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CEO rhetorical strategies and firms' internationalization: a communication perspective

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Abstract

Based on the upper echelons theory, previous literature has suggested that CEO's personal characteristics influence firms' internationalization. However, most research investigates the static traits such as age, education, overseas background, etc. Since CEO's communication skills exert influence on the firm as well, communication may also be of significance in the process of firm internationalization. We proposed that three CEO rhetoric strategies affect firm internationalization by persuading employees to recognize the international purpose and contribute to it jointly. Using the data of CEO rhetorical strategies and the level of internationalization of 118 Chinese listed firms, we tested the influence of CEO rhetoric strategy on firms' internationalization. The results show that two CEO rhetoric strategies – Ethos and Pathos – affect firm internationalization positively. The findings reveal that proper strategy of CEO communication is important for the execution of firms' internationalization.

Keywords

rhetoric, internationalization, CEO, upper echelons theory, communication

Introduction

The internationalization of firms means that the firms conduct business activities across national borders (Tihanyi, L., Ellstrand, A. E., Daily, C. M., & Dalton, D. R., 2000), which belongs to the strategy of firm regional diversification. International operations can reduce the volatility of business risks and returns (Kim, W. C., Hwang, P., & Burgers, W. P., 1993; Tallman & Li, 1996), bring organizations a competitive advantage (Dunning, 1993), and bring more opportunities for firm growth (Wolf, 1977). Because the strategic decision and execution of the firm are mainly

affected by CEOs (Haynes & Hillman, 2010), extant research from upper echelons theory on corporate internationalization strategies mostly involves the relationship between the CEOs' personal traits and corporate internationalization strategy, and rarely studies how CEOs can effectively persuade employees to participate in the process of corporate internationalization.

In order to fill this gap, this research looks innovatively at how CEOs influence the implementation of corporate internationalization strategies, that is, how to use rhetoric to persuade internal and external stakeholders to seek internationalization jointly and take part in

international operations. This article will focus on the internal communication of firms, that is, whether the CEOs' rhetorical strategies can motivate the internationalization by popularizing the management vision to all levels of the firm, and eventually encourage stakeholders to work together towards a firm's internationalization goal.

The purpose of this study is to demonstrate that CEOs using rhetorical strategies aimed at persuading employees to participate in international business activities could effectively accelerate the internationalization of firms. While the relevance and rationale of CEO communication and positioning is prevalent in academic and professional literature (Bendisich, F., Larsen, G., & Trueman, M., 2013; Fanelli & Misangyi, 2006; Men, 2012; Sohn, Y. Y., Weaver Lariscy, R., & Tinkham, S. F., 2009; Wæraas, 2010), CEOs are expected to use narrative strategies and influential rhetoric (Grafström & Falkman Lena, 2017). They use strategic communication and public relations as a professional practice to manage communication activities and relationships between organizations and their stakeholders (Hallahan, K., Holtzhausen, D., van Ruler, B., Verčič, D., & Sriramesh, K., 2007; Verčič & Grunig, 2000). Rhetorical strategies have gradually entered the field of management and become part of leadership practice and research. Different rhetorical strategies will affect employees' work participation to varying degrees (Liu, C., Chen, S., & Shao, Q., 2019), and then affect the international operation results of firms (Braet, 1992). In order to investigate the influence of rhetorical strategies by CEOs, we have proposed three hypotheses about the three rhetorical techniques, which come from Aristotle's classification of rhetorical methods: *ethos*, *pathos*, and *logos*. Through text analysis methods applied to annual reports of listed manufacturing firms, we will ascertain which of these three rhetorical techniques were used. We set up a multiple regression model to test whether the use of CEO rhetoric really affects the improvement of the inter-nationalization of the firm.

1. Theory and hypotheses

Regarding the internationalization of firms, Wind, Douglas and Perlmutter, (1973) consider it to be a process in which a specific attitude or tendency is closely related to the gradual growth of the implementation of internationalization. There are also some scholars who define the internationalization of firms as an increasingly coherent and orderly process of

internationalization participation (Bilkey & Tesar, 1977). Some research incorporates the awareness of internationalization of firms into the scope of the definition, pointing out that internationalization refers to the process by which firms gradually attach importance to the influence of future internationalization activities (Beamish, P. W., Morrison, A. J., & Rosenzweig, P. M., 1997). In addition, dynamics and time elements cannot be ignored in the definition of internationalization. Internationalization describes a time-dependent process and can therefore be summarized as an evolving law (Jones & Coviello, 2005).

The motivation of firm internationalization is also the starting point of theoretical research on internationalization. Regarding why firms should be internationalized, Dunning's theory of corporate mergers proposes an "eclectic paradigm" for international production, that is, when a firm has three advantages at the same time: ownership advantages, internalization advantages, and internationalization advantages, direct foreign investment behavior will occur. Hymer (1976) believes that the monopoly advantages of home country firms over similar firms in the host country are the motivation for firms to invest overseas. The product cycle theory proposed by Vernon (1966) believes that the place of production depends on different stages of the product life cycle. Aliber (1970) pointed out that the motivation for firms to engage in overseas investment lies in the differences in capitalization rates in different countries and focuses on analyzing the impact of macroeconomic variables, such as currency, on overseas investment. The above theories are based on the methods of multinational firms in developed countries and have become mainstream theories of international research. Wells (1968) is representative in terms of the research on the results of firm internationalization in developing countries. He proposed that protecting export markets is the most important motivation for manufacturing firms in developing countries to invest abroad.

Internationalization strategy is considered to be a vital strategy for a firm (Hitt, M. A., Hoskisson, R. E., & Ireland, R. D., 1994). It drives information needs and distributes information for competitive analysis, resource allocation, and strategic management (Zahra, S. A., Neubaum, D. O., & El-Hagrassey, G. M., 2002). Regarding the influencing factors of the internationalization strategy, the existing research has been conducted around the following four dimensions: firm level,

industry level, transaction-specific level and institutional background. Among them, one of the focuses of firm-level research is the impact of corporate management. Upper Echelons theory (Hambrick & Mason, 1984) holds that strategic choice is a complex decision in that it is the result of the interaction of multiple behavioral factors and reflects the characteristics of decision makers' cognitive tendencies, values, and knowledge reserves. Only in recent decades has the discussion of the effects of top management team composition been extended to the context of MNCs and firm internationalization (Herrmann & Datta, 2005). At present, a large number of empirical studies on corporate internationalization have shown that top managers play an extremely important role in corporate internationalization strategies (Beckman & Burton, 2008; Herrmann & Datta, 2005; Hitt et al., 1994; McKiernan, 1992). Most of the research on the level of internationalization in China focuses on factors of the CEO such as salary, age, tenure and education level (Jaw & Lin, 2009), confirming that the personal characteristics of CEOs affect the strategic decision-making of internationalization.

