreneurs and businesspeople who care only about their profits.	1	9	7,42	1,731
Economic growth can only be achieved through the complete freedom of entrepreneurs and businesspeople to create profits.	1	9	4,45	1,880
We should follow societies and countries whose entrepreneurs and businesspeople follow socially responsible business principles.	2	9	7,74	1,562
Orientation toward business ethics and social responsibility	**4.17**	**9.00**	**6.2875**	**.94421**

Notes. Results of empirical research (author's calculation).

The study identified factors that could influence the improvement of business ethics and responsibility in society. Four items were used to measure the respondents' attitudes (following the recommendation of Arlow and Ulrich, 1988). The sample values for response frequency ranged from 1 to 9, with a mean of 6.58 and a standard deviation of 1.623, indicating that our students are generally "statists" and believe that greater state regulation and control can influence the improvement of business ethics and responsibility in the country/society, which is a theoretically questionable stance (Table 2).

Table 2

Ratings of mean values of factors influencing the improvement of business ethics and social responsibility in business

	Min.	Max.	Mean	Std. dev.
Introduction of mandatory courses on business ethics at universities.	1	9	5.37	1.782
Introduction of a code of ethical behavior in the industry.	1	9	5.70	1.439
Greater influence of state regulation and control.	1	9	6.58	1.623
Greater influence of religious and nonprofit leaders.	1	9	4.95	1.805

Notes. Results of empirical research (author's calculation).

To confirm the results of the previous analysis, we used two variables as control variables (Table 3) to measure the participants' attitudes toward social activism and their intention toward socially responsible business behavior. Considering the sample values (measured on a 9-point Likert scale), mean = 6.64 and std. dev. = 1.908, it can be said that the results are comparable to those of the previous analysis.

Table 3 shows the rating of students' business ethics and social responsibility in social activism and the choice of workplace and employer.

Table 3

Rating of business ethics and social responsibility of students regarding social activism and choosing a job and employer

	Min.	Max.	Mean	Std. dev.
I participate in activities to protect human rights, promote unity and understanding among people, and improve society (through a non-governmental organization, humanitarian actions, protests, demonstrations, etc.).	1	9	4.95	2.270
When choosing a job and an employer, I will consider whether my employer respects the principles of socially responsible business behavior.	1	9	6.64	1.908

Notes. Results of empirical research (author's calculation).

Students' attitudes towards Machiavellianism as a moral orientation were also examined. By quantifying the attitudes of the group of participants, a summary measurement scale was formed, or an index of the level of Machiavellianism was formed as an indicator of moral orientation. The level of Machiavellianism (mean = 4.72 and std. dev. = 1.129) was measured by the mean value of 5 included variables (according to the recommendation of Rauthmann, 2015, from the MACH* questionnaire) on a 9-point Likert scale. The expressed attitudes of the students showed that the sample mainly consisted of participants with a moderate level of Machiavellianism (Table 4).

Table 4

Machiavellianism index in the research sample according to the MACH indicator*

	N	Min.	Max.	Mean	Std. dev.
Machiavellianism level (according to the MACH* indicator)	211	2	8	4.72	1.129

Notes. Results of empirical research (author's calculation).

Further empirical findings will be presented to answer the research question and test the research hypotheses. The assumption of the normal distribution of observed constructs (dependent and independent variables) was checked by the non-parametric Kolmogorov-Smirnov test. As shown in Table 5, the analysis revealed that neither dependent nor independent variables met the assumptions of normal distribution (likely due to the small sample size) with a test confidence level of 1% ($p < 0.01$).

Table 5

Normality test distribution - Kolmogorov-Smirnov test

		Introducing mandatory courses on business ethics at universities.	Introducing a code of ethical conduct in the industry.	Greater influence of state regulation and control.	Greater influence of religious leaders and other nonprofit organizations.	When choosing a job and employer, I will certainly consider whether my employer respects the principles of socially responsible business.	I participate in activities to protect human rights, promote unity and understanding among people, and improve society (through some non-governmental organizations, humanitarian actions, protests, demonstrations, etc.	When choosing a job and employer, I will certainly consider whether my employer respects the principles of socially responsible business.
Normal parameters	Mean	5.37	5.70	6.58	4.95	6.64	4.95	6.64
	Std. dev.	1.782	1.439	1.623	1.805	1.908	2.270	1.908
Empirical value of the K-S indicator		.210	.236	.246	.166	.191	.137	.191
Sig. (2-sided)		**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**

Notes. Results of empirical research.

Therefore, further analysis will be based on non-parametric statistics (Mann-Whitney and Wilcoxon Z-tests) based on comparing ranks. In addition, clustering methods are used. As previously shown by Knežević et al. (2017), it is possible to identify clusters that include groups of students with higher and lower orientations toward business ethics. In this case (Table 6), two clusters were obtained: Cluster 1 - 136 students with a value of the business ethics indicator of 5.72 and Cluster 2 - 75 students with a value of the business ethics indicator of 7.32.

Table 6

Clusters - levels of students' orientation towards business ethics

	Cluster	
	1	**2**
Number of students in cluster	136	75
The average level of orientation toward business ethics	5.72	7.32

Notes. Results of empirical research (author's calculation).

Although a difference in ethical attitudes among student groups was observed from the analysis of the two observed clusters, whether this difference was statistically significant was further analyzed. Analysis of variance - ANOVA (F-test) was used for this purpose. Empirical findings show that there is a statistically significant difference between the two observed clusters, which measured the level of ethical attitudes among student groups at a 1% confidence level ($p<0.01$) (Table 7). It should be noted that the clusters were formed to maximize the difference between their members, so the results of this F-test can only be used as confirmation of correctly conducted clustering.

Table 7

Analysis of variance – ANOVA

	Cluster		Error		F	Sig.
	Mean	**Degrees of freedom**	**Mean square error**	**Degrees of freedom**		
The average level of orientation toward business ethics	122.976	1	.307	209	400.047	**.000**

Notes. Results of empirical research (author's calculation).

Using the cluster membership variable generated during clustering, an analysis was conducted to determine how much the mean values of factors influencing students' attitudes toward business ethics and social responsibility differ among members of the identified clusters. Additionally, the analysis will examine whether there are significant differences in the values of Machiavellianism between these clusters, as it can be used to indicate the fundamental ethical orientation of the surveyed students.

Table 8

Testing differences in factors influencing attitudes towards business ethics and social responsibility

	The average level of business ethics	Impact of teaching ethics in higher education	Impact of industrial ethical codes	Impact of government (state regulation and control)	Impact of religious and nonprofit organizations	Social activism	Impact of CSR on job choice	The average level of Machiavellianism
Mann-Whitney U value	.000	4719.000	4368.000	3977.000	4862.500	4584.500	3192.500	3271.500
Wilcoxon W value	9316.000	14035.00	13684.00	13293.00	14178.50	13900.50	12508.50	12587.50
Z	-12.032	-.931	-1.808	-2.760	-.573	-1.232	-4.623	-4.317
Sig. (2-sided)	**.000**	.352	.071	**.006**	.567	.218	**.000**	**.000**

Notes. Results of empirical research (authors' calculation).

Based on the results presented in Table 8, we accept sub-hypotheses H1.3 (Z = -2.760, p = 0.006) - about the need for state influence on business ethics and social responsibility, and H1.6 (Z = -4.623, p = 0.000) - about the intention of behavior - employing students, considering the practice of business ethics and social responsibility of future employers. In this sense, it can be said that hypothesis H1 is partially accepted. Hypothesis H2 is also accepted, given the empirical difference between the established clusters (Z = -4.317, p = 0.000).

We evaluated cluster differences in individual (student) factors, measured by nominal variables, using cross-tabulations and chi-square tests to uncover potential connections between business ethics and others. In comparison to other studies, we cannot conclude the relationship between gender and business-ethical orientation or age (when considering the academic year in which the student is enrolled). The source of tuition financing, socio-economic background (social class, father's and mother's level of education), work, and entrepreneurial experience also do not appear to be significant factors in orientation towards business ethics. Only a statistically significant difference was found (Chi-square Sig. 0.01) concerning the choice of faculty. Still, it cannot be interpreted, given that economics students and a few students in social-humanistic fields dominate the sample.

5. Discussion

There are different opinions on whether the private sector leads in the introduction of ethical codes and acceptance of business ethics in developed market societies, with some research answering positively to this question (Svensson et al., 2010), while others believe that the situation is reversed and that the public sector leads in the implementation of business ethics (Ekhator, 2013). Nevertheless, it can be said that public business schools have a responsibility to the public, which finances them through budgetary funds, which includes promoting ethics and social values among the student population.

Compared to private business schools or private higher education, public colleges and universities have a competitive advantage related to their longstanding tradition and reputation, which could be further strengthened by effective action on ethics and values among young people. Furthermore, increasing the efficiency of public business schools in the general improvement of ethics and social responsibility would positively impact the attitudes of management and companies in general towards public higher education, which is not always the case (Sigurjonsson et al., 2015).

Given that the region of Southeast Europe and the Western Balkans is often perceived as unfavorable for business, from the perspective of businesspeople, due to the high level of corruption and inefficiency in the public sector (Ateljević & Budak, 2010; Budak & Rajh, 2014), increasing efficiency in promoting the ethical orientation of young people could be of multiple benefits. It could act not only on improving the perception of public higher education but also on improving the perception of the public sector in general by a larger number of stakeholders. Based on the analysis of the results of the orientation towards business ethics, guided by the fundamental research question, the sub-hypotheses H1.3 (Z = - 2.760, p = 0.006) - about the need for state influence on business ethics and social responsibility and H1.6 (Z = - 4.623, p = 0.000) - about the intention of behavior - employing students, regarding the practice of business ethics and social responsibility of future employers are accepted. In this sense, it can be said that hypothesis H1 is partially accepted. The same applies to hypothesis H2, which is accepted, regarding the empirical difference in Machiavellianism between members of established clusters (Z = - 4.317, p = 0.000).

The following table summarizes the acceptance of individual hypotheses and sub-hypotheses.

Table 9

Empirical evaluation of research hypotheses and sub-hypotheses

Hypothesis or sub-hypothesis	Empirical evaluation
Hypothesis 1. (Differences in the level of business ethics)	**Accepted**
Hypothesis 1.1. (Influence of teaching ethics in higher education)	Not accepted
Hypothesis 1.2. (Influence of industrial ethical codes)	Not accepted
Hypothesis 1.3. (Influence of state regulation and control)	Accepted
Hypothesis 1.4. (Influence of religious and nonprofit organizations)	Not accepted
Hypothesis 1.5. (Influence of social activism)	Not accepted
Hypothesis 1.6. (Influence of the choice of job and employer)	Accepted
Hypothesis 2. (Influence of Machiavellianism)	**Accepted**

Notes. Results of empirical research (authors' calculation).

The high level of "etatism" orientation among young people is likely a consequence of insufficient market orientation in post-transitional societies and economies in the broader region and a consequence of turbulent regional political events since the beginning of the transition until today. This orientation is also understandable due to the high regional nationalism and illiberal public policies. However, it would be helpful if public higher education, as well as local policies aimed at young people, communicated, and affirmed the orientation of the economy towards market principles, ethical responsibility for business decisions, separation of the economic sector from the political sphere, as well as principles of anti-corruption and anti-corruption activities.

6. Conclusion and implications

There are two clusters of students in our sample, with a higher and lower orientation towards business ethics, viewed from economic and social responsibility. The results show that most of the sample agrees with the view that entrepreneurs are not socially responsible enough and that there is a need to develop socially responsible business practices. There is also a high agreement with the statement that it is necessary to limit the profits of entrepreneurs when they create social harm.

The empirical results did not confirm any gender or age effects on the orientation towards business ethics and social responsibility, which is likely due to the self-selection of students when filling out the questionnaire. The fact that the male population is underrepresented in the sample is the study's main limitation, although this research does not address possible gender effects. This creates the need for a different direction and approach to the orientation in future research, which should be based on a stratified approach and the possibility of conducting research during teaching activities.

6.1. Theoretical implications

As far as the author is aware, this type of empirical research has not been previously performed in the region of Southeast Europe (Western Balkans). As shown previously by González-Rodríguez et al. (2013), countries in Eastern, Central, and South Eastern Europe cannot be considered homogeneous, when it comes to the research of social factors, such as acceptance of business ethics and social responsibility. The sources of differences for those countries are not only related to their EU membership status, and legal and political environment, but also to the level in which the national stakeholders accept the business ethics and social responsibility. Therefore, it is important to empirically evaluate the factors, influencing students' attitudes toward business ethics (social responsibility), separately in different regions.

Furthermore, research shows a statistically significant relationship between Machiavellianism as a personal determinant of the moral orientation of students and the empirical level of orientation towards business ethics and social responsibility. It is interesting to analyze the influences of social variables on business ethics and social responsibility. Our students are generally "etatism" and believe that greater state regulation and control can influence a greater orientation towards business ethics and responsibility in the country/society, which is not objectively expected. Such an "etatism" orientation is not surprising. Still, it should be considered when teaching business

ethics and improving existing and creating new curricula by the observed academic institutions. The analysis of the dependence of orientation towards business ethics and social responsibility, regarding the demographic and socio-economic characteristics of the respondents, did not reveal any interesting results, which is probably due to the convenience sample, as well as the limitation of the study itself.

6.2. Policy and managerial implications

The obtained empirical results show that the students in the analyzed area of Southeast Europe still rely on the state and its administration as a major factor, with a decisive influence on social issues, even in the topic of business ethics and social responsibility. Although there is a clear distinction between the competencies of public administration and the entrepreneurs' voluntary orientation toward ethical and socially responsible business conduct, students might not be aware of it. This finding shows they would benefit from additional courses and academic material on business ethics and social responsibility. While students' level of activism is low, they still wish to work for socially responsible employers, which opens additional opportunities for cooperation between universities and entrepreneurs, in terms of encouraging and framing entrepreneurial social responsibility as a factor in attracting younger, ethically aware employees.

6.3. Limitations and suggestions for future research

This paper is based on a convenience sample from two countries in Southeast Europe, which are culturally similar. Therefore, it does not capture well the entire regional diversity of students' attitudes, which leads to the suggestion of capturing a larger sample, across the entire wider region, as the current sample only provides indicative empirical results. It would be, also, beneficial to conduct this type of research in other European regions, to establish the influence of the cultural environment on students' ethics and social responsibility attitudes.