Further, Bartlett and Ghoshal (2002) have proposed that the most successful firms are those who are able to develop a common understanding of a clear and consistent corporate vision. The understanding and acceptance of vision can function as a global glue (Den Hartog & Verborg, 1997) to result in incremental appreciation and commitment from individual managers. In fact, the quality of strategy made by top management teams will be strengthened if they pay attention to the interaction process, such as communication with middle managers, first-line managers and staff, improving their enthusiasm (Liu, X. H., GE, Y. H., & Wang, Q., 2014). Although it is accepted that communication of vision and leader rhetoric are important, there is lack of explanation about why leader rhetoric is related to speech charisma in terms of producing strong emotional and motivational effects on followers (Shamir, B., Arthur, M. B., & House, R. J., 1994). This article attempts to classify the rhetorical strategies taken advantage of by CEOs and study the impact of CEO rhetoric on the internationalization of firms.

To specify the definition and usage of the word 'rhetoric', we refer to Aristotle's work on rhetoric. In ancient Greece, Aristotle defined rhetoric as the ability to find viable ways of persuasion in each case (Cope, 1877), emphasizing rhetoric as an ability to present arguments. In addition, Aristotle

categorized the rhetorical strategies into three types: Ethos, Pathos, and Logos. Ethos is showing the audience character, affecting the audience with wisdom and virtues, making them believe in the speaker and accept his point of view. Pathos is realized through the persuader's control over the emotions of the audience. Logos convinces the audience through rational or logical reasoning.

On the one hand, rhetoric, as a symbolic method rooted in the essential function of language, essentially induces people's cooperative behavior. It concentrates on bringing a persuasive and influential side to the discourse of leaders. On the other hand, CEOs play an important part in creating and dispersing organizational values and visions to organization members and the external environment. Their speeches within and outside the firm are important to motivate others and gain support for their vision (Den Hartog & Verborg, 1997). On the basis of the perspectives above, we wonder whether a CEO's rhetorical strategy affects the degree of internationalization. What is the mechanism of rhetoric's effect on the internationalization?

1.1. Credibility appeals: ethos strategy

The rhetorical definition of ethos refers to an image the speaker projects to the audience (Kallendorf & Kallendorf, 1985). In line with Aristotle, a speaker communicates a credible ethos to the audience when he shows the audience his intelligence, upright character and goodwill (Cooper, 1935). Kennedy (2007) pointed out that ethos, as a way of persuasion, refers to the trustworthy qualities that the speaker deliberately shows in their speech. Based on the above research, Halloran (1982) concluded our understanding of ethos, including authority, good character and reputation. Therefore, although Aristotle's ethos strategy has a different interpretation in following rhetorical research, it still does not deviate from the three basic elements proposed by Aristotle: wisdom, virtue, and goodwill.

Empirical investigations suggests that ethos creates trust, which contributes to credibility and higher performance among the audience. Ethos strategy is in action when the message conveyed by a speaker functions as the medium through which his personality activates the dominant response of value (Rosenthal, 1966). In other words, speakers want their audience to have a positive impression of them in order to motivate the audience or readers to trust what they say, agree with them and, ultimately, cooperate with them (Kallendorf &

Kallendorf, 1985). During this process, intelligence and credibility count. Burt and Falkenberg (1941) found that expert opinions have more significant influence than the majority views. It has been discovered that, when the speaker holds a higher status than others, his cloze test scores will be somewhat higher (Harms, 1961). It means that the impact of ethos strategy, which shows intelligence, wisdom and upright character, is meaningful for credibility creation. Further, ethos is essential for elevating performance. Previous research found that rhetoric of personal suggestion is capable of affecting performance in kinds of perceptual and psychomotor assignments (Aveling & Hargreaves, 1921).

Moreover, it is important to note that a leader's personal ethos promotes organizational vision (Yoeli & Berkovich, 2010) that pushes the organization to have a greater chance of success in the long term (Larwood, L., Falbe, C. M., Kriger, M. P., & Miesing, P., 1995). A leader's ethos mirrors his values and beliefs, which are a key to understanding his personal vision (Chance, 1992). The description of a leader's vision is regarded as the springboard to create change in organizations (Awamleh & Gardner, 1999). It functions as a motivation for effort towards the future described in the vision (Berson, Y., Shamir, B., Avolio, B. J., & Popper, M., 2001). In particular, empirical research demonstrated that a CEO's vision and endeavor strongly matters for international path and expansion (Gentile - Lüdecke, S., Halaszovich, T., & Lundan, S., 2019). Since scholars assume that a leader's vision is conveyed and strengthened by his ethos (Caza, A., Barker, B. A., & Cameron, K. S., 2004), we suggest, employees should be persuaded by CEO ethos strategy to be convinced of internationalization and joint efforts will be devoted to achieving a firm's goal of international growth. Therefore, we propose that:

H1: CEO ethos strategy is positively related to firm internationalization.

1.2. Affective appeals: pathos strategy

Pathos is a mood of a speech which puts the audience into a certain habit of mind (Braet, 1992), from which we derive both the English words 'passion' and 'passive' (Konstan, 2006). For arousing these emotions, Aristotle posited three sides of rules for us: the condition of audience's emotions, the persons about whom one feels emotions and the motive (Gerson, 1999).

Emotions can undoubtedly influence

stakeholders' decision-making (Schwarz, 2000). Existing research demonstrated that moral emotions are essential to human decisions (Callahan, 1988) for which Waddell (1990) called for greater acceptance of the legitimacy of emotion. In political psychology, it has been supported by dual-process models that automatic process is one of the paths for individuals to form an opinion (Lieberman, 2007), and the automatic process constitutes an emotional foundation for decision-making (Haidt, 2007).

Bagozzi, Gopinath, and Nyer (1999) not only argue that emotional valence affects decision-making, but also, in a step further, that the more intense the anticipated emotions, the more people were encouraged to achieve the success and avoid potential failure. Leaders who appropriately employ emotions to communicate, or who testify better awareness of their own emotions and those of others, perform at a higher level (Goleman, 1998). Similarly, leadership scholars also posited that leaders' expression of their emotions is one of the mainly productivity-relevant methods to affect performance (Humphrey, 2002). When followers observe and experience the emotional expression of a leader, they may be emotionally influenced through emotional contagion (Hatfield, E., Rapson, R. L., & Le, Y.-C. L., 2011). It has been shown that the potential mechanism through which CEO's emotional display may influence employees' action is through the attributions and expectations implicated by CEO's expressed emotion (Wang & Seibert, 2015). In the study into rhetoric of international business leaders, Hartog (1997) also emphasized the emotional effects on followers that CEO speeches should have.

In sum, pathos strategy, which aims to create emotions and passions among stakeholders, is vital for firm internationalization performance. Therefore, we propose that:

H2: CEO pathos strategy is positively related to firm internationalization.

1.3. Rational appeals: logos strategy

According to Aristotle, logical proof is identified as a method in speech that proves or seems to prove a speaker's point. Specifically, it requires skillful application of syllogisms (Braet, 1992). Logos, which appeals to logic, received the greatest focus of attention among three types of rhetorical justification (Brown, A. D., Ainsworth, S., & Grant, D., 2012). It stands for the clarity, integrity and utility put forward through verbal argumentation and logical reasoning (Holt &

Macpherson, 2010). In essence, the process of persuading others is based on the original facts of logical reasoning or quoting examples to achieve a common position between the speaker and the listener (common ground) (Stalnaker, 2002).

Empirical investigations concentrating on logos appeals have demonstrated that the argumentations and structure make them persuasive (Brown et al., 2012). Some scholars' research into communication strategies compared three types of rhetorical strategies and argued that Chinese CEO communications are based more on rational appeals to be understood in international markets (Huang & Rose, 2018). Holt and Macpherson (2010) conducted case studies among entrepreneurs and found that the manager turning to logos, including using formal records of continuous improvement, meant he exhibited an authoritative nature of the activity the firm was engaged in, helping the firm win new customers.

Logos appeals are correlated with logical calculations of means and ends and thus evoke legitimacy for transnational firms. It has been found that firm risk is positively related to internationalization (Bartov, E., Bodnar, G. M., & Kaul, A., 1996) and that firms intending to conduct overseas business are faced with the challenge of gaining legitimacy (Bangara, A., Freeman, S., & Schroder, W., 2012). Suchman (1995) elaborates three kinds of legitimacy: cognitive legitimacy (based on taken-for-grantedness), pragmatic legitimacy (exchange evaluation of benefits) and moral legitimacy (normative and without consideration of practical benefits). Among three kinds of legitimacy, cognitive and pragmatic legitimacy are considered the dominant forms of legitimacy taken advantage of by firms, especially in the increasingly international society (Scherer & Palazzo, 2007). Previous research held the view that logos appeals are highly correlated with the cognitive and pragmatic legitimacy. Suchman (1995) posited that the rhetoric of logos is competent for creating cognitive legitimacy among audiences through plausible explanations. Further, Sandy Edward Green (2004) emphasized that pragmatic legitimacy is conferred by catering to the audiences' self-interests in terms of logos appeals.

For international firms exposed to the liability of foreignness during internationalization, they are at disadvantage of competing with local firms (Bangara et al., 2012), which necessitates the requirement to build legitimacy as a method to gain needed resources to survive and develop

(Zimmerman & Zeitz, 2002). Besides, strategic communication has been considered as playing an important role, in the way of strengthening recognition and confidence for corporate actions, so that legitimacy can be fostered to ensure the licenses to operate overseas (Keller-Bacher & Zerfass, 2019). In sum, the rhetoric of logos is competent and necessary to develop corporate legitimacy for firm internationalization. Therefore,

H3: CEO Logos and the degree of corporate internationalization are positively related.

2. Method

2.1. Data and samples

The samples selected in this study were all manufacturing firms listed on the Shanghai Stock Exchange and Shenzhen Stock Exchange in China from 2015 to 2016, and the samples were selected as follows: (1) delete samples with trading status of ST and PT; (2) delete samples with zero overseas sales revenue or overseas subsidiaries; (3) delete samples with asset-liability ratios greater than 1; (4) delete samples which went through a CEO change at that time; (5) delete samples with missing data. The reasons for sample selection are as follows: first, the unified selection of manufacturing firms ensures the comparability and validity of data and ensures that sample firms are in a similar external environment, and that CEO rhetoric strategies and other variables are effectively measured. Secondly, according to the industry classification index released by the China securities regulatory commission, manufacturing firms account for about 60% of China's listed firms, indicating their importance in China's economic development and strong value to research. Finally, the reason why we choose a sample of 2015-2016 is that since 2015 China's economic growth has flattened, and manufacturing firms have been faced with internal differentiation. According to Dunning's investment development cycle theory, as domestic demand tends toward saturation and labor costs increase, domestic firms begin to tend towards an asset transfer strategy, such as engaging in foreign investment. In this context, the establishment of internationalization strategy is the result of the internal and external environments, and the promotion of the internationalization process has become one of the trends of some Chinese manufacturing firms. Therefore, 2015-2016 is a key period for firms to make decisions and implement measures reflecting their response to external pressure. In addition,

considering the lagging effect of CEO rhetoric strategy on firm internationalization, the indicator of firm internationalization lags behind CEO rhetoric strategy by one period. Finally, the independent variable and control variable we measured is period t , and the dependent variable we measured is period $t+1$, that is, the year of the independent variable and control variable we selected is 2015, and the year of the dependent variable we selected is 2016.

The data sources used in this study are the Juchao Website, Wind database and China Stock Market & Accounting Research Database (CSMAR). The CEO's rhetorical strategies come from the text analysis of the annual report of the firm published by Juchao, a professional website providing complete annual reports. The internationalization degree of the firm is based on relevant data such as overseas income published by Wind database. The control variables are divided into two levels of indicators, namely, the firm level and the CEO level, both from the CSMAR database. After stripping out the missing businesses, there were 118 observations.

2.2. Measurement

2.2.1. Dependent variable

We take the change of firm internationalization index as the dependent variable, that is, the proportion of the firm's overseas income in the total revenue of the firm (FSTS) as the indicator to measure the degree of firm internationalization, and take the ratio change from 2015 to 2016 as the dependent variable of this study. Considering the different internationalization foundation of different manufacturing firms, it is difficult to detect the influence of CEO rhetorical strategies on internationalization process by taking the absolute value of internationalization index as the dependent variable. In addition, based on the gradual and continuous characteristics of firm internationalization, the indicators should reflect the progress of firm internationalization to a certain extent. Therefore, we choose the change of ratio as the dependent variable to reflect the effect of the independent variable more precisely.

2.2.2. Independent variables

The CEO's rhetorical strategies are obtained by analysing annual reports related to internationalization. Text analysis, or content analysis, is defined as a systematic, replicable method that compresses text phrases into content categories

based on specific coding rules. Since previous studies did not establish a direct rule for analysing CEO rhetoric strategies, it is difficult to obtain CEO rhetorical strategies through keyword retrieval or artificial intelligence. Therefore, this study adopts the artificial text analysis method to code selected samples one by one. In light of the fact that most corporate executives refuse to fill in questionnaires, the information about corporate executives obtained from the questionnaire survey method is often greatly biased. Therefore, the data obtained from the text analysis of the publicly disclosed archived information of firms is easy to obtain and reliable.

By analysing public texts written or approved by the CEO, we can obtain comprehensive information about the use of CEO rhetorical strategy more directly. In social activities, individuals' language styles and diction reflect their psychological activities and cognitive modes. The annual report, which to some extent reflects the CEO's style of speeches and contains a large amount of information, is a reasonable way to obtain the knowledge and cognition of CEOs. This paper collects and analyses the rhetorical strategy of annual reports in order to know the vision of a CEO to promote firm internationalization, the strength of their vision, and further analyses the influence of such rhetorical strategy. The following are three rhetorical techniques for analysing the text of the annual report:

- Ethos.

Ethos is used to demonstrate the firm's international capabilities. The application of the ethos technique in the annual report of the firm is mainly manifested in the results achieved by the firm's internationalization. By showing wisdom, virtues and professionalism, a firm's existing strength in expanding overseas business is verified so that spiritual incentives are produced to encourage employees to further expand their overseas business and enhance their internationalization. In addition, ethos rhetoric can directly improve corporate credibility and reliability, and prove to investors the strength of the CEO's international operations, enhancing the prestige of the CEO's further corporate internationalization. Once the ethos text appears in the firm's annual report, it is coded as 1, otherwise it is 0.