Although it is difficult to analyze students' behavior related to business ethics and social responsibility (except for their intentions to behave ethically, once they become employed), collecting data on their ethical orientation in everyday life and activities would be useful. Analysis of such data could contribute to further understanding the relationship between attitudes and behaviors, considering the ethics and social responsibility of young entrepreneurs and business people in general.

CRediT authorship contribution statement

A.M. A.: Conceptualization, Methodology, Formal analysis, Writing – original draft, Writing – review
M. T.: Formal analysis, Writing – review

Data availability

The data that has been used is available upon a request to the author.

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Biography

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Индивидуални и друштвени утицај на ставове студената према пословној етици

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Кључне ријечи:
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САЖЕТАК

Пословна етика, као садржај формалног високог образовања, заузима значајно мјесто у наставним плановима и програмима високог образовања. На основу досадашњих резултата истраживања, неопходно је утврдити који фактори утичу на ставове и понашање студената у усвајању принципа пословне етике и друштвене одговорности. Овај рад истражује низ индивидуалних и друштвених утицаја на ставове студената према пословној етици. На узорку од 211 студената са Универзитета у Бањој Луци, Босна и Херцеговина (БиХ), и Универзитета у Нишу, Србија, емпиријски тестирамо факторе који утичу на ставове студената према пословној етици и друштвеној одговорности. У раду су коришћене статистичке методе дескриптивне анализе, груписања и статистичког тестирања средњих разлика коришћењем непараметарских тестова (Mann-Whitney U и Wilcoxon Z). Након анализе емпиријских резултата, дате су препоруке за унапређење образовних програма и усвајање принципа пословне етике и друштвене одговорности у пословању. Поред тога, дате су препоруке за јавне власти у креирању јавних политика које би ојачале фокус младих генерација на пословну етику.

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Comparative analysis of social entrepreneurship in developed countries and Bosnia and Herzegovina

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ABSTRACT

To mitigate the consequences of the social and economic crisis caused by the coronavirus pandemic, an approach through socio-economic activities is needed. It is necessary to use all available resources as generators of employment and new values. One such model is precisely social entrepreneurship. This paper aims to compare the level of development of social entrepreneurship in developed countries and Bosnia and Herzegovina (B&H) to get a picture of the importance of social entrepreneurship for overall economic and social development. In this paper, we analyzed social entrepreneurship in developed countries and B&H. Through this comparative analysis, we have established that social entrepreneurship is of great importance for economic and social development and that a lot still needs to be done for the development of social entrepreneurship in B&H.

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1. Introduction

Social entrepreneurship is a very important topic in modern times. Changes and challenges in modern society lead to the strengthening of social entrepreneurship, which, in addition to economic activity, strives to fulfill some social goal. Looking at social problems and becoming aware of them, a social entrepreneur must continuously offer innovative solutions for current social problems. There are three main reasons why people decide to become entrepreneurs and start their own companies: "to be their boss, to follow their ideas and achieve financial rewards" (Barringer & Ireland, 2016, p. 7). When we add to these reasons the fulfillment of a social mission, i.e. solving a social problem, we arrive at the concept of a social entrepreneur. Therefore, "we also encounter entrepreneurship in the business sector, the government sector and the nonprofit sector, in hospitals, cultural institutions, colleges, sports clubs" (Petković, 2021, p. 66). Social entrepreneurship has become a widespread term in the 21st century in many countries as a form of activity of fair organizations. "At the beginning of the 20th century, more than 100 million people were employed worldwide in the social economy. The social economy sector in the European Union employed more than 11 million people in 2003, which accounted for 7% of the working population in the EU" (Defourny & Nyssens, 2010, p. 33).

The subject of the research is a theoretical analysis of social entrepreneurship in developed countries and B&H. The research is focused on the review of previous literature and data published by certain institutions that are concerned with the development of social entrepreneurship in their domain.

We believe that this research will be useful to institutions dealing with entrepreneurship to see the importance of social entrepreneurship in economic and social development. Also, this work will be useful to the scientific community, that is, to those who study social entrepreneurship. We believe that this work will contribute to making the public better acquainted with the advantages of social entrepreneurship. This analysis can contribute to small and medium-sized enterprises deciding to reorient their business to solve a social or ecological problem. The paper consists of five parts: introduction, literature review, comparative analysis of social entrepreneurship in developed countries and BiH, discussion and conclusions with implications, limitations, and suggestions for future research.

2. Literature review

In 1963, Bill Drayton was the first to introduce the term social entrepreneurship into widespread use (Prodanov, 2018). Banks (1972) was the first to point out how social problems and business challenges can be solved by deploying managerial skills. According to Martin & Osberg (2007), the word "social" simply modifies entrepreneurship (p. 30). The fact is that these companies are different from classic for-profit companies because they are run by the principle of the "triple bottom line" (people, planet, profit) (Haugh, 2006, p. 181). Björk et al. (2014) define social entrepreneurship as the activities of individuals and groups whose goal is to address social needs in an entrepreneurial way. Dwivedi & Weerawardena (2018) define social entrepreneurship as a strategic orientation in behavior, expressed through the characteristics of innovation, proactivity, risk management, effective orientation, orientation towards social mission, and orientation towards sustainability, aimed at solving failures on the social market and creating greater social value, to maximize social impact.

At the end of the 18th and the beginning of the 19th century, as a response to the problems that were the result of major changes in the economies of that time, the concept of social entrepreneurship appeared for the first time. Then the first social enterprises in Europe were formed, in Italy, and they were called social cooperatives (Volkmann et al., 2012, p. 10). There are 2 million business entities in the EU today, which belong to different forms of social entrepreneurship, such as cooperatives, foundations, social enterprises, and the like (Banjac & Dojčinović, 2016, p. 43). The economy of Western Europe in the period from 1945 to 1975 was mainly characterized by the traditional private capitalist sector and the public sector. In this period, the social economy practically disappeared as a significant force in the process of harmonizing economic growth with social well-being (Monzon & Chaves, 2008, pp. 550-553). Problems such as long-term unemployment, social exclusion of certain categories of society, poor living conditions in rural areas,

as well as problems in health and education, became very pronounced in the eighties of the 20th century. Then it became clear that the economy could not deal with these problems in the traditional way of business. In those years, the concept of social economy and social entrepreneurship experienced expansion (Borzaga & Santuari, 2000, pp. 5-9). Social entrepreneurship has become a widespread term in the 21st century in many countries as a form of activity of fair organizations. "At the beginning of the 20th century, more than 100 million people were employed worldwide in the social economy. The social economy sector in the European Union employed more than 11 million people in 2003, which accounted for 7% of the working population in the EU" (Defourny & Nyssens, 2010, p. 33). Social entrepreneurship became popular after the Nobel Prize, which was awarded in 2006 to the Bangladeshi banker and economist Muhammad Yunus. He is the founder of Grameen bank, known for micro financing small businesses, with an emphasis on female entrepreneurs. He received the Nobel Prize for his efforts to create a microcredit sector for financing those entrepreneurs who cannot get traditional bank loans (Crawford et al., 2020).

2.1. Comparative analysis of social entrepreneurship in developed and developing countries: the case of Bosnia and Herzegovina

In this part of the paper, first, we will analyze social entrepreneurship in developed countries and show how important it is for the development of the economy and society. Then we will analyze social entrepreneurship in B&H to see at what level of development it is and what needs to be done to improve that development.

2.2. Analysis of social entrepreneurship in developed countries

Most of the government's moves so far, when the economy finds itself in crisis, have proven to be insufficiently effective in overcoming the consequences without creating additional economic and social "gaps". When we talk about understanding the concept of social entrepreneurship, the division into American and European frameworks and starting points of the theoretical concept of social entrepreneurship always dominates. Social entrepreneurship was first discussed in Western countries, in the USA and Canada, then in Europe, and only then in the rest of the world. In the USA, the recognition of social entrepreneurship as an important phenomenon dates back to the early eighties of the 20th century, with the launch of the first associations to encourage social entrepreneurship, and continued through its inclusion in educational programs in the early nineties. However, researching social entrepreneurship, we can see that this division is slowly losing its significance, because the initiative to promote and research social entrepreneurship has reached global proportions. The first step towards this was the establishment of the Social Enterprise World Forum in 2008, which was launched as a common platform that gathers social entrepreneurs from all over the world and promotes the further development of social entrepreneurship (Bosma & Levie, 2010, p. 44).

In 2009, GEM (Global Entrepreneurship Monitor) conducted the first research on social entrepreneurship at the world level, which showed that it occurs in different forms in all parts of the world. Its annual global research on entrepreneurial activity, includes an additional set of questions on social entrepreneurship, indicating that it is a recently recognized phenomenon for which there is a need for more detailed research. Although in a broader sense, it implies the same form of activity, there are certain differences in understanding between developed and underdeveloped countries, between the European and American contexts, and social entrepreneurship appears in a special way in post-socialist societies, to which BiH also belongs (GEM, 2011).

The last survey of social entrepreneurship conducted by GEM was in 2015. 167,793 adults from 58 countries around the world participated in this research. The report was published in 2016 (GEM, 2016). According to data from this report, as many as one in 10 individuals in Australia and the US are social entrepreneurs.

> Israel, Luxembourg, and Ireland also have high rates of social entrepreneurship, as do sub-Saharan African economies such as Cameroon and Senegal. When we talk about

gender participation in social entrepreneurship in the world, GEM estimates that 55% are men and 45% are women. This gender gap in social entrepreneurial activity is significantly smaller than the roughly 2:1 gender gap in commercial entrepreneurial activity found in some economies. In this research, the rate of initial (start-up) social entrepreneurship, i.e. individuals who are currently trying to start social entrepreneurial activities - in all 58 GEM economies is 3.2% and ranges from 0.3% (South Korea) to 10.1% (Peru). By comparison, the rate of initial commercial entrepreneurship worldwide averages 7.6% and ranges from 13.7% in Vietnam to a high of 22.2% in Peru. The average rate of individuals currently running an operational social-entrepreneurship activity in all 58 GEM economies is 3.7% and ranges from 0.4% in Iran to 14.0% in Senegal. Regarding the financing of social entrepreneurial activity, more than a third of the world's social entrepreneurial ventures rely on state financing, while families and banks are also important sources of financing for social entrepreneurs. Regarding education, in the USA and Australia there is a large share of social entrepreneurs with a high level of education (62%), while in the Middle East and North Africa, Eastern Europe, and Western Europe, about half of social entrepreneurs have a high level of education. Social entrepreneurs are visible to the wider population, with an average of 32% of the adult population (aged 18 to 64) agreeing that they are often aware of companies that aim to solve social problems (there are large oscillations between developed and less developed countries). The contribution of social entrepreneurship to the total GDP of the EU is about 11%. In Finland, 7.5% of the active population is involved in social entrepreneurship, in Great Britain this percentage is 5.7%, in Slovenia 5.4%, in Belgium 4.1%, in Italy 3.3%, in France 3, 1%, etc. Every fourth newly established company is a social enterprise. In Finland, France, and Belgium it is even every third. (GEM, 2016, pp. 5-33)

According to some authors (Srivastava, 2020; Janelidze, 2020; Solomon et al., 2019; Mengel & Tantawy, 2018; Rey-Martí et al., 2016), there are differences in social entrepreneurship in the USA and Canada (list a couple of sources right here). In the eighties of the 20th century, there were changes in the market in the USA, as well as increased social benefits. At the time, the US was a weak welfare state. The increase in social problems leads to the development and strengthening of social entrepreneurship. On the other hand, Canada has always been a strong social state, which created a strong structure for the development of social entrepreneurship. In the USA, social entrepreneurship is focused on the individual social entrepreneur, as an innovator and agent of change, who initiates social entrepreneurial activity, while in Canada the focus is on the collective character and role of the community. Quebec, as part of Canada, has the most developed social entrepreneurship sector in the world. The Canadian concept of social entrepreneurship is much closer to the European than to the American concept of understanding social entrepreneurship. The activities and development of social entrepreneurship in the USA take place through the Social Enterprise Alliance, an organization that gathers social entrepreneurs and promotes social entrepreneurship. What is specific to the USA is the existence of a large number of foundations and organizations that promote and encourage the development of social entrepreneurship, not only in the USA but also around the world. These organizations also provide financial support in terms of initial capital for starting social-entrepreneurial activities.

A large number of foundations have been established in the USA to support social entrepreneurship. The USA has the most developed educational system in the field of social entrepreneurship in the world. Some of the most famous foundations and organizations are Ashoka, REDF (Roberts Enterprise Development Fund), Skoll Foundation, Schwab Foundation for Social Entrepreneurship, William and Flora Hewlett Foundation, David and Lucile Packard Foundation, Ford Foundation, and others. In the period from 2003 to 2016, these foundations invested US$ 1.6 billion in the development of social entrepreneurship in the USA and the world (Spicer et al., 2019; Chliova et al., 2020).

Unlike the USA, in Europe the collective dimension of social entrepreneurship is emphasized, that is, social entrepreneurship is seen as part of social policies. To respond to the challenges of social entrepreneurship, the EU is developing an institutional framework to support social entrepreneurship, which encourages social innovation. In the emergence and development of social entrepreneurship in Europe, cooperatives played the most significant role (Talić et al., 2020). In 1996, the EU funded the student project The emergence of social enterprises in Europe (EMES - fra. L'ÉMergence de l'Entreprise Sociale en Europe). Originally, this network was conceived as a non-profit organization and included only Europe. In 2002, it grew into a for-profit organization, and in 2013 it became an international network for social entrepreneurship research (EMES, 2022).