- 2.2.1.2. Pathos.

Pathos is used to present the inter-national aspirations of the firm. One of the environmental factors influencing the inter-nationalization of

firms is the desire for inter-nationalization, which refers to the inter-nationalized business orientation of firms and their managers, that is, to engage in business operations with the orientation to broad whole markets in the world. Pathos technique is expressed in texts such as quoting proverbs and poems, using ancient classics, substituting true feelings, passionately stating the firm's internationalization desire, and demonstrating the firm's determination to expand overseas. Pathos technique reflects the diversified writing skills of the firm's annual report, fully mobilizes the reader's emotions, immerses them in empathy with the CEO, and make them have a deeper sense of the CEO's business goals. Once it appears in the text of the firm annual report, it is coded as 1, otherwise it is 0.

▪ 2.2.1.3. Logos.

Logos is used to express reasons for internationalization. Internationalization needs, including the requirements for the internationalization of firms by changes in the external environment (the "thrust" and "gravity" of the environment for the firm's internationalization) and the necessity of the firm's own requirements for internationalization (by the firm's products, research and development, etc.). The main application of logos is to explain the cause and effect of the establishment of the firm's internationalization strategy in the annual report of the firm, and to state reasonably why the firm should be internationalized and how to achieve internationalization. When the CEO uses logic to persuade rationality, high-frequency phrases such as: causality (because, so), adversative (though, but), conjunction (in addition, further), objectively and clearly state the essence of the firm's internationalization strategy and offer explanation of necessity and significance of implementation. Once the relevant statement appears in the firm's annual report, it is coded as 1, otherwise it is 0.

2.2.3. Control variables

In order to exclude the potential influence of other variables on the dependent variable, based on existing research, this paper introduces two levels of control variables. First, the firm level controls the asset-liability ratio, the nature of ownership, the industry and the size of the firm; second, the CEO level controls the duality, age, tenure, and education.

▪ Firm-level control variables

The following factors that may affect the degree of

internationalization have been set as control variables: (1) Asset-liability ratio – the proportion of total corporate liabilities in total assets in 2015 is used. (2) Nature of ownership – the state-owned firm code is 1 and the rest are 0. (3) Industry – according to the secondary industry standards for manufacturing industry issued by the CSRC, it is divided into 13 industries with a total of 12 dummy variables. (4) Firm scale – the natural logarithm of the firm's total assets in 2015 is used.

▪ CEO-level control variables

Based on upper echelon theories, CEOs' cognitive tendencies, values, and knowledge reserves can influence a firm's strategic choices. Therefore, the following CEO personal characteristics introduce control variables: (1) Whether the CEO holds both positions. If the CEO is concurrently chairman, the value is set to 1, otherwise it is set to 0. (2) CEO's age. The CEO's age in 2015 is taken as the unit. (3) CEO's term. The number of years a CEO has held the position at listed firms in 2015 is adopted. (4) Education level. The value of technical secondary school and below is 1; the value of junior college is 2; the value of master's degree is 4; the value of doctoral students is 5; others (academic qualifications published in other forms, such as honorary doctorates, correspondence, etc.) is set to 6, and MBA / EMBA is set to 7.

3. Results

3.1. Descriptive statistics and correlation analysis

Table 1 shows descriptive statistical results for all variables. Among a total of 118 observations, the increase in the internationalization index among firms varies greatly, with a maximum increase of 97% and a minimum decrease of 30%. The average age of the CEO is 49.178 years old, the average education level is a bachelor's degree and a master's degree, and the average term is 4.6 years. At the time, 0.8% of the CEOs were concurrently directors of the firm.

3.2. Regression results

H1 proposes that the use of CEO ethos rhetoric will positively affect the internationalization process of firms. Because the coefficient of the independent variable ethos in Model 5 of Table 2 is positive ($\beta = 0.06, p < 0.001$), we can see that the use of ethos rhetorical strategies has a significant positive impact. Therefore, compared with firms whose CEOs do not use ethos rhetorical strategies,

firms that use ethos rhetorical strategies will achieve greater progress in the firm's internationalization indicators.

H2 proposes that the CEO's use of pathos rhetoric will positively affect the internationalization process of firms. According to the

results of multiple regression analysis, the coefficient of the independent variable pathos is positive, but $\beta = 0.005$, and the p value is 0.9, which indicates that the use of pathos rhetoric has no significant effect on the internationalization process of the firm, so H2 cannot be accepted.

Table 1 Descriptive statistics and correlation analysis

Variable	Mean	SD.	1	2	3	4	5
1. Increase	.008	.116	1.000				
2. Ethos	.686	.466	.299*	1.000			
3. Pathos	.22	.416	.057	.089	1.000		
4. Logos	.170	0.13	.220*	.227*	.089	1.000	
5. Lev	.431	.193	-.224*	-.014	.050	.050	1.000
6. Sta	.144	.353	-.069	-.054	-.043	-.043	.106
7. Dua	.008	.092	-.011	-.012	.174	.174	.128
8. Age	49.178	7.884	-.123	-.062	-.078	-.080	.097
9. Edu	3.39	1.497	-.067	-.034	.067	.067	.097
10. Ten	4.634	3.633	.007	-.090	.135	.135	.040
11. Ind	7.847	3.085	.164	.092	.073	.073	.073
12. Scale	22.875	1.322	-.150	.074	.246	.246	.608
Variable	6	7	8	9	10	11	12
6. Sta	1.000						
7. Dua	-.038	1.000					
8. Age	-.068	.104	1.000				
9. Edu	-.107	-.024	-.117	1.000			
10. Ten	.066	.118	-.134	-.032	1.000		
11. Ind	.075	.095	-.134	.056	-.084	1.000	
12. Scale	.087	.180	.079	.066	.125	.123*	1.000*

* Significant at $p < 0.05$ level; N= 118.

Source: the authors' calculation in Stata 13.1 based on secondary data

Table 2 Estimates for the multiple regression analysis results

Variables	Model1	Model2	Model3	Model4	Model5
Lev	-0.114 (0.069)	-0.098 (0.067)	-0.112 (0.070)	-0.092 (0.068)	-0.082 (0.067)
Sta	-0.024 (0.031)	-0.014 (0.030)	-0.023 (0.031)	-0.019 (0.030)	-0.011 (0.029)
Dua	0.015 (0.118)	0.002 (0.114)	0.017 (0.119)	-0.034 (0.117)	-0.036 (0.114)
Age	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)
Edu	-0.006 (0.007)	-0.005 (0.007)	-0.005 (0.007)	-0.007 (0.007)	-0.006 (0.007)
Ten	0.001 (0.003)	0.001 (0.003)	0.001 (0.003)	0.000 (0.003)	0.000 (0.003)
Ind	0.007* (0.004)	0.005 (0.003)	0.007* (0.004)	0.007* (0.003)	0.005 (0.003)
Scale	-0.004 (0.01)	-0.008 (0.01)	-0.004 (0.010)	-0.010 (0.010)	-0.013 (0.010)
Ethos		0.069*** (0.022)			0.060*** (0.023)
Pathos			0.030 (0.083)		0.005 (0.079)
Logos				0.069** (0.026)	0.056** (0.026)
F-value	1.510	2.480	1.340	2.160	2.500
R ²	0.100	0.171	0.101	0.153	0.206

Note: Significant at the *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$ level. Standard errors are shown in parentheses.