The EU promotes research and development of social enterprises because social entrepreneurship is seen as a business model that can simultaneously solve several problems, from economic growth to quality of life. In 2011, the European Commission established an initiative called "Social Innovation Europe" (SIE), whose main goal is to create a dynamic, entrepreneurial and innovative Europe (EIC, 2022). That same year, the European Commission presented the " Social Business Initiative (SBI)", considering that public policy is not enough to use all the potential of social enterprises (EUROPA.EU, 2017). Other research centers and funds for social entrepreneurship operate in the EU today, such as the European Network for Social and Economic Research (ENSR), the International Center for Research on Public, Social and Cooperative Economy (Centre International de Recherches et d'Information sur l'Economie Publique, Sociale et Coopérative - CIRIEC), European Research Institute on Cooperative and Social Enterprises - EURICSE, International Society for Third Sector Research Sector Research – ISTR), European Social Fund (European Social Fund - ESF), EU Program for Employment and Social Innovation (EaSI), and others (EC Europe, 2018).

The Organization for Economic Cooperation and Development (OECD) encourages the development of social-entrepreneurial ventures in local communities through the Local Economic and Employment Development (LEED) program. According to their data, about two million companies are operating in the social economy in the EU, which is about 10% of all European companies. About 13.6 million Europeans or about 6.5% of the working-age population work in the social entrepreneurship sector today. Of these, 70% are employed in non-profit associations, 26% in cooperatives, and 3% in social enterprises. Social enterprises are present in almost all sectors of the economy, such as banking, insurance, agriculture, crafts, various commercial services, health and social services, etc. (OECD, 2021).

Sanders et al. (2020) investigated social reforms in Italy. In 1991, Italy adopted the Law on Social Cooperatives. After about 15 years, the Italian Parliament expanded the legislative framework by adopting the Law on Social Enterprises, which enables the registration of social enterprises in different forms. This law prescribes tax and other fiscal benefits for social enterprises. The main support for social entrepreneurs in Italy is the Ministry of Social Affairs, the Ministry of Labor, and regional centers for social policy. Likewise, in cooperation with universities, various research is carried out on this topic, and the University in Trento is especially active and influential in this field.

In addition to Italy, we will mention some other countries that have developed social entrepreneurship. After the Italian legal regulation of social entrepreneurship, the British government made, according to Heckl & Pecher (2007), one of the best legal frameworks for social entrepreneurship. According to the latest data, there are as many as 70,000 social enterprises in Great Britain that employ almost a million people, and the annual goal of the social entrepreneurship support policy is to reach the number of 100,000 social enterprises with 2 million employees, whose share in Great Britain's GDP would be 60 billion pounds. (Social Enterprise UK, 2019).

Social entrepreneurship is also developed in France. France has had a Ministry of Social Economy since 2012, which indicates the commitment of the French government to social cohesion, employment, and growth. In 2017, of all established companies, 61% had the status of a social enterprise (fra. Société par actions simplifies). 10% of all employees in France work

in the social entrepreneurship sector (Petrella et al., 2021). According to von Ravensburg et al. (2018) in Germany, the Ministry of Labor and Social Affairs takes care of the development of social entrepreneurship, emphasizing the organizational and innovative potential of social entrepreneurship. Special promotion of social entrepreneurship comes from the Federal Ministry for Economic Affairs and Energy. Social entrepreneurship has been developing in Germany for the last 15 years or so. It is very difficult to determine the number of social enterprises in Germany due to the different criteria that are taken into account. According to them, the total maximum number of social entrepreneurship entities is 77,459 and they employ about 650,000 people.

Social entrepreneurship in Slovenia has still not reached a satisfactory level, although it has been developing since the 80s of the last century. The reason is poor knowledge and understanding of the concept of social entrepreneurship, its principles, goals, and advantages (Rihter & Zidar, 2018). According to the Law on Social Entrepreneurship from 2011, social entrepreneurship activities must be presented in the annual report in at least 40% of total revenues, for the third and every subsequent year of operation, at least 50% of revenues. So far, only 20 social enterprises have been registered. The reason for this may be too rigid legislation related to maintaining the status of a social enterprise (Hojnik, 2020). "Ex-lege social enterprises employ a small part of the active population of Slovenia (0.045%). Their revenues represent 0.041% of GDP. Due to their long tradition, de facto social enterprises employ a larger share of the working population (0.268%) and their revenues represent 0.269% of GDP" (Rakar & Kolarič, 2019, p. 11).

According to all these data, we see that countries that have developed social entrepreneurship have a developed institutional and legal framework that regulates business in this sector.

2.1.2. Analysis of social entrepreneurship in Bosnia and Herzegovina

Compared to developed countries, social and ecological problems are more dominant in underdeveloped countries, but even so, the potential of social entrepreneurship is still underutilized. Social entrepreneurship is still developing in B&H. The advantages of social entrepreneurship are insufficiently known. There is no adequate institutional and legal framework, and especially by-laws that would more specifically regulate and encourage social entrepreneurship activities. The existing employment programs through social entrepreneurship that are being implemented are side actions and initiatives. The fact that BiH is a poor country where half of the population is on the poverty line speaks about the need for a systemic approach to social entrepreneurship, as an important lever for inclusion in the labor market of difficult-to-employ categories. This includes the public sector, private sector, and civil society organizations. Cooperation, partnership, and coordination are needed between them.

"The percentage of socially excluded persons in B&H is 60%. Among the main causes of this state of affairs are, first of all, insufficient knowledge of the concept and opportunities that open up through social entrepreneurship, the absence of an adequate institutional and legal framework that would regulate and encourage social entrepreneurship activities, sporadic programs and initiatives for employment through social entrepreneurship, lack of initial capital, lack of necessary knowledge and skills and more" (Đermanović, 2019, p. 10).

Social entrepreneurship offers solutions for many social problems, especially the problems of high unemployment and social marginalization. Although these problems are some of the most pronounced in B&H, social entrepreneurship is still not sufficiently developed. The potential of social entrepreneurship is not sufficiently recognized in B&H. Social entrepreneurship can be one of the possible ways of solving social and economic problems. In the Republic of Srpska (RS), there is a Law on the Development of Small and Medium Enterprises, in which, in Article 28, the Development Agency of the Republic of Srpska has the authority to support women's entrepreneurship, youth, and rural entrepreneurship and other types of social entrepreneurship (Law on the Development of Small and Medium Enterprises of the Republic of Srpska, "Official Gazette of the Republic of Srpska", No. 50/13 and Amendments to the Law on the Development of Small and Medium Enterprises,

"Official Gazette of the Republic of Srpska", No. 84/19).

In the Republic of Srpska, social entrepreneurship is partially regulated by the Law on Professional Rehabilitation, Employment and Training of Disabled Persons (Law on Professional Rehabilitation, Employment and Training of Disabled Persons - revised text, "Official Gazette of Republic of Srpska", No. 98/04, 91/06 and 24/09 and 37/12), the Law on Associations and Foundations (Law on Associations and Foundations, "Official Gazette of the Republic of Srpska", no. 52/01 and 42/05), the Law on Social Protection (Law on Social Protection, "Official Gazette of the Republic of Srpska", no. 37/12) and the Law on Agricultural Cooperatives (Law on Agricultural Cooperatives, "Official Gazette of Republic of Srpska", No. 73/08, 106/09 and 78/11). Another law that affects social entrepreneurship is the Law on Games of Chance (Law on Agricultural Cooperatives, "Official Gazette of Republic of Srpska", No. 73/08, 106/09 and 78/11), in which Article 23 stipulates that profits in the amount of 50% be set aside for users who deal with some of the prescribed social issues (the author has open access to the Official Gazette of the Republic of Srpska and all publications within it).

In 2021, the Government of the Republic of Srpska developed the Employment Strategy of the Republic of Srpska 2021-2027. One of the operational goals of the Strategy is the development of social entrepreneurship, through the development of a social entrepreneurship platform, normative regulation of the area of social entrepreneurship, and support for the establishment of social enterprises (Vlada.rs., 2022). In 2017, the Ministry of Health and Social Protection of the Republic of Srpska developed the Strategy for the Improvement of the Social Position of Persons with Disabilities in the Republic of Srpska 2017-2026, in which, as one of the goals, the development of social entrepreneurship is defined (Vlada Republike Srpske, 2017). In 2018, the Ministry of Labor and Veterans and Disability Protection formed the Platform for the Development of Social Entrepreneurship in the Republic of Srpska. The Platform aims to create a stimulating environment for the creation, growth, and development of social entrepreneurship. The platform encourages the development of social entrepreneurship in all aspects, from technical to legal solutions (Vlada Republike Srpske, 2018).

In December 2021, a positive step was taken towards the development of social entrepreneurship in the Republic of Srpska. Namely, the National Assembly of the Republic of Srpska (NSRS) adopted the Law on Social Entrepreneurship (NSRS, 2021). This law defines the term social enterprise, the goals, and principles of social entrepreneurship, as well as the management of the register of social enterprises ("Official Gazette of Republic of Srpska ", number 111/21). This Law determines how companies can become social enterprises, as well as their way of working and distribution of profits. According to this Law, the portion of the profit that is paid to the owners cannot exceed 51% (Article 6, paragraph 1). The conditions that business entities must fulfill to obtain the status of a social enterprise according to this Law are:

- that it is registered as a legal entity,
- that it has its seat on the territory of the Republic of Srpska,
- that, about the total number of employees, there are at least 30% of persons who belong to the category of persons who are more difficult to find employment (persons from Article 5, paragraph 4, item 1),
- that it was founded to achieve a social mission,
- that the business is based on a limitation in the distribution of realized profit,
- that employees participate in the consideration of decisions for the adoption of which it is necessary to obtain their opinion by this law,
- that the social mission is clearly expressed (Article 7, paragraph 1).

However, this Law has not yet taken effect in the Republic of Srpska, because when we asked the Ministry of Economy and Entrepreneurship about the number of social enterprises, we received the answer that the Register of Social Enterprises had not yet been formed.

The law on social entrepreneurship has not yet been adopted on the territory of the Federation of B&H, as well as in the Brčko District. Of course, this represents a problem with the legal regulation of this area in these parts of B&H. All activity on the development of social entrepreneurship in these territories is aimed at the creation of legal regulations in this area,

however, everything is still based on platforms and development strategies, which is not enough to have an organized system of functioning of social enterprises and entrepreneurs. At the B&H level, a proposal for a social inclusion strategy has been prepared, which represents the elaboration of the strategic goal of social inclusion from the B&H Development Strategy. One of the measures of the Social Inclusion Strategy is the development of a support system for social entrepreneurship (Directorate for Economic Planning of B&H, 2010). The Federation B&H, Platform on Social Entrepreneurship in the Federation of B&H was formed, which aims to create the basis for defining a legislative and implementation framework that will encourage the emergence, growth, and development of social entrepreneurship in the Federation of B&H (Impact, 2017). There are several positive examples of social entrepreneurship in B&H. The Center for the Development of Social Entrepreneurship "Globus" is the first center of this type in B&H, which started operating in February 2014. It gathers 50 members.

The Center aims to encourage the development of social entrepreneurship on the territory of B&H, to connect entrepreneurs engaged in social entrepreneurship, as well as to provide information and help to all those interested in this way of business (CDP Globus, n.d.). Association "Maja" from Kravica (Bratunac) founded the first women's general agricultural cooperative "Žena", through which they sell all the agricultural products they produce on their farms. This Association is actively working on establishing the Center for Women's and Social Entrepreneurship (Kulturno nasljeđe, n.d.). More positive examples of social entrepreneurship in B&H can be found in the research by Halilbašić et al. (2015). One of the positive sides of social entrepreneurship is reducing the burden of social benefits. A large number of socially and economically excluded categories of the population can be employed in social enterprises, which provides significant support to the economy. Due to extremely large social needs, it is necessary to encourage the establishment and operation of social enterprises that base their operations on market principles, and which direct profits to social purposes, i.e. solving social problems.

The problem in B&H is the lack of legal regulation in this area, so there is no official institution that records data on social entrepreneurship. So there is no official data on how many social enterprises exist in B&H, and it is very difficult to say what that number is. According to Rosandic (2017, p. 65), 31 social enterprises operate on the territory of the state. As no law prescribes the criteria that would define economic entities as social enterprises, we were not able to find definitive information on the number of social enterprises.

It is clear that B&H lags in terms of social entrepreneurship and that much more needs to be done in this field to create a favorable climate for the development of this economic sector.

3. Discussion

Petričević (2012), like us in this paper, investigated the importance of social entrepreneurship by presenting data from developed countries. How important social entrepreneurship is, and its role in society and the economy, is shown by the fact that social enterprises were less vulnerable during the global economic crisis - for example, in the economic sector of Italy, the number of employees drastically decreased during the crisis, but in social cooperatives, that number increased by 2.7% in 2009 (p. 12). The direct influence of social enterprises is recognized in the economic development of a community or region (Petričević, 2012):

- their activities supplement services of public interest (eg social services) that public institutions or private for-profit enterprises are not able to perform with sufficient quality;
- contribute to the balanced use and distribution of available resources in favor of the local community;
- generate new jobs in their areas of activity and some social enterprises are especially focused on the integration of the long-term unemployed into the labor market;
- encourage social cohesion and contribute to the growth and development of social capital;
- provide support for the institutionalization of informal entrepreneurial activities of the private profit sector, etc. (p. 12).

We have also proven in our work that the development of social entrepreneurship represents a con-

crete possibility of meeting the needs and solving the problems of marginalized, socially sensitive groups in local communities. Social entrepreneurship is important both as a stabilizing factor in the labor market and as a factor in the sustainable development of the community. In their research, Bacq et al. (2013), like us, performed a comparative analysis of social entrepreneurship in the USA and the EU. According to them, what particularly distinguishes social entrepreneurship in the USA and the EU is the poorly developed institutional framework and system of policies and support from public institutions in the USA. In the EU, social entrepreneurship is under the watchful attention of all institutions that can help its development, which is proven by our analysis of social entrepreneurship in the EU, where we saw how many programs there are and which institutions are involved in its development to create a picture of the position of social entrepreneurship in B&H in neighboring countries, here we will briefly analyze social entrepreneurship in Croatia and Serbia.

In Croatia, the idea of solidarity, inclusion, and the creation of new social value through business activities that belong to social entrepreneurship has been present for more than 150 years on the traditional foundations of cooperatives. However, the existing administrative and legal frameworks do not function efficiently enough. Social entrepreneurship in Croatia has been expanding in the last 20 years through the activities of associations, initiators of various forms of social economy, and by assimilating the ideas of numerous international organizations (Vojvodić & Banović, 2019). In the Strategy for the fight against poverty and social exclusion 2014-2020, social entrepreneurship is mentioned as an activity to increase employment and reduce regional differences. In 2015, the government adopted the Strategy for the Development of Social Entrepreneurship for the period from 2015 to 2020, giving social entrepreneurship visibility through a fundamental act that should govern the processes of social entrepreneurship at the national level with clearly stated development measures. This Strategy adopted the term "social entrepreneurship" (Cvitanović, 2018). In Croatia, there is no special law that regulates the field of social entrepreneurship, so for now, its legal framework is determined by the existing positive legislation.

There is a very low level of systematic monitoring of the situation at the national level. This situation can be changed by encouraging research and thus building a database with the visible economic effects of social entrepreneurship. In Croatia, education and higher education programs to some extent recognize the importance of social entrepreneurship, so at some universities we can find studies that include the topic of social entrepreneurship in their program. According to research from 2018, there were 526 social enterprises in Croatia (Vidović, 2019, p. 52). On the territory of the Western Balkans, there is a network of social entrepreneurship - RISE (Regional Incubator for Social Entrepreneurs), which promotes and connects social entrepreneurs (RISE, 2022). In February 2022, the Republic of Serbia adopted the Law on Social Entrepreneurship ("Official Gazette of Republic of Serbia", No. 14/2022), which marked a significant step toward the development of social entrepreneurship. This law defines the concept and significance of social entrepreneurship, the conditions for acquiring the status of social entrepreneurship subjects, as well as the goals that social entrepreneurship strives to achieve on the way to the development of the economy and society in the Republic of Serbia.

What is very significant and positive about this Law are Articles 18 and 19, which prescribe active support for social entrepreneurship entities and the social entrepreneurship development program, respectively. This Law will enable easier registration, way of working, as well as obtaining funds for starting the activities of social entrepreneurship entities. In 2014, 1,196 social enterprises operated in Serbia. Among social enterprises, the most numerous are cooperatives (65.6%), followed by citizens' associations (23.7%); other less common legal forms in which social enterprises operate are enterprises for professional rehabilitation and employment of persons with disabilities (3.8%), development agencies (2.7%), foundations (1.9%), business incubators (1.5 %) and subsidiaries (spin-off) (0.7%). 10,326 people are employed in social enterprises, which is 0.6% of the total number of employees in the Republic of Serbia (Aleksić Mirić & Lebedinski, 2015, pp. 222-223). After 2014, there was no new research on social enterprises that would provide the latest estimates of the number of enterprises, their regional distribution, the number of employees, and other economic and social indicators (Cvejić, 2018).

Comparing social entrepreneurship in B&H,

Croatia, and Serbia, we see that social entrepreneurship is not at an enviable level in any of these countries and that a lot of attention needs to be directed to make significant progress in its development. Social entrepreneurship in these countries could very well solve the numerous problems they face as transition countries. Therefore, many scientific papers, lectures, and programs on the importance of social entrepreneurship are needed to raise the awareness of those who have the opportunity to influence its development.

4. Conclusions and implications

Analyzing social entrepreneurship, we saw how important it is for the development of the economy and society. In developed countries, social entrepreneurship contributes a significant percentage of GDP, reduces unemployment, improves the position of marginalized groups in society, and solves environmental problems. In developed countries, social entrepreneurship especially comes to the fore in times of crisis. We saw that after the pandemic of coronavirus, in developed countries, the number of social entrepreneurs who tried to recognize and solve certain social and ecological problems in an entrepreneurial way increased. Developed countries have strong legal frameworks that regulate this area of business, strong institutions, and organizations that support and support the development of social entrepreneurship.

On the other hand, we have seen that social entrepreneurship in B&H is at a very low level of development. We cannot say that social entrepreneurship does not exist or that nothing has been done to initiate its development, but the potential of social entrepreneurship is simply not sufficiently recognized. In B&H, an additional problem is created by the division into entities and cantons that have their legal forms, so the direction of development of social entrepreneurship has not been harmonized at these levels of government.

4.1. Theoretical contributions

In B&H, no institution specifically deals with social entrepreneurship. Analyzing social entrepreneurship in Bosnia and Herzegovina, we concluded that some individuals and organizations operate in this way, but that the system does not recognize this form of business in the legal sense. There is no register of social entrepreneurship entities from which we could obtain information about the number of such individuals and organizations. In Bosnia and Herzegovina, it is necessary to implement public policy measures that can more effectively contribute to the development of social entrepreneurship, which include the promotion and development of the culture of social entrepreneurship among young people, the establishment of centers to support social entrepreneurship, access to public funds for starting social enterprises, as well as other measures of institutional support. To begin with, in all cantons and districts, as is the case in the Republic of Srpska, it is necessary to adopt the Law on Social Entrepreneurship without delay, as well as the necessary by-laws and strategies for the development of social entrepreneurship.

In the end, we can conclude that much more should be done in B&H on the promotion of social entrepreneurship, as well as on the legal regulation of this way of business. We have seen how much social entrepreneurship contributes to national well-being. Data show that social entrepreneurship is useful for solving numerous economic and social problems, such as unemployment, social benefits, exclusion of marginalized groups of society, various environmental problems, and others. Social entrepreneurship would contribute to the development of B&H and solve numerous problems within this transitional country. The analytical significance of the research represents the possibility of determining the development direction of BiH and proposing new rules and guidelines that will enable the development of social entrepreneurship, not only in BiH but also in other small transitional economies.

4.2. Policy and managerial implications

"The analytical significance of this paper represents the possibility of determining the development direction of B&H. It is necessary to define rules and guidelines that will enable the development of social entrepreneurship. This development must be based on the innovativeness of social entrepreneurship, which will increase the competitive-

ness of this sector and thereby ensure the strengthening of the economy and societies. This paper contributes to the existing theories in this field of research. Researching the literature, we concluded that this is still an under-researched area, especially in domestic and foreign literature. When researching the theory, we saw that this topic is very current and modern. Reviewing the papers dealing with social entrepreneurship, we noticed that in the territory of the Balkans, this is still an insufficiently researched topic, and it could very well help the development of the economy and society of the Balkan transition countries.

This paper can be useful to all state institutions, at all levels of government, which deal with the development of guidelines and principles of business in the territory of B&H to see the importance of social entrepreneurship and in this direction develop measures and ways to encourage the development of social entrepreneurship. We are convinced that this paper can contribute to familiarizing investors, as well as the sector of small and medium-sized enterprises, with the advantages of social entrepreneurship. Investors should see the importance of social entrepreneurship and direct their investments into this way of business, which brings numerous advantages to both the economy and society. Small and medium-sized enterprises, which are certainly involved in various activities, could, after becoming familiar with the advantages of social entrepreneurship, possibly reorient themselves to perform their work to solve some social or environmental problems. We believe that the obtained results will also benefit the academic community, which will be able to learn more about the role and importance of social entrepreneurship. Considering that the research in this field is relatively recent, we expect that this paper will arouse greater interest in research in this field from the academic community. This paper should also be interested in the significance of the development of social entrepreneurship, which should be the driving force for solving economic and social problems in developing countries. This especially applies to individuals with encouraging business ideas who do not have enough knowledge about the way of doing business and the importance of social entrepreneurship.

4.3. Limitations and suggestions for future research

The biggest limitation in the research is the impossibility of collecting certain data about social entrepreneurship entities in Bosnia and Herzegovina because the existing institutions do not have any official data about the number of social entrepreneurship entities, the activities they engage in, the way they do it, the problems they deal with, etc. Another limitation is modest financial resources and therefore limited access to global databases from which we could collect the latest papers and more detailed data about social entrepreneurship in the world.

We leave many questions open to future researchers when we talk about social entrepreneurship in Bosnia and Herzegovina. First of all, there are the factors that influence its development, then the ecosystem of social entrepreneurship in B&H and transition countries, research on the impact of social entrepreneurship on the development of B&H, etc.

CRediT authorship contribution statement

I.Đ.: Conceptualization, Methodology Formal analysis, Writing – original draft, Writing – review

Ž. E.: Conceptualization, Methodology, Writing – original draft, Writing – review

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Biography

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Компаративна анализа друштвеног (социјалног) предузетништва у развијеним земљама и Босни и Херцеговини

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Кључне ријечи:
друштвено (социјално) предузетништво, раст и развој, маргинализоване групе друштва, компаративна анализа

САЖЕТАК

За ублажавање посљедица социјалне и економске кризе изазване пандемијом корона вируса, потребан је приступ кроз друштвено-економске активности. Неопходно је искористити све расположиве ресурсе као генераторе запошљавања и нових вриједности. Један такав модел је управо друштвено (социјално) предузетништво. Овај рад има за циљ да упореди степен развијености друштвеног предузетништва у развијеним земљама и Босни и Херцеговини (БиХ) како би се стекла слика о значају друштвеног предузетништва за укупан економски и друштвени развој. У овом раду анализирали смо друштвеног предузетништво у развијеним земљама и БиХ. Овом упоредном анализом утврдили смо да је друштвено предузетништво од великог значаја за економски и друштвени развој и да још много треба учинити за развој друштвеног предузетништва у БиХ.

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The role of entrepreneurial networks in overcoming export barriers of small and medium-sized enterprises from developing economies

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ABSTRACT

The role of entrepreneurial networks in overcoming export barriers of small and medium-sized enterprises (SMEs) varies depending on the development level of the domestic institutional environment. So far relevant literature has been dominantly focused on the effects of participation of SMEs from developed economies in different forms of domestic and international entrepreneurial networks. However, in the last two decades, the SMEs from post-transition economies (PTE), namely developing economies, have become more involved in international business which is an important challenge for them because of resource scarcity and a long period of international isolation. Starting from the entrepreneurial perspective of internationalization based on accelerated internationalization models, the paper considers modes, motives, benefits, and obstacles of establishing alternative management structures - SME entrepreneurial networks in institutional discontinuity conditions. The research aim is to indicate the importance of establishing network connections as a modus for overcoming resource and institutional export barriers of SMEs from PTE. The research is based on the analysis and synthesis of relevant literature in the field of international entrepreneurship and network approach to the internationalization of SMEs in the context of PTE. Based on conceptual analysis and the results based on previous research, pragmatic recommendations for export SMEs from PTE regarding the choice of appropriate participation modality in entrepreneurial networks are stated.

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1. Introduction

The internationalization of small and medium-sized enterprises (SMEs) from post-transition economies (PTE) has become an intriguing area of interest for the scientific and expert public in the last two decades (Ribau et al., 2018) due to large empirical evidence of their success in an international market (HSBC, 2016). Oviatt and McDougall (Oviatt & McDougall, 1994) pointed to the existence of international entrepreneurial organizations (IEO) which are, regardless of resource scarcity, active in an international market at the early stages of their business, as well as the fact that their business patterns cannot be explained based on classical theories based on the models of the incremental process of internationalization. It instigated the development of the entrepreneurial perspective of internationalization (based on the models of accelerated international expansion) and the appearance of international entrepreneurship as a special area of research (Perényi & Losoncz, 2018). Initially, the focus of the research was on international entrepreneurial organizations from developed countries, but the pronounced institutional and cultural specificities of different national economies influenced the intensification of international comparisons of entrepreneurial internationalization (Jones et al., 2011), and thus the consideration of the internationalization of entrepreneurial ventures from developing countries.

The initiation and success of SMEs' entrepreneurial internationalization are significantly influenced by their partners, suppliers, customers, and other actors, as well as the characteristics of the environment in their own country and abroad. Among the main entrepreneurial challenges, and especially for PTE entrepreneurs, is the choice of mode for initiating, managing, and developing foreign business in the conditions of the poorly developed institutional environment. Besides the internationalization of business transactions, the exploitation of foreign locations' advantages and unique resources, and the establishment of alternative management structures (hybrid or network structures) represent a requirement for the existence and sustainability of IEO (Oviatt & McDougall, 1994, p. 54).

Although in relevant literature, the interpretation and comprehensiveness of the term business activities internationalization vary depending on conceptual and contextual approach, export is considered the most common SMEs internationalization modality (Dimitratos et al., 2003; Stoian et al., 2018). For that reason, entrepreneurial networks, their modalities, and potential benefits that export SMEs, in the conditions of institutional discontinuity, can realize by participating in various forms of domicile and international networks, are considered further in the text. The research aims to indicate a broad range of possibilities and the significance of establishing network relationships as a mode for overcoming resource and institutional export barriers of SMEs from PTE. The theoretical contribution of the research is reflected in shifting the focus from business subjects from developed economies to SMEs from developing countries while considering entrepreneurial patterns of (accelerated) internationalization via the establishment of network relationships. It allows institutional authorities to identify the areas in which the export SMEs need the greatest help, and entrepreneurs to perceive various types and benefits of networking in the initiation and development of export activities. In the paper, following the introduction, there is a literature review where the way of functioning and network structure typology are explained and common characteristics of entrepreneurial networks are described. In the third part of the paper, the potential effects of entrepreneurial networks on SME internationalization are analyzed, while in the fourth part, based on the review of empirical research, the importance of entrepreneurial networks for SMEs export activities from PTE is indicated. The paper ends with the conclusions and implications for theory, policies, and management decisions.

2. Literature review

2.1. Entrepreneurial networks and network structure typology

From the perspective of internationalization, an entrepreneurial network represents the establishment of two or more relationships of entrepreneurs or entrepreneurial teams with business partners (customers, suppliers, distributors, competitors, fi-

nancial institutions), government agencies (regulatory and public agencies), educational institutions (universities and research centers), business associations and private agencies (chambers of commerce, trade associations, agency for support for the internationalization) and other close social groups (family, friends) that enable and/or facilitate international expansion (Revindo et al., 2019). In the relevant literature, there are various approaches to the classification of networks and network behavior, a method of establishment, development, and maintenance of network relationships, the level of engagement and role of individual participants in a network, as well as the adequacy of use of network approach in SMEs entrepreneurial internationalization from PTE.