Source: the authors' calculation in Stata 13.1 based on secondary data

H3 proposes that the CEO's use of logos rhetoric will positively affect the internationalization process of firms. According to Model 5 of Table 2, the coefficient of logos is 0.056, and the p-value is 0.035, which indicates that logos has a significant impact on the internationalization process of firms at a significance level of 0.05. Therefore, compared with firms that do not use logos rhetoric, firms that use logos will prove superior in the process of internationalization.

In summary, of the three rhetorical strategies used by CEOs, ethos and logos have a significant positive impact on the internationalization process of the firm, which fully proves the reliability of the research results

4. Discussion

Based on upper echelons theory, our research explores how CEOs use rhetorical strategies to persuade employees to participate in the internationalization of a firm and achieve forward results. Overall, the empirical results are in line with our expectations. The data shows that the impact of ethos and logos on the internationalization process of firms is positive and significant, while the impact of pathos is not significant.

Ethos can significantly influence the internationalization process of a firm. CEOs communicate by the rhetoric of Ethos to elaborate the internationalization performance the firm has achieved. These accomplishments symbolize the credit of the firm's international strength and CEO's international strategy, dispel employees' doubts about expanding the firm's overseas business, and form a strong bond of trust among stakeholders. As a result, ethos motivates employees to engage in the subsequent internationalization work, promoting the inter-nationalization process of the firm.

Pathos does not have a significant impact on the internationalization of firms. First, from the selected sample, very few CEOs use pathos rhetoric in their annual reports. The text of the annual report of the firm is mainly based on information disclosure. The text style of the annual report is objective and rational, while the rhetorical strategy of pathos is emotional and passionate, probably conflicting with the writing style of annual reports. In addition, compared with objective and direct data, the driving role of emotional communication skills is more

euphemistic and implicit, and it is difficult to mobilize unconscious behavioural feedback through emotional means.

Logos has a significant impact on the internationalization of firms. Logos affects behaviour by influencing the audience's cognition. Resorting to reason aims to analyse the cause and effect of the persuader's argument. Logos motivates employees to think about the attributes and benefits of international activities, making employees gradually understand and agree with the CEO's proposal. Only after deeply understanding the necessity and significance of the internationalization strategy can employees devote themselves to the practice of inter-nationalization.

After analysis and discussion of this research, we've found the CEO rhetoric strategy affects the internationalization process of the firm by motivating stakeholders to participate in it and, finally, improves the firm's internationalization. This research analyses the use of language in the annual report of the firm from a micro-level. Deng (2012) suggested that future research on the internationalization of Chinese firms should be based on upper echelons theory to further explore the internal mechanism of top management team's influence on firm performance. CEO rhetoric technique, which can be seen as an aspect of CEO communicative skills (Den Hartog & Verburg, 1997), is closely related with upper echelons theory in terms of factors impacting on firm performance and strategic decisions (Anwar, M., Shah Syed Zulfiqar, A., & Khan Sher, Z., 2018). Therefore, this study attempts to analyse the effect of CEO rhetoric strategies on firms' international performance from the perspective of CEO communication.

4.1. Theoretical contribution

We provide several theoretical contributions. Firstly, by extending our understanding of the hypothesized relationship between CEO rhetorical strategy and firm internationalization, we contribute to upper echelons theory that CEOs rhetorical strategies exert effects on firm strategy and performance. Most previous studies based on upper echelon theories started from personal characteristics of CEOs, such as CEOs' age, gender, tenure, education background and personality (Faccio, M., Marchica, M.-T., & Mura, R., 2016; Hambrick & Mason, 1984; Jing, G., Hao, C., & Xian, Z., 2013; Malmendier & Tate, 2005; Orens & Reheul, 2013) to investigate how the static

personal features affect corporate strategic implementation and performance. However, just as Carpenter, Geletkanycz and Sanders (2004) posited, while some scholars have already focused on CEO behaviours such as experience, there are still other behaviours or activities that have been overlooked. Thus, behavioural processes of CEOs have received great attention since it could deepen our understanding of multiple paths of how firms are impacted. In this study, we introduce a relatively new CEO behaviour-related variable, the Aristotle rhetorical technique of CEOs, and found empirical support of the hypothesized relationship between CEO rhetoric strategies and firm internationalization, which clearly evidenced the tremendous impact of upper echelon theory. Secondly, rhetorical techniques, which can be seen as a tool of CEO communication (Coulson-Thomas, 1992), play a crucial role in strategy implementation. Scholars have already found the impact of CEO communication on the implementation of corporate social responsibility strategy (Liu et al., 2019). Based on the perspective of CEO communication skills, we have demonstrated that two of the rhetoric techniques are positively associated with the firms' internationalization in practice. Thus, CEOs' communicative rhetoric tools are capable of shaping and influencing the strategy of internationalization as well, which further complements the view that CEO rhetorical techniques influence strategic implementation (Den Hartog & Verbarg, 1997).

4.2. Managerial implications

This study also offers implications for CEOs. It highlights the importance of CEO skilful communication and suggest that rhetorical strategy is powerful in persuading stakeholders. Since employees' understanding and cooperation of the firm's strategy is essential to guarantee the strategic implementation (Foreman & Argenti, 2005), the institutionalization of CEO rhetorical communication could be a trend in firms in international level. From this point of view, CEOs should strive to establish a sound process to communicate rhetorically with both internal and external stakeholders through viable media channels now that stakeholders gather information from the mass media or social media (Zerfass, A., Verčič, D., & Wiesenberg, M., 2016).

4.3. Limitations and future research

The study has a few limitations that invite future research. First, the recognition of rhetorical techniques is by means of manual text analysis which inefficiently consumes time and labour. Nowadays, several mutual software can be taken advantage of for content analysis, such as R Language, Python, etc. Second, the sample only contains listed Chinese manufacturing firms without private firms or those operate in other industries. It is suggested that future research broaden the sample scope to investigate further the influence of rhetorical strategy in different contexts.