Entrepreneurial networks can be classified into economic and non-economic networks, technological networks, regional networks, social networks, etc. (Nummela, 2004, p. 134). From the viewpoint of the source of network relationships, SMEs can make connections with formal institutions (including all government agencies), business associates (suppliers, global supply chains, other enterprises), or via personal contacts (relatives, friends, colleagues) (Malecki, 2018). Furthermore, formal, informal, and intermediary relationships are differentiated, whereby formal relationships are the basis of the functioning of business networks, the informal ones of social networks, while intermediary relationships are created when a third party ties the actors of either business or social networks (Zahoor et al., 2020, p. 447). Also, certain authors classify networks according to (1) contents - social and business, (2) the type of obligations between actors - formal and informal, (3) the level of connection of actors - personal and organizational networks, and (4) business functions – production, finance, marketing, etc. (e.g. O'Donnell et al., 2001).

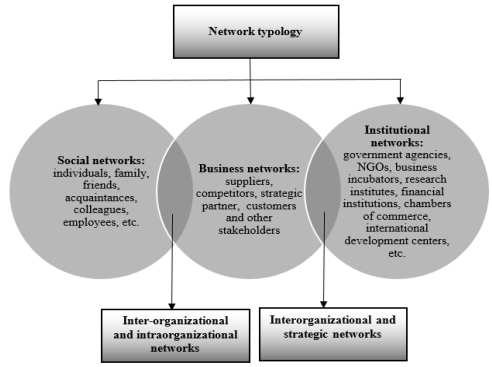
Differentiating between certain types of entrepreneurial networks is also performed depending on the manner of the development of SMEs relationship with the actors in a network, which can be active or passive (Hilmersson & Hilmersson, 2021). Active networking implies SMEs taking initiative while building network relationships to facilitate export activities, while passive networking refers to the situation when building network relationships is initiated by other actors (customers, importers, distributors, intermediaries), and SMEs have a passive role.

While researching network relationships in the area of international entrepreneurship, it is necessary to determine the differences and interconnection, as well as the overlapping of network ideologies between the three basic types of networks that companies use in export (Figure 1).

Institutional networks represent the relationships between enterprises and public institutions that are established to provide support and create conditions for enticing export, as well as improving enterprise success in local and foreign markets (Costa et al., 2017). They provide SMEs with material and non-material resources that are not available to them within their social and business networks. Given that their ultimate goal is national economic prosperity (based on the SMEs growth), government authorities do not have profit motives for establishing network relationships, so they do not charge for most services they provide (Oparaocha, 2015). Furthermore, the network interaction between actors can have a social aspect (social networks) or corporative aspect (business networks, with the aim of potential provision of support to SMEs export (Steinhäuser et al., 2021).

Figure 1

Network typology and network ideology overlapping



Note. Retrieved and adapted from Oparaocha, 2015, p. 864.

Based on Figure 1, two overlappings of network ideologies can be observed: 1) inter-organizational

and intraorganizational networks between the actors of social and business networks and 2) interorganizational and strategic networks between the actors of business and institutional networks. The first overlapping most commonly refers to technical and procedural cooperation with the aim of business expansion and profitability, while the second overlapping is based on other (most often non-profit) motives and implies specific network relationships that are not enveloped by institutional network relationships themselves (Oparaocha, 2015).

2.2. Common characteristics of entrepreneurial networks

Although there are different approaches to defining entrepreneurial networks and the absence of unique and all-encompassing classification of network structures, the following common characteristics of entrepreneurial networks were identified in relevant literature:

1. networks are different from formal hierarchical structures,
2. networks do not have objective boundaries,
3. networks are stable structures, but they change in time,
4. networks depend on previously made decisions and experience and
5. networks are to be observed from the aspect of structure and process (Spigel, 2017; Poocharoen & Ting, 2015; Torkkeli et al., 2016; Malecki, 2018; Dagnino et al., 2015).

Networks are based on relatively permanent and voluntary relationships of exchange which actors manage autonomously and by the principle of reciprocity, and not by the principle of control and coercion, as the case is with formal hierarchical structures (Spigel, 2017). They do not have an owner and no actor manages the network, because all the actors participate in network management. Activities and resources that network actors make available cannot be spontaneously combined, as their coordination is needed (Dagnino et al., 2015). From the aspect of the level of power, individual actors can hold different positions (role, function and identity) in a network, which depends on their economic base, technology, expertise, trust and legitimacy (Malecki, 2018). Therefore, some network actors can use their power strategically and influence other actors (offering them relief) in order to strengthen the network and thus realize their goals more efficiently.

Unlike traditional organizational structures, networks do not have clear boundaries. Network actors realize direct and indirect ties with external actors and other networks, that is, each actor in a network determines its subjective boundaries which are, in practice, relative and arbitrary as they are the result of its motives and perception (Poocharoen & Ting, 2015). The criteria for determining boundaries can be a type of product, the technology that is used, the national economy of interest, and others (Ratajczak-Mrozek, 2017, p. 35). Due to the intangible nature of relationships within and outside of a network, although some actors are unaware of this, the existence of ties with third parties affects the relationships in a certain network.

The relationships within the network occur in the process of long-lasting temporal interdependence and considerable resource involvement which contributes to creating firm and binding ties, that is, network stability (Torkkeli et al., 2016). Besides the invested time and resources while building network relationships, network stability is also affected by the existence of limited capabilities of individual actors that could not act without the support of the network, as well as the possibility of high costs due to potential abandonment of network (Morais & Ferreira, 2020). However, the interaction of the actors of a certain network with third parties affects its stability and dynamism. Although they are stable, network relationships are not static, which is the consequence of the actors' tendency to build new relationships that are included in the network, change the network positions of actors, as well as change the level and method of interaction between the existing actors in the network (Yin & Zhou, 2021).

The existing relationships between actors within a certain network have a strong impact on their individual actions, because they are the result of previously made decisions and acquired experience. The investment of time and resources into building network relationships, as well as the development of routine behavior patterns influence the efforts of

network actors to maintain the results of their investments in the existing relationships and continue exploiting them (Poocharoen & Ting, 2015). Mutual trust and commitment of network actors are desirable, but, in the long term, they can limit their objectivity in the decision-making process, as well as the independence of acting and discovering new opportunities (Malecki, 2018). Too stable relationships within a network can inhibit identifying and exploiting new entrepreneurial opportunities and establishing new relationships as potential sources of SMEs further development.

The benefits that actors hope to get by participating in a certain network depend on several key aspects, among which, are characteristics of network structure and network processes (Dagnino et al., 2015). Network structure represents a collection of interconnected nodes (actors) based on reciprocity and long-term adjustment to specific relationships, as well as considerable resource investments (Ratajczak-Mrozek, 2017). Network structures are relationship patterns that exist between network actors, and can be observed from the aspect of the level of centralization (more or less centralized), the strength of relationships (tight or weak relationship) and the number of interactions between actors (dense or sparse) networks (Poocharoen & Ting, 2015). On the other hand, a process approach refers to an interactive and dynamic aspect of the analysis of network relationships divided into subprocesses, whereby each process consists of numerous phases (Dagnino et al., 2015). It implies the consideration of behavior and the activity of actors in formulating, developing, maintaining and exploiting the benefits of participating in a certain network. Actors' behavior and activities include building trust, mutual respect, mutual understanding and the commitment to network relationships (Ratajczak-Mrozek, 2017). Thus, network structures are the result of network processes, that is, network processes precede and represent a prerequisite for building network structures, but also their continuous change.

2.3. Potential effects of entrepreneurial networks on SMEs' internationalization

Although relevant literature points out that entrepreneurial networks facilitate and accelerate SMEs international expansion, the effects of network relationships can also have negative implications (Nummela, 2004). For that reason, the positive and negative influences of network relationships on the internationalization of entrepreneurial ventures are considered. Among the positive effects of networking, there are the initiation and instigation of internationalization, the influence on the choice of the target market and the way of entering, the establishment of foreign relations, and the access to foreign distribution channels, enabling access to knowledge of the chosen market, ensuring initial credibility in new markets, decreasing the costs and risks of foreign business activities, as well as the influence of the network on the speed and patterns of SMEs internationalization (Morais & Ferreira, 2020, p. 69).

Networks are especially important at the early stages of SMEs internationalization, because, by inclusion in networks, entrepreneurial ventures perceive the significance and necessity of international expansion, so they start to intensify their efforts in that direction (Senik et al., 2011, p. 260). Networks enable the implementation of international business vision of entrepreneurial ventures and offer considerable moral support. It is especially pronounced if they are based on personal relations (relatives, friends, colleagues) (Perényi & Losoncz, 2018) which provide them with initial funding, information, advice, and emotional support in the realization of the business idea and the internationalization process acceleration (Malecki, 2018).

A very significant decision for SMEs is the choice of the market where the first international activity is realized, because, from their perspective, international markets seem very broad and diverse (Jones et al., 2011). Network actors with the greatest influence on SMEs can offer guidelines for the choice of foreign market, as well as the mechanism for entering the target market itself. Due to intensive contact with a key foreign partner, SMEs often imitate its way of doing business, which, accordingly, influences the form of their international activity (Morais & Ferreira, 2020).

The development of distribution channels for the placement of products on an international market is another challenge that SMEs face in export. The establishment of network relationships with international partners that have well-established distri-

bution channels and can facilitate making contacts with potential customers represents a convenient way to solve this issue (Hilmersson & Hilmersson, 2021).

Network relationships with international partners enable approaching, exchanging, transferring, and acquiring necessary knowledge and information (Zucchella & Magnani, 2016, p. 57). They can help SMEs obtain knowledge about the local market on which they plan to place their products or services, as well as get relevant and reliable information that will make it easier for them to identify marketing and technological opportunities, key suppliers, institutional incentives or limitations, etc. (Morais & Ferreira, 2020).

To achieve initial credibility and trust, as well as to build a reputation in the international market, SMEs need to work together with their network partners on that. The presence of role models, mentors, and networks can significantly help entrepreneurs without much business experience (Petković, 2021, p. 433). Network partners must be in the limelight (such as, for example, big and well-known enterprises or institutions), as potential customers and workforce, financial institutions, and media will have a more positive perception of the SMEs they are doing business with. "Borrowing" goodwill enables SMEs to establish numerous beneficial relationships, and with it access to greater business opportunities, resources, and competencies (Yin & Zhou, 2021).

Well-established network relationships with foreign partners can also reduce transaction costs and the costs associated with finding target customers (Narooz & Child, 2017, p. 693). Considering the pronounced uncertainty in the first export activity, SMEs are not prepared for considerable engagement of their resources, that is, they tend to avoid risk. By developing network relationships with foreign partners, they can change direct experimental learning with indirect experimental knowledge via network partners (Nabi & Zapata, 2018). This means that SMEs have the opportunity to indirectly (and rapidly) gain international experience through networking relationships, which can have a positive impact on reducing risk perception, and increase willingness to commit the resources needed to succeed in a foreign market. Accordingly, networks can enable overcoming the shortcomings of necessary resources and the capabilities for endurance and development in a foreign market (Revindo et al., 2019). Experiential knowledge obtained through networking with foreign partners determines the tempo, scope, and patterns of SMEs internationalization since network relationships enable the establishing of close relationships with customers (Morais & Ferreira, 2020).

However, the effects of establishing network relationships on SMEs internationalization are not always positive, that is, their universal usefulness cannot be stated since they may become the inhibitors of their international development (Nummela, 2004).

Although stable and long-term networks can facilitate internationalization, too tight relationships tend to limit SMEs only to the resources, capabilities, and business opportunities that are available within subjectively determined boundaries of the network, as well as to block cooperation with other entities that could potentially provide them with additional values (Malecki, 2018). It can influence the narrowing of SMEs business horizons and limit the search for international entrepreneurial opportunities beyond the existing network.

The acquired routines and behavioral patterns resulting from previously made decisions and experiences influence the objectivity of network actors (Ratajczak-Mrozek, 2017), so there is a danger that SMEs (due to their pronounced loyalty to network) will endeavor to do business according to already established patterns, which can limit their independence and complicate the capabilities of rational decision-making.

SMEs have limited resources to invest in developing and maintaining network relationships, which exposes them to the risk of overinvestment that, instead of increasing value, can lead to neutral or even negative results (Nabi & Zapata, 2018), that is, turn the expected benefit to obligation only. For that reason, SMEs should manage their network relationships to achieve results that support their international development instead of useless investments.

Summarized, the potential effects of entrepreneurial networks on SMEs internationalization are shown in Table 1.

Table 1

Potential effects of entrepreneurial networks on SMEs internationalization

Influences of networking on SMEs internationalization	
Positive	Negative
- enable the implementation of international business vision; - provide moral, funding, information, advice and emotional support; - offer guidelines for market selection and entry mode selection; - facilitate making contacts with potential customers; - enable approaching, exchanging, transferring and acquiring knowledge and information; - enable the achievement of initial credibility and trust; - reduce transaction costs, the costs associated with finding target customers and risk perception;	- tend to block cooperation with other networks and entities; - narrow SMEs business horizons; - limit the search for international entrepreneurial opportunities; - influence the objectivity of network actors; - limit the independence of SMEs; - influence the rational decision-making; - risk of overinvestment;

Note. Retrieved and adapted from Morais & Ferreira, 2020; Senik et al., 2011; Perényi & Losoncz, 2018; Malecki, 2018; Hilmersson & Hilmersson, 2021; Zucchella & Magnani, 2016; Yin & Zhou, 202; Narooz & Child, 2017; Ratajczak-Mrozek, 2017; Nabi & Zapata, 2018.

3. The significance of entrepreneurial networks for export activities of SMEs from developing economies

Motives, modalities, and the level of SMEs involvement in network relationships and the exploitation of network potentials in export vary depending on the level of the development of the institutional environment (Chandra et al., 2020). To consider the role of networks in the context of SMEs internationalization from PTE, it is necessary to perform their differentiation in three aspects: 1. the origin of network actors (national and international networks), 2. relational dimensions (strong and weak networks) and 3. structural dimensions (network size, diversity, and density) (Kiss & Danis, 2010).