Conclusion

Despite its caveats, this paper connects the CEO rhetorical strategy with firm inter-nationalization performance. It theorizes and tests the relationship between CEO communication techniques and international strategic implementation. This effort will hopefully deepen our understanding of the antecedents of firm internationalization strategy and the functions of CEO persuasive communication. Our study motivates future research to exploit the rich and complicated reality of firm strategy. SM

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The role of teacher and organizational culture in school management¹

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Abstract

The paper discusses and analyses the importance of employees in the context of school management. The construct of organizational culture is observed using an interdisciplinary approach from the aspect of management, marketing, and educational sciences. The role of the employee as a key arbiter of organizational culture and promoter of the organization itself is discussed. The levels of school culture, its specifics, and functions in the context of a non-profit organization are presented. The role of employees is analysed from two aspects, the creation of corporate identity and the aspect of strengthening employee beliefs, and self-image, and emphasizes its importance for creating the identity of the organization, organizational culture, and climate. The analysis of the literature raised questions about the importance of employees in creating an organizational culture, but also in creating a corporate image and identity. Different approaches to the function of organizational culture, levels of school culture and types of school climate, school identity, and the role of management are considered. The place of employee satisfaction, employee identity and the creation of organizational culture are critically observed, and suggestions are given on how to improve school management. The concluding part emphasizes that employees are the most important resource of any organization and that satisfied employees create an open and positive organizational climate, create the identity of the organization, and provide better service.

Keywords

teacher, teacher's identity, organizational culture, school culture, school management

Introduction

Organizations consist of members (Guion, 2011, p. 3) and it is these members that form the core of any organization. Organizations change, develop, grow, and fail. In fact, everything is changing. Employees retire, change jobs, or leave the organization. Changes are a constant of every organization and connecting them to the famous phrase of the Greek philosopher Heraclitus *Panta Rhei* we can conclude that all things are flowing indeed.

The construct of organizational culture (OC) is important for understanding the basic concepts and characteristics in school management (SM). The concept itself is not new and has foundations in

sociology and anthropology (Ployhart, Hale & Campion, 2014, p. 26). Research on the OC construct dates to 1938 (Hoy & Miskel, 2012, pp. 179-185). Although the OC construct is accepted, there is no precise definition. The reason for this stems from the complexity of the very notion of culture (Williams, 2015, p. 87) which is difficult to define.

Organizational culture, climate, and staffing form a symbiotic relationship in most every place except one: the academic literature (Ployhart et al., 2014, p. 23). The situation is no better in the context of educational management and SM. OC schools are not easy to define because they encompass organizational values, employee

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behaviour, and shared attitudes. OC acts on management because it motivates employees.

Observing the phenomenon of school climate from the economic aspect, more precisely, from the field of management and marketing, it can be realized that the concept of school climate can be equated with the concept of OC. The role of school culture, as well as the climate, is very important for further understanding because it depends on building the reputation of the school or building an identity that consequently leads to the construction of the image.

Schools are open social systems with five important elements: the structural, the individual, the cultural, the political, and the pedagogical (Hoy & Miskel, 2012, p. 1). The importance of OC in contemporary management has been much debated (Deshpande & Webster, 1989, p. 4; Bolam, 1999, p. 196; Deshpande, Farley & Webster, 1993, p. 25; Deshpande & Farley, 2004, p. 13; Slater, Olson & Finnegan, 2011, p. 229; Song, Kim & Kolb, 2009, p. 162) and there are numerous definitions of OC. From the aspect of non-profit marketing (Andreasen & Kotler, 2008, p. 42-51) and educational management (Bush, 2003, pp.37-38; Bush, 2007, p. 394), OC represents the starting point of strategic employee analysis.

The topic of this paper is a review and analysis of school culture, school climate, employees and their importance in SM and corporate marketing. However, the aim of the paper is not to answer questions about the importance of school culture and employees, but to offer a framework for further interdisciplinary analysis and discussion.

The paper consists of two parts. The first part discusses organizational culture and its impact on school development. It analysed the specific functions of school culture, OC levels and its components. The second part analyses the school climate and SM. The starting point is the construct of employee self-image and identity. We also show the role of teachers during the COVID-19 pandemic.

1. Levels of school culture

OC is a key concept in contemporary management. Some authors (Parker, 2000, p. 187-189) hold that OC reflects a long-standing tension between the cultural and structural versions of what organizations are. OC can also be understood as a metaphor of the corporation (Alvesson, 2002, p. 38) in which a place is opened for the analysis of the corporate image.

OC occupies a central place in contemporary management (Huczynski & Buchanan, 2007, p. 623). The OC itself is permeated in all aspects of SM. It affects the type of corporation structure, the way it is organized, the type of power, the way it is decentralized, the way it controls, the strategy of the organization, human resource management, and resource allocation. School culture plays an important role in the development of an organization.

School culture, as a kind of version of OC, should be viewed from the aspect of leadership (Kızıloğlu, 2021, p. 831; Nowak, 2020, pp. 487-489) and in this sense analyse how school leadership is reflected on employees and stakeholders in the educational process. However, such a culture always exists in two relations: the one that the average user sees and the one that is not seen.

The school climate together with the school culture forms an important segment of the psychosocial functioning of the school. Thus, the school climate represents the totality of employee togetherness in their aspirations, sense of belonging to the teaching council, all the way to the motivational components.

The processes that each school goes through in search of effectiveness presents the organization as a cultural and educational institution. Understanding OC is a vital part of improving school quality (Stoll & Fink, 1996, p. 116). Table 1 shows specific characteristics of school culture.

Table 1 Specific functions of school culture

Area	Impact
School Performance	Employees
Instrument of realization	School management (SM)
Control system	Principal
Psychological space	Corporate brand
Identity of the school	Identity of the employee
Employee motivation	Principal
Employee identity	Organizational culture (OC)

Source: the author

As can be seen from Table 1, the specific functions of school culture can be observed through the areas in which they occur and through the impact on the organization. It is interesting that the identity of employees is at the same time an area that is related to school culture, but also has an impact on OC. This means that the connection between behaviour and culture is two-way, i.e., that it appears as a cause, but also as a consequence.

The control system is a specificity of OC and represents the strongest and largest model of control (Mullins, 2006, p. 474) implemented by the principal in SM. A specific distinctive, psychological space ensures the integrity and determines the identity of the organization, but also opens the way to the development of the school's corporate brand (Jukić, 2017, p. 15). The school identity also realizes the identity of the employee. It is also a very complex construct because the identity of the teacher is closely linked to school culture (Flores & Day, 2006, p. 230; Jukić, 2019, p. 15) and school identity.

School culture is difficult to define because it encompasses: the value of the organization, employee behaviour, rituals, norms, common attitudes, philosophy, and overall perception of the organization. However, such attitudes and beliefs are subconscious (Schein, 1985, p. 6), which means that OC represents the way employees work (Schneider, Gonzalez-Roma, Ostroff, & West, 2017, p. 468). In essence, school culture is intertwined with employees, organization, and school identity.

Therefore, metaphors, symbols, rituals, customs, and myths create school culture. From such an aspect, the only thing that is important is to understand the importance of school culture and to know how to manage it (Schein, 1985, p. 2). From a managerial perspective, the most important function of OC stems from raising individual and organizational performance.

Finally, school culture can be viewed as a teacher workplace environment that is formulated from interactions with other employees. The complexity of school culture is indicated by many elements, as well as the fact that there are differences from one organization to another. The intensity of the presence of OC dimensions (Robbins & Coulter, 2005, p. 52) can be rated from low to high.