Due to the long-term international isolation of PTE, SMEs have limited capabilities of establishing international networks that direct their focus on building strong domicile and potentially weak foreign network relationships (Narooz & Child, 2017). To overcome great institutional barriers and initial lack of international contacts, they establish network relationships with business subjects and various institutions in the country, which can provide them with safety and national legitimacy in doing business, a reliable source of information and incentives for export activities (Yamakawa et al., 2008). However, such network relationships have only partial and short-term influence on the speed and success of export, as they require great commitment of time and resources and can limit the business horizons of SMEs from PTE (Danis et al., 2011). For that reason, it is suggested, in the relevant literature that, as the internationalization process advances and the domicile environment develops institutionally, it is necessary to decrease the engagement in domicile networks and direct greater attention to the development of weak international network relationships (Kiss & Danis, 2010). In general, weak networks do not require a greater commitment of time and resources, but they provide SMEs from PTE with access to resources at lower costs, a broader range of knowledge and information, more autonomy, and faster adjustment to new foreign circumstances (Narooz & Child, 2017).

Network relationships of SMEs from PTE often feature two separate network clusters - national and international (Kiss & Danis, 2010), which need to be tied so that their advantages in international business are more efficiently used. Relevant literature points to the importance of state institutions (regulatory and public agencies) as intermediaries of SMEs that are familiar with alternative methods of foreign business, have better access to information

and have a better position in negotiation relations (Volchek, 2015, p. 228).

Besides the network relational dimension, network structure (network size, diversity, and density), whose influence is manifested differently, depending on the obtained level of internationalization and institutional development of the domicile environment, is also relevant for the speed and success of the export of SMEs from PTE (Danis et al., 2011). The networks that are composed of several various actors compensate for the institutional shortcomings and provide SMEs with better and more diverse access to information, experience, and knowledge about the complexity and dynamism of the business environment in initial export activities (Zucchella & Magnani, 2016). However, by developing export activities, SMEs position is improving, so the usefulness of participating in great and various network relationships may weaken over time (Narooz & Child, 2017). Also, more immediate, direct contacts between network actors (great network density) have positive effects on the speed and success of the export of SMEs from PTE in conditions when trust and reciprocity are vital (Morais & Ferreira, 2020), while in other situations, they can be a reflection of poor distribution of network actors and lead to information redundancy, and whereby complicate the access to a foreign market (Kiss & Danis, 2010). For this reason, it is considered that networks with fewer direct contacts between actors (dispersed networks) allow access to unique knowledge of specific and relevant opportunities in foreign markets, improving the international engagement of SMEs from PTE (Narooz & Child, 2017).

The results of the research conducted on a sample of nine developing countries (Argentina, Chile, Mexico, Peru, Venezuela, South Africa, Uganda, India, and Korea) and five post-transition economies (China, Croatia, Hungary, Poland, and Slovenia) demonstrated that the tie between the inclusion of ambitious entrepreneurs in social networks (such as political parties, religious groups, trade and professional associations) and new business activities is stronger if there are greater regulatory $(\chi^2 = 6.948; p < .001)$ and normative burdens $(\chi^2 = 2.768; p < .01)$, and weaker in case of greater cognitive burdens $(\chi^2 = -1.019; p < .001)$ (De Clercq et al., 2010). However, when founding a company in economies characterized by inefficient or unpredictable regulatory institutions and a negative perception of the appeal of entrepreneurship as a choice of career, entrepreneurs are more ready to participate in various associations to get material and non-material support. The same research pointed to the complementarity of the activities of establishing network relationships and relevant knowledge and skills necessary for initiating business in PTE, that is, that social networks cannot be a substitute for the lack of business (entrepreneurial) education and professional training, but a supplement to the existing one (De Clercq et al., 2010).

To determine how the institutional characteristics of different national contexts determine patterns of networking as alternative structures for export support, a comparative survey of twenty Egyptian and twenty British SMEs was conducted (Narooz & Child, 2017). Differences in the patterns of establishing network relationships are considered from relational and structural aspects of networks, as well as the type of network relationship (business vs. social). It is determined that Egyptian SMEs greatly depend on public institutions and have a low tendency to establish non-institutional network relationships; that the norm of universal treatment is missing, so they are marginalized compared to large enterprises and that information that can help them in export is not available through formal public communications channels, but can be obtained exclusively through personal contacts. For the abovementioned reasons, Egyptian SMEs make efforts to make up for institutional voids and dysfunction by establishing strong, informal, long-term, and direct social relationships with institutional authorities to realize access to resources, information and other types of help for business internationalization (Ibidem, 2017).

The results of that research (Narooz & Child, 2017) showed that, unlike Egyptian, British enterprises do not need to establish informal network relationships with public institutions (either directly or via an intermediary), because they provide support for international activities with the help of proactive business networking with a low interaction level. They tend to establish weak business network relationships based on formal (contractual) arrangements, without being conditioned by the realization of social con-

tacts. Considering that the institutional barriers referring to technical limitations of the public institutions' support were identified in the research (e.g. the impossibility of providing specific information on certain market niches, lower level of knowledge of public employees compared to enterprise owners/managers, the lack of coordination within public agencies), British SMEs mainly develop contacts with non-government networks (clients, chambers of commerce, expert advisors). Thus, they endeavor to get support for a wide international expansion and overcome the lack of institutional knowledge about foreign markets and contacts (Ibidem, 2017).

The research of Gil-Barragan and others (Gil-Barragan et al., 2020) was directed at identifying the type of domicile network relationship, that contributes to and enhances accelerated internationalization of Latin American entrepreneurial ventures in the conditions of unfavorable institutional environment, offers considerable contribution to relevant literature and pragmatic recommendations. The specificity of networking of Latin American SMEs was discussed, taking into account the degree of limited resources and the logic on which they base their decision-making on early business internationalization. It was found that the process of internationalization of resource-limited SMEs, which strive through clearly defined goals and plans for resource management and the ability to predict and control future risks and uncertainty (rational decision-making logic), is accelerating by establishing intensive (strong) ties with domicile actors. On the contrary, with SMEs with less resource limitation, which rely more on experimenting, flexibility, a tendency toward risk with acceptable losses, and the perception of uncertainty as a source of potential opportunities (the realization or effectuation logic), the internationalization process accelerates if they rely on weak domicile networks (Gil-Barragan et al., 2020).

4. Conclusion and implications

The research about the roles of entrepreneurial networks is directed at identifying the opportunities for building and exploiting network relationships as how SMEs from PTE can overcome or compensate for domicile institutional shortcomings and resource limitations in the initiation and development of export activities. SMEs from PTE have various modes of engagement in entrepreneurial networks at their disposal, to overcome export barriers. They can establish networks with formal institutions, business partners, or via personal contacts (Malecki, 2018). The relationships between actors can be formal, informal, or intermediary (Zahoor et al., 2020, p. 447), while the network development process, from SMEs aspect, can be active or passive (Hilmersson & Hilmersson, 2021). Networks can provide technical and procedural cooperation with the aim of the expansion of business and profitability (business and social networks), but they can also have non-profit motives (networking with institutions), so SMEs do not have to pay for most services provided to them (Oparaocha, 2015).

Entrepreneurial networks have certain common specificities, among which the following can be distinguished: the absence of hierarchical relations and objective and clear boundaries, the susceptibility to the changes of relationships between actors, the development of routine patterns of action, etc. (Spigel, 2017; Poocharoen & Ting, 2015; Torkkeli et al., 2016; Malecki, 2018; Dagnino et al., 2015), while the structure of the relationship between network actors can be observed from the aspect of the level of centralization (more or less centralized), the strength of relationships (tight or weak relationship) and number of interactions between actors (dense or sparse) networks (Poocharoen & Ting, 2015).

Participation in entrepreneurial networks can have positive effects, such as: initiation and instigation of internationalization, the influence on the choice of target market and the way of entering, the establishment of foreign relations and the access to foreign distribution channels, enabling the access to knowledge of the chosen market, ensuring initial credibility in new markets, decreasing the costs and risks of foreign business activities, as well as the influence of the network on the speed and patterns of SMEs internationalization (Morais & Ferreira, 2020, p. 69). On the other hand, entrepreneurial networks can also have negative effects, such as: preventing cooperation with other subjects (Malecki, 2018), limiting the objectivity of thinking and acting for the sake of loyalty to the network (Ratajczak-Mrozek, 2017), and the danger of overinvesting time and resources for building network relationships (Nabi & Zapata, 2018).

4.1. Theoretical implications

The results of previous research have shown that SMEs from PTE usually tend to establish strong, informal, long-term, and direct social relationships with institutional authorities to realize access to resources, information, and other types of help for business internationalization (Narooz & Child, 2017), which is not the case with SMEs from developed economies. Also, resource-limited SMEs from PTE that prefer rational decision-making logic rely more on strong ties with domicile actors in export, while more flexible SMEs with less resource limitation that base their business on realization logic rely on weak domicile networks (Gil-Barragan et al., 2020).

Theoretical implications of the conducted analysis and relevant literature systematization are reflected in the necessity of role differentiation that entrepreneurial networks have in overcoming SMEs export barriers depending on the institutional development of the national economy they come from. Namely, it is emphasized that not all types and structures have universal usefulness in various institutional contexts which is why its reviewing is necessary in the conditions of institutional discontinuity, i.e. in post-transition countries.

4.2. Policy and managerial implications

This paper also has implications for government policies and programs. Considering that the prosperity of the national economy is based on the growth and development of SMEs, institutional authorities from PTE ought to identify the areas in which their intervention is necessary to decrease or eliminate export barriers. Although significant, financial institutional support to resource-limited SMEs from PTE can have short-term and weak effects on the instigation of export activities if applied selectively and nontransparently. Therefore, national policymakers are suggested to develop the practice of systemic entrepreneurial education, which will enable promising and motivated SMEs to acquire knowledge and skills for initiating and developing internationalization.

To use network potentials in export to its maximum, SMEs from PTE should primarily identify the motives, that is, goals of its networking, and based on them choose an adequate model of network relationships. The entrepreneurs from PTE should, following their internal potentials and based on the analysis of different types and uses of networking in the initiation and development of export activities, opt for establishing and developing network contacts whose uses overcome the levels of the engagement of time and scarce resources.

For SMEs from PTE to use the advantages and avoid dangers when participating in entrepreneurial networks, it is recommended that only during initial export activities, the establishment of strong domicile and potentially weak foreign network relationships are preferred. (Danis et al., 2011). By developing export activities, SMEs ought to focus more on the development of weak international network relationships (Kiss & Danis, 2010) which, through less engagement of time and finance allow access to resources at lower costs, a broader range of knowledge and information, more autonomy and faster adjustment to new foreign circumstances (Narooz & Child, 2017). The recommendation to the managers in SMEs who plan to do business in export activities is to head toward networking. Namely, since the benefits from participating in large and diverse networks decrease over time, the inclusion in the networks with fewer direct contacts between actors is recommended (dispersed networks) as they enable access SMEs from PTE to unique knowledge on specific and relevant opportunities in foreign markets (Ibidem, 2017).

Although entrepreneurs in conditions of regulatory institutional discontinuity and negative perception of entrepreneurship as a career tend to participate in various associations to receive material and nonmaterial support, they must be aware that social networks cannot be a substitute for the lack of business (entrepreneurial) education and professional training of individuals, but only the supplementation of the existing ones (De Clercq et al., 2010).

4.3. Limitations and suggestions for future research

This paper also has its limitations. The key limitation of the research is the lack of concrete empirical research on the character and role of entrepreneurial networks in the growth of productivity and innovation of export-oriented SMEs in open developing economies, such as the economies of the Western Balkans countries. However, by re-

viewing the literature from PTE, the opportunities and limitations of entrepreneurial networks in the early SMEs internationalization are presented, which is also the greatest contribution of this paper. This limitation is, at the same time, a recommendation for future research.

CRediT authorship contribution statement

L.M.: Conceptualization, Methodology, Formal analysis, Writing – original draft, Writing – review

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Biography

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Улога предузетничких мрежа у превазилажењу извозних баријера малих и средњих предузећа из привреда у развоју

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Кључне ријечи:
предузетничке мреже,
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пост-транзицијске економије

САЖЕТАК

Улога предузетничких мрежа у превазилажењу извозних баријера малих и средњих предузећа (МСП) варира у зависности од развијености домаћег институционалног окружења. До сада је релевантна литература била доминантно фокусирана на ефекте учешћа МСП из развијених економија у различитим облицима домаћих и међународних предузетничких мрежа. Међутим, у посљедње двије деценије, МСП из посттранзицијских економија (ПТЕ), односно економија у развоју, постала су све више укључена у међународно пословање, што је за њих важан изазов због оскудице ресурса и дугог периода међународне изолације. Полазећи од предузетничке перспективе интернационализације засноване на моделима убрзане интернационализације, у раду се разматрају начини, мотиви, користи и препреке успостављања алтернативних управљачких структура – предузетничких мрежа МСП у условима институционалног дисконтинуитета. Циљ истраживања је да укаже на важност успостављања мрежних веза као модуса за превазилажење ресурсних и институционалних извозних баријера МСП из ПТЕ. Истраживање се заснива на анализи и синтези релевантне литературе из области међународног предузетништва и мрежног приступа интернационализацији МСП у контексту ПТЕ. На основу концептуалне анализе и резултата заснованих на досадашњим истраживањима, дате су прагматичне препоруке за извозна МСП из ПТЕ у погледу избора одговарајућег модалитета учешћа у предузетничким мрежама.

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The influence of organizational culture and management on innovativeness in the business of organizations

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ABSTRACT

Innovations have influenced organizations to change and adapt ways of working, functioning, and the entire concept of business thinking, which turns in the direction of finding innovative solutions and performing tasks. Innovation in the organization's business requires adaptation of the organizational culture and way of managing the organization. One of the key factors in encouraging a company's innovativeness is the organizational culture, which can have a significant impact on the adoption of innovation as a company value. Management, as an integral part of the organizational culture in each company, defines the way of managing innovations and processes, which, if properly defined and managed, can have a significant impact on the organization's business. This paper tries to find an answer to the question of whether and to what extent the organizational culture and management of the organization influence its business. The research aims to examine the relationship between the organizational culture and management of the organization on the one hand, and its innovation in business on the other. For this purpose, the collected literature was analyzed, and based on that, the relationship between organizational culture, management, and innovation was defined, as well as their influence on implementing innovative solutions and ways of doing business in organizations. The research results can be further used as guidelines for more extensive research.

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1. Introduction

The rapid development of technology and numerous technological innovations, along with changes in consumer behavior, have led to changes in the way organizations work. Organizations have become aware that they must direct their business thinking towards finding innovative solutions, respecting the opinions of consumers, and using modern technological solutions to position themselves in the market and in general to survive in an uncertain race with the competition. Due to numerous changes brought by innovations, the market becomes turbulent, with constant changes and adjustments. All of this must be accompanied by the application of an appropriate corporate strategy and business models that will support innovation in business, i.e. changes in the company's organizational culture, and the way it is managed.

Organizational culture represents a changing category that adapts to internal and external changes in the organization's environment and as such contributes to the stability and development of the organization. The management needs to know the organization and its business culture well, to adapt it as efficiently as possible and harmonize it with the ultimate company goal, which creates the basic conditions for successful functioning because the decisions made by the management represent key elements in defining the organizational culture and strategic decisions that have a direct impact on innovation processes. That is why the research problem in this paper could be defined as a question: *Does the organizational culture and management influence the choice of innovative solutions and the way organizations work, and does this influence the organization's business?*

Innovation implies the creation of new conceptual organization solutions and their offer to the market and consumers who will accept or reject them. Innovations in business lead organizations in the direction of developing innovative capabilities within the company itself, securing them outside the organization, and aligning them with strategies, structures, and systems that should support innovation. Organizations face the challenge of finding an appropriate strategy because each business and way of doing business is unique, and it is not possible to apply a universal business model, regardless of whether innovation refers to the development of new products and services or the improvement of existing ones. Sometimes process or production innovation happens by chance and can be applied in different organizations, but not every organization will react to them in the same way. For some, they can be of great importance, while for others they can be completely irrelevant. It clearly shows the relationship between organizational culture and management as essential factors of each organization. Innovativeness and organizational culture have a two-way connection, and it can be seen on the one hand through the influence of culture in the decision-making process and direct impact on the success of new products or services, and also on the company's performance, and the other hand through the company's ability to absorb innovations in its processes, structure, management (De Montreuil Carmona et al., 2020).

Organizational culture represents a set of organization key values (Jekić, 2016, p. 14), employee behavior norms, and management attitudes that need to be developed and adapted. It encourages the innovative behavior of the members of the organization in such a way as to accept innovation as one of the organization's key values, and it encourages a more creative, freer management style. It represents a culture of behavior, beliefs, ways of thinking, and risk acceptance and as such has a significant impact on structures and systems (Stevanović, 2009, p. 14). Management is the one who makes key decisions, defines the procedures, and the work system, but also influences the employees and creates an organizational culture that should encourage innovation, and thereby strengthen the organization's competitiveness. His role and contribution are reflected in his dedication to the organization, aiming to increase the efficiency of the organization's resources, focusing on discovering and removing possible obstacles for the further development of the organization. On the management side, the key question is how to manage innovations, and how to use managerial abilities to create and manage innovations in such a way that they ultimately have a significant impact on creating organizational values (Pedraza-Rodriguez et al., 2023).

We will try to find the answer to this question through the best possible clarification of the relationship between organizational culture and management, with the innovativeness of the organization and its tendencies towards encouraging an innovative way of working. The main purpose of this research is to reduce the gap that exists in observing these relationships and their mutual influence on organizations' business performance.

In the first part of the paper, in the review of the literature, we explained the basic implications of innovativeness in organization business, clarified organizational culture, and management as a factor of organizational culture. An insight into the most important characteristics of the organization's business related to innovation is given. In the second part of the paper, we tried to show and clarify the connection between innovation and the organization's business, through the presentation of the relationship between organizational culture and innovation, as well as the influence of the organization's management on its business innovation. The third part of the paper presents concluding considerations, along with certain recommendations for future research.

2. Literature review

In modern business conditions, one of the important characteristics of an organization is its ability to perceive and react to changes, and to be innovative. Innovation can be seen as a firm's effort to adopt and develop new ideas and to encourage creativity in processes, which can lead to the development of new products and services, but also processes, as well as forms of organizations (Vij & Bedi, 2012, p. 20). The innovative ability of an organization is also reflected in understanding and identifying the future needs of clients, providing internal resources, but also external knowledge in the development of an organizational culture that supports innovation, the development of new ideas, and their transformation into successful innovations (Rajapathirana & Hui, 2018, p. 52). Innovative strategies enable the organization to pass certain steps before the competition and take advantage of market opportunities, which can result in better financial indicators and business performance. Not all organizations are the same.

Some are dynamic, innovative, and entrepreneurially oriented, while others are more traditionally oriented and less inclined to change, and as such nurture a different organizational culture. The business culture nurtured by an organization affects precisely its ability to perceive or initiate changes and direct the organization to build its market advantage based on knowledge. Organizational culture represents a whole set of values, beliefs, and ways of managing an organization, which, through good coordination of activities, resources, processes, and strategies, affects all aspects of the organization's operations, structure, and systems (Stevanović, 2009, p. 14). It represents an important item for the organization, but also for individuals. It influences the business strategy from strategy selection to its implementation.

Organizational culture represents a heterogeneous phenomenon that unites different dimensions within the organization, how processes are performed in the organization, and what separates one organization from another (Kljajić-Dervić et al., 2017, p. 632).

It is the result of values, attitudes, and norms, developed and adopted by its members through common experience that helped them understand the organization and its environment, and which, based on experience, formed certain rules of behavior that are expressed through certain models or predefined behavior patterns in a given organization. Changes in organizational culture are something that needs to be managed in an adequate way, which can last for a long period and which includes a whole set of planned managerial activities that change it in a targeted direction (Jekić, 2016).

An innovative way of doing business requires innovative management, entrepreneurially oriented, dynamic, aware of changes, and prone to accepting the risks that changes bring. Organizations, to survive, need to change and quickly adapt to the changing environment. They need management able to lead the process of change, who thinks in the long term and understands that in conditions of turbulent changes in the environment, the organization cannot maintain a neutral attitude and state as it is

(Jekić, 2016, p. 15). Managers have insight into the actual state of the organization and changes that occur within it, and accordingly create procedures that define work procedures, processes, principles and practice, and their mutual relationships (Buyukbalci et al., 2020). The manager needs to know company culture, to harmonize it with the company goals, which creates the basic conditions for the successful organization business, because the decisions made by the management represent key elements in defining the organizational culture and strategic decisions that directly affect innovation processes.

Good business performance is the main goal of every organization. Choosing the appropriate strategy necessary to achieve those performances is the result of management's work, and shaping the organizational culture is the best support for the chosen strategy. The management of the organization is responsible for the establishment of the organizational culture and its maintenance (Žugoj et al., 2004). Although the introduction of innovative solutions carries risk and success that is not guaranteed, their adoption has a positive effect on the organization's performance, as an adaptive system that introduces changes to increase the efficiency and effectiveness of the process, and where management can play an important role in the process of changing the organization (Walker et al., 2010, p. 370).

2.2. Innovativeness and business of the organization

The main goal of the organization is profit. However, maintaining good business performance must also represent the goal of the organization, and to achieve it, various methods are used, among which we include innovation at different levels of the organization, from organizational culture, and management to new technological solutions. Research shows that companies must turn to greater use of technology in practice and that the focus must be on innovation, according to which innovation is the best choice for organizational survival in a turbulent market (Zhang et al., 2018, p. 2). Innovation is considered one of the most important tools that enable achieving a competitive advantage in the changing business environment. The connection between the organization and innovation has always been important, but in today's business conditions, with the extent of the impact that technology has on business changes, together with the drive towards automation and digitization, that connection becomes critical for further business and the organization's survival. Innovativeness, along with creativity, is an integral part of the organization's vision facing consumers and the future position of the company (De Montreuil Carmona et al., 2020, p. 13).

The relationship between innovation and the business success of organizations has been linked in various ways, not only today. Through digitalization, modern technology has made it possible to convert complex analytical tasks into simple procedures, contributed to standardization and operational efficiency, reduction of transaction costs, and a higher level of management control, but also the transition from the traditional way of working and the introduction of new practices (Fana & Villani, 2012, p. 3), work automation, thus preventing the occurrence of errors and shortening the time required to make key decisions, as well as better control of the processes (Črešnar et al., 2022). Innovation changes business practices, companies are more user-oriented and more adaptable to changes, there is a better connection between processes and employees, and companies are transformed into leaders who will achieve a significant advantage in the market (Lukić & Nikolić, 2015, p. 16). The ability of an organization to recognize and apply innovative capabilities in daily activities is a key factor that determines its market position. Although innovations are mostly related to changes, it should be kept in mind that not all changes can be implemented. Changes don't need to carry new ideas that contribute to the real progress of the company, but they must represent a constant in companies, which in this way raises their level of competence. The innovativeness of an organization depends on the interaction between available resources, organizational structure, coordination of work processes and procedures, management work model itself, and flexibility in work (Buyukbalci et al., 2020, p. 34), but also it depends on companies size, number of employees, annual profit, ownership ratio in capital. This is indicated by the results of the research, innovation in the business of smaller companies is represented on average by 30%, while it grows significantly up to 47%

in larger companies, and in the case of the use of digital solutions, innovation is represented in 80% of the total business activities of the organization (Fana & Villani, 2012, p. 7). Large organizations, i.e. companies with higher profits and a larger number of employees, as well as companies with majority foreign ownership (over 50% of the total capital) have a higher level of organizational innovativeness than medium-sized or small companies (Baumane-Vitolina et al., 2022, p. 744).

In addition to the above, companies must consider and decide how to create and introduce innovative ways of doing business. It could be done independently, through internal research and development, in cooperation with other organizations, even competitors or by purchasing ready-made solutions (Audretsch & Belitski, 2020, p. 3). This also depends on the area to which the company belongs, the possibilities to invest in research and development, but also from the ultimate goal to be achieved through the implementation of innovative systems and ways of doing business.

2.2. Innovative organizational culture and business of the organization

The company's business in the conditions of globalization, rapid technological changes and innovations, and fierce competition depends on its ability to adapt, the ability to make quick decisions, and respond quickly to the ever-increasing demands of consumers. Such business requires a good coordination of activities, resources, processes, and strategies, and their compliance with a complex organizational structure. An essential element of organizational structure is the organizational culture that affects all aspects of the organization and thus the achievement of targeted business performance. Organizations should be structured in a way to encourage the development of an organizational culture which is essential in the decision-making process, in changing formal structures, limited by procedures and policies, to encourage innovation and the generating of new ideas (Paunović, 2014, p. 219). Organizational culture is the result of various factor combinations, such as technological, physical, and human resources, it represents a whole set of goals and values, beliefs, and ways of managing an organization and as such has a significant impact on structures and systems (Stevanović, 2009, p. 14). It can be defined as a model that was developed to adapt the organization through the learning process to both internal and external order, thus contributing to its stability in a changing environment in which creativity and innovation represent cultural norms (De Montreuil Carmona et al., 2020, p. 12). Organizational culture reacts quickly to external and internal changes, encourages employees to take risks, rewards innovative and motivated employees, sees innovation as the starting and ending point of business and itself represents an important point of the innovative system of the whole organization (Tomongkhon, 2022, p. 7). „What represents the way of doing business, what expresses the scale of values in a company, or a set of all factors that define the life philosophy and specific style of a company, can be considered the organizational culture of the company" (Žugaj et al., 2004, p. 19).

An ideal organizational culture would encourage creativity, innovation, and learning, one that encourages sharing knowledge with all employees, and as such represents an integral part of everyday business processes (Kljajić-Dervić et al., 2017, p. 633). Along with processes, it is an important factor in an organization's successful development of innovation. An innovative organizational culture contributes to shaping an open leadership style, with reduced influence of classic hierarchy, leadership that is ready to take risks, that shapes a vision to improve quality, and that encourages innovation. One of the priorities for organizations to support the changes that innovation brings must be to attract and retain talented employees who will support the changes. Along with the innovative organizational culture, an important factor in the development of new processes or products is internal motivational factors, i.e. highly qualified employees, who are motivated to create something new, look for new opportunities, and continuously think about how to develop new products or improve existing ones (Buyukbalci et al., 2020, p. 41).

An adequately trained work structure will be able to support a change in organizational culture, and on the example of the banks that were the subject of the research conducted by Krstić and Tešić, it

can be concluded that precisely the lack of qualified and talented workers on the market is one of the main problems in 61% banks that face the challenges of innovation and the changes it brings (Krstić & Tešić, 2016, p. 28). A study of the influence of organizational culture on business innovation using the example of 64 companies from Brazil showed that the key stimulant for organizational innovativeness is rewarding and recognizing the work of employees, availability of resources, loyalty, ways of eliminating errors, generating ideas and taking risks (De Montreuil Carmona et al., 2020, p. 20). Research shows that organizational culture based on adaptability, development of employees, and their participation in the decision-making process, with clearly defined goals and structure, is one of the factors that affect the success of the organization through sales growth, higher profits, increased quality and through employee satisfaction (Jekić, 2016, p. 15).

Innovativeness is a complex and uncertain process that carries a high level of risk and significant investments. However, the importance of the existence of an innovative culture in organizations has been confirmed by research that indicates a higher level of innovative culture positively affects an organization's business performance. The same research has shown that culture represents a significant source of organizational innovativeness, marketing and production innovations in general, productivity, and efficiency, but also affects their market performance (Baumane-Vitolina et al., 2022, p. 740). Innovativeness in general, contributes to the growth of business performance and is an important source of competitive advantage. Investigating the influence of organizational culture on the organization and its operations, Tomangkhan (2022) used the example of multinational companies, so-called blue-chip companies, and companies from the field of health care. This example pointed to the positive influence of organizational culture on the organization's business, emphasizing that the common thing for organizations that nurture an innovative organizational culture and what contributes to their success is precisely the tendency to take risks, tolerance towards failure, the discovery and sharing of information and resources (Tomangkhan, 2022, p. 14).