However, in SM, evaluating school culture is very ungrateful. Schools may emphasize an innovative approach to teaching or service quality, some seek to maintain a stable reputation by avoiding change or risk, some may foster a team approach, promote collaboration with other cultural institutions, and some may be employee-oriented and considered central to school culture.

That is why the school culture is a group of elements of visibility. The model of culture (Schein, 1985, p. 14) encompasses three cognitive levels that differ in their visibility and accessibility: a) external manifestations of culture, b) values of

school culture, and c) fundamental assumptions of school culture. Table 2 shows the levels of school culture.

Table 2 Levels of school culture

Cognitive level	School culture
Events	School products (trophies, commendations, library)
Values	Teacher's relationship (rituals, myths, ceremonies)
Assumptions	Core value (norms, values, identity)

Source: the author

The first level of school culture constitutes the external manifestations of culture and refers to the visible "products" that the school has. Specifically, these are: offices, equipment, furniture, symbols, and the way employees communicate with each other. These are "products" that convey the message of school culture and at the same time, the most accessible form of school culture. The notion of product should be understood here conditionally because schools provide service, and through their tangible elements they manifest products. Of course, school products then communicate on an integrated marketing communication, on symbols, metaphors, and the way they interact with each other.

The second level, which is less visible, makes values that create a broad framework of employee behaviour that reveals the preferences of certain solutions and attitudes within the school. These values can be implicit or explicit; specifically, the employee's relationship to external associates or to each other's, and are manifested in the celebration of specific events of the organization. Employee behaviours reveal indirect attitudes and worldviews.

And finally, the third level represents the deepest, fundamental assumption of school culture. These are unwritten rules, norms, and values that employees are usually not aware of, but respect and accept as given values of the school itself.

These invisible, deeply hidden values represent the paradigms of SM (Wallace & Weindling, 1999, pp. 206-208) because they act as a filter that influences the way employees observe and behave. Simply put, it is the core of school culture and affects all perceptions of employees, stakeholders, and society.

Having in mind the components of school culture and its causal relationship to the teacher's job satisfaction, as well as to school efficiency, school culture, simplified, can be viewed as a positive and negative culture. A positive environment reflects employee participation in

joint activities, appreciation, sharing of responsibilities, and a shared vision of the school.

Clan cultures are most strongly associated with positive employee attitudes (Hartnell, Ou & Kinicki, 2011, p. 684). Teachers in the context of SM represent a form of clan culture. Organizations succeed because they hire, develop, and retain their human resource base (Cameron, Quinn, DeGraff, & Thakor, 2006, p. 38).

We can present a negative environment as an unhealthy climate, non-acceptance of new methods of work, tendency to criticize, incompetence and avoidance of responsibility. In the following, we present school culture according to Peterson and Costner (2006, p. 250) components, and they are visible in Table 3.

Table 3 Components of school culture

Frames	Products	Expressions	Activity
Norms (dress code, collegiality)	Trophies (school competitions)	Stories (remembrance of school success)	Rites (school routines)
Values (student achievement, expertise)	Commendations (research achievements)	Myths (idealization of school success)	Rituals (marking specific events)
Certificates (success at graduation, final theses)	Library (services)	Alumni (contact)	Ceremonies (events)

Source: adapted according to Peterson & Costner, 2006, p. 250

School culture consists of frameworks, products, expressions, and activities. The frameworks encompass the norms and beliefs of the school and are integrated into the values of the school itself. From a symbolic point of view, the products represent the value of the school. This specifically means that the school uses a variety of artefacts in the form of trophies, awards, medals, and even a library to show the school culture.

This is a classic hybrid view of service marketing (Grönroos, 2020, p. 295) in which the intangibility of school service is displayed through elements of school culture. And finally, two components remain: expressions and activities. The terms encompass school beliefs that are deeply interwoven with tradition and school success stories. This is especially evident in the realization of school ceremonies when the myth of the school and positive cases that serve as employee motivation are considered.

Finally, there are activities that represent school rituals. Rituals can be understood as a school

routine that accompanies appropriate ceremonies. Also, all forms of ceremonies, performances and events are part of school culture.

Why is corporate marketing important in SM? SM starts from two key elements: the manager and the employee. The school principal represents a manager who decides, leads, and organizes everything related to the economics of education, such as funding, administrative work, enforcement of pedagogical standards, compliance with the law, employee education, service delivery and impact on school development in the broadest sense.

As can be seen, employees are a key element in corporate marketing, especially in creating positive impressions towards the services provided, the identity of the organization and the overall image. Employees are the main service providers and the first, initial stage of the organization. They represent, symbolize, and promote school, service, and ultimately, education.

The school climate develops through the relationship between employees and the entire organization, and the school culture emerges as a product of employee work over a period. Such a culture is connected through employee norms and beliefs (Lee, 2020, p. 68). Simply put, school culture is a deep structure of organizations, which is rooted in the values and beliefs held by teachers while school climate is rooted in the organization's value system.

School culture, once formed, is "petrified" (Stoll & Fink, 1996, p. 119). In the broadest sense of the word, school culture, once formed, becomes the production process of the school. However, school culture is also a paradoxical phenomenon because, once created as a process, it is in constant change. This means that with the arrival of new employees, it gradually changes, because employees change as well as opportunities in society. Thus, school culture is a long process of producing the image of the organization. It is a process of evolution which, despite its peculiarities, components and levels, represents a static and dynamic phenomenon.

2. School climate and SM

We understand the school climate as a way for an employee to perceive everything that happens at school. The school climate plays a very significant role in shaping employee behaviour and influencing their attitudes about knowledge management. Therefore, the importance of the school climate is twofold: on the one hand it encourages an innovative atmosphere and thus

becomes part of the internal processes of the organization, and on the other hand, by creating employee identity, allows creating a school identity, i.e., creating a corporate brand.

School climate can be observed according to the dimensions of organizational climate (Halpin, 1966, p. 150). With such an understanding, we analyse the school climate through the behaviour of employees and managers.

Teacher behaviour can then be classified as a) non-engaged; b) burdened; c) satisfied and d) intimate. The first group, non-engaged, represents teachers who perform their tasks superficially and disinterestedly. The metaphor of the burdened represents teachers who are burdened by the principal with administrative and additional tasks. The satisfied group represents a category of teachers who enjoy a sense of achievement. The last group comprises intimate employees who enjoy a friendly environment.

From the aspect of the principal's behaviour, we observe the dimensions of the school climate as: a) restrained; b) productive; c) exemplary and d) considerate. A group of restrained principals represents the formal behaviour of a principal who is distanced. Productive principals are characterized by constant control of teachers; their communication is one-way. The third group consists of exemplary directors who motivate employees and build trust. Finally, the latter group represents considerate principals characterized by a willingness to communicate and assist.

From these dimensions we can conclude that the effectiveness of the school and the school climate is simply seen as an open and closed climate. The open climate (Halpin, 1966, p. 174) represents the cooperation of teachers and principals who are not burdened by the administration and ultimately, are proud of their organization. A closed climate (Halpin, 1966, p. 180) refers to an inefficient director who does not care about the needs of employees. The types of school climate are shown in Figure 1 according to Hoy, Tarter & Kottkamp (1991, p. 40).