A good example of organizational innovation in every sense is Apple. Its innovativeness can be seen in all segments of the organization's business. Through innovative products and services, the way of managing the company, through the attitude towards employees, more precisely, it pervades through entire organizational culture. Apple's innovativeness includes technological and product innovations, which represent the basis of Apple's success, while business model innovation is its ultimate achievement (Tomangkhon, 2022, p. 21). How innovative Apple is in its entire business is also shown by the fact that its slogan „Think different " is not just an advertisement for a product, but an incentive for creativity in business, and for people who are ready to think differently, to be innovative, to take risks. It also shows that the company's organizational culture is not only an isolated form, but is manifested through management processes (policies, procedures, plans, decisions), communication between management and employees, and employee motivation. The organizational culture is based on a form that is not too hierarchical and formal, and which encourages the company's innovativeness. They kept innovation not only in the product concept but also in the way of running the business. That is why since 2018, they have based all operational business, sales shops, offices for data centers, and other facilities in over 43 countries on the renewable energy concept. All this made Apple the most valuable brand in the world in 2022, behind giants such as Amazon, Google, and Microsoft, with a total estimated value of over 355 billion US dollars (Brand Finance, 2022). The reviewed literature suggests that different forms of organizational culture have a different impact on their performance. For example, a culture of adaptability is characteristic of organizations that are leaders in product and process innovation, prone to take initiative, and risks, which are creative and have a positive impact on the organization's performance (Naranjo-Valencia et al, 2015, p. 34).

2.3. Innovative management and business of the organization

The rapid development of technology, and technological innovations that bring changes in the way organizations work require a flexible and easily adaptable organizational culture. Management, i.e.

leadership, as a factor of organizational culture, specific to the company itself, and its values, will change over time and harmonize with the business strategy, which is a consequence of the processes modification, technology, and organizational structure. The innovativeness of business has caused companies to become complex systems that require management with active participation in determining organizational culture that suits the company, and which appreciates the motives and ambitions of different organizational parts, as well as individuals. Innovative organizations are looking for entrepreneurial management, aware of the dynamics and intensity of changes that innovations bring, capable of creating a business policy and encouraging an organizational culture that will support and further encourage innovation. The management focus should be on organizational procedures as a unified document that unites the basic elements of an organization's operations, i.e. processes, principles, and practices, and their mutual relationships (Buyukbalci et al., 2020, p. 32). Managers are the ones who have insight into the entire work process and all the changes that take place in the organization. The management must know the company's culture, to harmonize it with the company's goals, which creates the basic conditions for the successful organization business.

Research indicates that innovations such as the use of modern technology in the production process can significantly increase the level of productivity in manufacturing companies, but that the improvement of the overall result also depends on the organization's management. Management must create appropriate strategies, make specific investment decisions, and transform business models so that they are more user-oriented and not internally oriented, to focus on the potential of its employees and create a culture that will result in products and services that will be successful in the market (Črešnar et al., 2022). Managers become aware of how important is to more rely on employees who are closest to the operational processes as well as to consumers, and that through the transfer of responsibility to the lowest parts, a work environment is created in which everyone bears responsibility for business results (Stevanović, 2009, p. 149). Innovativeness in business requires innovative management that will implement activities in practice that support new inventions, new practices, and business processes, define organizational structure accordingly, and apply management techniques in the direction of achieving the organization's goals. Innovative management can be called those management innovations that bring innovative practices and create new values, improve an organization's performance, which brings potential advantages to the organization and helps maintain a leadership position in the industry (Tamangkhon, 2022, p. 18). Innovative management contributes to achieving a long-term and sustainable competitive advantage, necessary for survival in a market that changes every day.

Managers should focus on developing practices and introducing strategies that will enable the organization to develop and adopt values that are realized through innovation. For example, in manufacturing companies, we can see how the use of innovative technologies can improve the decision-making process through the use of various data sources, and how the planning process can be improved through the improvement of the production process in such a way that it can be realized without obstructions, as new production methods are introduced with significantly lower production costs (Bjorkdahl, 2020, p. 23). Organizations and their management are more aware of the need for agility and to change processes to move away from more ad-hoc business, without a precise strategy, from ideas that the organization considers suitable, without market research (Bjorkdahl, 2020, p. 27), with an effort to adapt or develop an organizational culture oriented towards innovation, which is in line with the intentions of the organization's management (Pedraza-Rodriguez et al., 2023). To successfully overcome the challenges that innovations bring and often disrupt the way systems work, the organization's management should adapt models that will in some way synchronize opportunities and goals with the changes that innovations bring. Studying the literature, we found that some authors recommend creating a balance between regular business and the need for its disruption due to the innovation impact, and also recommend the establishment and strengthening of innovation committees and mixed functional teams, and intensive monitoring for market opportunities (Krstić & Tešić, 2016, p. 24).

They also recommend innovative manage-

ment as a way to achieve or strengthen a competitive position in the conditions of growing market globalization (Tomongkhon, 2022, p. 6). Management must find a way for different functions to cooperate to achieve the goals faster, simpler, and more efficiently. That is why managers try to include different organization members in decision-making processes, from shareholders to employees, and thus emphasize the culture of nurturing collective teamwork, which, along with the decentralization of the planning process, should contribute to the improvement of organizational processes. However, some research indicates that even a certain level of centralization and formalization can encourage the adoption and implementation of production innovations, especially in new and rapidly growing organizations, such as technology companies, which still do not have defined and elaborated product development procedures (Buyukbalci et al., 2020, p. 36). For example, digitization of products and services, as a form of production and process innovation, affects business model dynamics and requires organizations to adapt managerial skills. Skills are needed for answers to internal issues, which require certain information technology capabilities, and also to external issues, which require strategic capabilities, and business models that will establish a good ratio of input and output (Vasilievna-Gerasimenko & Olegovna-Razumova, 2020, p. 116).

Changing the organizational culture is related to the concept of management and the way organizations are managed, and their modification represents a demanding and long-term process that requires a change in the beliefs, expectations, values, and behavior of individuals. Some of the issues that organizations face, to improve operations and achieve better business performance, are the absence of leadership and entrepreneurship, and the inability of management to create an organizational culture that will support the growth and development of the organization (Paunović, 2014, p. 217). Organizations are starting to adopt alternative business principles, which are not as widespread as the traditional ones and which support new ideas, and creativity in work which results in new products, services, and work technologies. It was digital technology that led to innovations in work and changes in organizational culture and also contributed to greater operational efficiency by management. Managers have at their disposal a wide range of digital technologies to improve operations and bring innovation in process.

However, research shows a rather low level of use of digital technology by management, as an innovative solution for many products and processes. In the example of companies from Russia, 79% of respondents believe that the lack of information and prioritizing other factors of business development are the main reason for the insufficient use of digital technology in the decision-making process, while only 14% believed that they know necessary to apply technology and innovative work methods (Vasilievna - Gerasimenko & Olegovna-Razumova, 2020, p. 121). The same research indicates that only 16% of respondents believe that the digitalization of management can make an organization a market leader, and 13% of them believe that innovative technologies lead to the discovery of new areas of business (Vasilievna-Gerasimenko & Olegovna-Razumova, 2020, p. 121). Successful implementation of changes requires management to be open to changes, to know them well, to enable information to all employees, especially those who are directly affected by these innovations, the ability to provide clear guidelines in the implementation of innovations and remove all barriers in the implementation process. The management of the organization is turning towards a new practice that aims to improve business performance and which is closely related to innovation in business. They should evaluate which innovations are useful for the organization and which bring benefits, which also depends on management practices and the ability to evaluate the activities and tactics that innovations require. Management needs to pay attention to innovation in different departments and give a recommendation on which types of innovation departments should focus on (Zhang et al., 2019, p. 17).

3. Conclusion and implications

Organizations saw innovation as an opportunity to advance. Innovativeness encourages the use of new technology in organizations, enhances coordination and cooperation in business, and encourages learning and acquisition of external knowledge. Although most authors point out innovation as

something necessary for organizations, there are also certain understandings that innovation brings challenges, which can be cultural, organizational, or sociological (De Montreuil Carmona et al., 2020). But most of them agree on the importance of the relationship and alignment between business goals, mission and vision, and employees with the organization's commitment to innovation (Karimli, 2021). Research shows that innovation is a characteristic of large and successful organizations (Baumane-Vitolina et al., 2022), that positively changes business practices, improves operability with lower business costs, strengthens relations between employees (Lukić & Nikolić, 2015), has a positive effect on management and its tendency to take risks (Buyukbalci et al., 2020).

The changes that modern trends, technology, and digital innovations bring to the way organizations work make the final results of business more uncertain. "The only thing that is certain in the 21st century is that everything is uncertain" (Petković, 2021, p. 53), and such unpredictable business conditions require a review of existing work systems, including the organizational culture and management of the organization itself. Companies that want to be innovative must pay special attention to organizational culture, which is a key factor that encourages creativity and innovation in organizations, and as such should be supported by management to develop and maintain an atmosphere that encourages the exchange of ideas, opinions, equally at the individual and collective level.

Defined organizational culture, accepted by its members, creates a clear organization identity with a common system of values and goals, contributes to greater competence and achieves better performance. The example of 416 companies from Ecuador, the peripheral region of Manabi, shows how a business strategy based on the company's organizational capabilities has a positive effect on its business innovation. Also shows how the company's organizational capacities, along with managerial, innovative, and organizational abilities, can shape its innovative activities even in situations when there are significant difficulties regarding investment in research and development, as a prerequisite for the development and implementation of innovative solutions, especially in companies operating in peripheral regions (Pedraza - Rodriguez et al., 2023, p. 8).

Organizational culture is a strong factor that can affect the overall efficiency and long-term company success. It affects choosing an organization's strategy and its implementation, while the very character, framework, and content of strategic decisions largely depend on the organizational culture and management of the organization. The attempt to change the organizational culture is a long-term and complex process that consists of activities defined by the management and it can last from 6 to even 15 years only shows how much organizational culture is an important factor in every organization (Žugaj et al., 2004, p. 21).

Although organizational culture represents a set of key organizational values (Jekić, 2016), management is the one responsible for its establishment and maintenance, and it should be kept in mind that this is a two-way relationship, because organizational culture can fully influence the performance of managerial functions. A survey conducted among the top management of 304 companies in Pakistan showed that innovative management, along with technological innovation, has a significant and positive contribution to business sustainability, as well as to the company's performance (Zhang et al., 2019). Management contributes company's success by providing faster and better solutions, reducing costs and increasing income, bringing creativity and innovation into the work, improving services and customer satisfaction, eliminating redundant processes and tasks, encouraging employee satisfaction and reducing employee turnover, and generally through changing the management style (Karić & Ovčina, 2017, p. 93). Research conducted on the example of companies from Spain showed that the absence of organizational hierarchy has the greatest positive impact on business innovativeness and business performance, while centralized decision-making and a high degree of formality in decision-making are negatively related to innovation (Naranjo-Valencia et al., 2016).

3.1. Theoretical implications

By looking at the collected literature and analyzing the research data presented in this paper, we

see that organizational culture and management, as one of the key factors of organizational culture, have significant implications for decision-making processes. The impact is visible in defining key goals and ways of their realization. By choosing certain innovative solutions and their implementation, the management determines the direction of the future organization development. That is why organizational culture requires management to be proactive, innovative, and entrepreneurial. This type of management clearly defines the company's purpose, strategic goals, policies, resources to be used, target markets, attitude toward competition, and innovations. It forms corporate values and norms that encourage creativity and innovation, employees accepting changes, strengthening the tendency to take risks, encouraging teamwork, strengthening communication and cooperation, and generally developing knowledge and skills to be able to follow the dynamics that innovation brings. Such implications for managerial behavior are a prerequisite for the commercialization of innovation and its successful application in practice, as well as for the development and application of innovative business models.

3.2. Policy and managerial implications

Research showed that companies have difficulties in applying innovative solutions, especially in less developed areas, and in small and medium-sized companies. However, the managerial innovative way of working, with the prerequisites for the commercialization of innovations and innovative business models, can have certain positive implications on business, especially through support programs for further development. The European Union supports the innovativeness of small and medium-sized enterprises through numerous innovation support projects, funds, and programs for financing research and development in these enterprises. For example, support in the development of innovation at companies in the Republic of Srpska is provided at the level of local authorities, through funds provided by the Ministry of Scientific and Technological Development, Higher Education, and Information Society of the Republic of Srpska, with support from the Association of Innovators of the Republic of Srpska and the Development Agency of the Republic of Srpska, then through support programs of the European Union, and other local development agencies, chambers of commerce and other non-governmental associations (Entrepreneurial Portal of the Republic of Srpska, 2023).

3.3. Limitations and suggestions for future research

Limitations in research represent difficult access to information about how mechanisms and support programs are used in companies that develop technological innovations for which there is a need in the market. We also need more information on how programs to support the survival of companies during the critical phase of research and development are implemented, and how the programs that enable the development of business capacities for placing innovations on the market are implemented.

Future research should be directed towards the collection of this data, because in this way we get a clearer picture of the state of organizations, as well as the development and application of innovative solutions, and how the organizational culture and management of the company can influence the realization of these programs.

CRediT authorship contribution statement

S.D.: Conceptualization, Formal analysis, Methodology, Writing – original draft, Writing – review

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The data that has been used is available upon a request to the author.

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Biography

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Утицај организационе културе и менаџмента на иновативност у пословању организација

Славица Драгишић[1]

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Кључне ријечи:
организациона култура, менаџмент, иновативност, организација

САЖЕТАК

Иновације су утицале да организације мијењају и прилагођавају начине рада, функционисања и цјелокупног концепта пословног размишљања, који се окреће у правцу проналажења иновативних рјешења и извршавања задатака. Иновација у пословању организације захтијева прилагођавање организационе културе и начина управљања организацијом. Један од кључних фактора за подстицање иновативности предузећа је организациона култура, која може значајно утицати на усвајање иновације као вриједности компаније. Менаџмент, као саставни дио организационе културе у сваком предузећу, дефинише начин управљања иновацијама и процесима, који, ако се правилно дефинишу и управљају, могу имати значајан утицај на пословање организације. Овај рад покушава да нађе одговор на питање да ли и у којој мјери организациона култура и менаџмент организације утичу на њено пословање. Истраживање има за циљ да испита однос између организационе културе и управљања организацијом с једне стране и њене иновативности у пословању с друге стране. У ту сврху је анализирана прикупљена литература и на основу тога дефинисан однос организационе културе, менаџмента и иновација, као и њихов утицај на имплементацију иновативних рјешења и начина пословања у организацијама. Резултати истраживања могу се даље користити као смјернице за опсежнија истраживања.

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