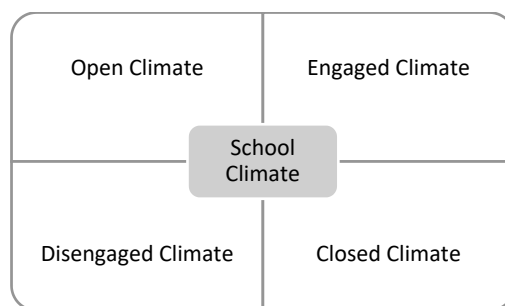


Figure 1 Types of school climate
Source: adapted according to Hoy et al., 1991, p. 40

It is important to note that for the proper implementation of these types of school climate, it is necessary to analyse them in accordance with the Cartesian coordinate system. The ordinate (vertical) axis then represents the behaviour of the employee, and the abscissa (horizontal) the behaviour of the manager. Therefore, we distinguish four types of school climate: open, engaged, non-engaged and closed.

An open climate represents respect and cooperation of employees and managers. An engaged climate is an open-closed combination, i.e. inefficient directors and efficient employees. This means that this is a restrictive and authoritative manager, but the organization is still collegial. A non-engaged climate is the opposite of an engaged one, so it's a closed-open combination. The manager then supports the employees, but the employees do not take responsibility. This means that they do not agree and do not respect each other. Finally, a closed climate is the opposite of an open climate: a manager does not support employees, and employees do not respect each other and are dissatisfied.

If, we look at the relationship between school culture and school climate from the aspect of affiliation, we look at school culture from a sociological and anthropological aspect because it questions deeper teacher relationships, while school climate belongs to the field of psychology because it represents its manifestation on individuals. It is interesting to note that the role of school culture is closely related to the managerial skills of the school itself. OC has been shown to affect employee performance which is reflected in their satisfaction and efficiency (Morris & Bloom, 2002, p. 71-83).

According to a study of the relationship between school culture by teacher satisfaction and school efficiency (Duan, Du & Yu, 2018, pp. 15-25), the results confirm the correlation between school culture, satisfaction, and efficiency.

Regression analysis confirms that teacher satisfaction plays a mediating role in the relationship between school culture and school efficiency. School culture has been shown to form a collective relationship, ceremonies and events form an integral part of school effectiveness (Duan, et al., 2018, p. 21).

2.1. Teacher identity

Principals have an important part in building school culture as well as creating an organization's identity. Their impact strongly influences employee motivation and efficiency (Day, Kington, Stobart & Sammons, 2006, p. 605). Also, principals who support their employees build an environment for a favourable climate and culture. Employees who work in schools where they are supported and encouraged by principals show positive attitudes toward teaching (Flores & Day, 2006, p. 230), but also greater loyalty to the organization. However, to be able to talk about the identity of the school at all, we must first briefly explain the identity of the teacher.

The identity of the teacher can be most simply presented as the teacher's sense of self-worth and reflection on those values. The identity of the teacher is not a constant and stable phenomenon and, in addition to its characteristics, depends on the work, life context and relationships with others. Teacher identity involves a mixture of personal, professional, and situational factors (Granjo, Silva & Peixoto, 2021, p. 161). The concept of ethical dimension implies honesty, fairness, respect, and kindness in interacting with students. Ethical orientation is a key factor in a teacher's identity (Granjo et al., 2021, p. 169).

The key questions that arise in defining a teacher's identity are: who am I as a teacher and what kind of teacher do I want to be? The beliefs and values of the teacher develop from his personal attitudes, experiences, social environment, and the environment in which he lives. Teacher beliefs are acquired at an early age and they are deeply rooted. Korthagen (2004, p. 80) argues that professional identity is made of unconscious needs, feelings, values, role models, previous experiences, and behaviours, which together create a sense of identity.

Teachers are in the constant dynamics of school events, and by interacting with the environment, they participate actively in the process of shaping and self-shaping. However, the teacher's identity can be viewed from the perspective of the

employee, but also from the perspective of the stakeholders.

Teachers define and realize their identity through self-image, attitudes, relationships with other employees, school culture and the service provided. From the perspective of stakeholders, we look at the teacher's identity from the perspective of service quality, behaviour, and pedagogical competencies. Therefore, to understand employee identity better (Holland & Lachicotte, 2007, p. 123) in SM, it is crucial to encompass the context of society, organization, and culture.

Learning to become an effective teacher is a long and complex process (Flores & Day, 2006, p. 219). The school climate affects the emotional state of employees. Teacher's feelings of vulnerability engendered when identity is questioned by policy changes, inspectors, or colleagues (Kelchtermans, 1996, p. 321). The shape and reshape teacher's identity study presented three influences (Flores & Day, 2006, p. 223): a) past experience, b) motivation and c) school culture.

It was confirmed that school culture and climate play an important role in creating the identity of the employees and affect their quality of service and job satisfaction. Being a proper teacher implies the social recognition of both one's technical skills and competencies and one's moral integrity (Kelchtermans, 1996, p. 318).

Interestingly, most employees describe their first experience within SM as stressful (Flores & Day, 2006, p. 225), and the difficulties they cite are a bureaucratic burden and an overload of responsibilities. The impact of the school climate plays a key role in employee reshaping. Consequently, self-knowledge is an important element in the way employees perceive their role.

The teacher's identity is not only created by the technical and emotional aspect of teaching, but also as a result of personal experience, school culture and school climate. The employee's identity can be observed through five categories (Kelchtermans, 1993, p. 449) which we show in Table 4.

Table 4 Teacher identity self

The image of the employee	Impact on school management
Self-image	Employee image
Self-esteem	Quality of service provided
Job-motivation	Loyalty to the organization
Task perception	Satisfaction with the organization
Future perception	Expectations from the organization

Source: adapted according to Kelchtermans, 1993, pp. 449-450

In this context, we understand the self-image as the perception of employees that manifests itself through their work. It is a psychological construct that shows the employee's attitude towards work, but, from the aspect of the employee, also his identification at work. Self-esteem represents the perception of the employee as a teacher (his quality), while job-motivation represents the degree of loyalty to the organization.

In other words, we can analyse self-esteem from the aspect of SM and analysis of the service provided, i.e., the perception of quality. Of course, job motivation in the context of brand management (Kapferer, 2008, p. 171-197) can also be interpreted as loyalty to the organization. It is this loyalty to the organization that is outlined in satisfaction, expectation, sacrifice, and motivation. Task perception represents how teachers define their jobs.

This means that satisfaction with the organization makes a very similar construct to the brand attachment because it shows managers two key determinants: the degree of loyalty and satisfaction. An employee does not have to be loyal to be satisfied and vice versa. An employee may be dissatisfied with the job for various reasons such as salary, working conditions, but also loyal to the organization because he still works and does not endanger the image.

And finally, the future perspective makes the employee's expectations. The construct of his expectations is a turning point that separates motivation from satisfaction because expectations are a consequence of the school climate. As can be seen, the employee's self in SM, but also in corporate marketing, can serve as an analytical model.

From the above, we can present two key hypotheses of employee identity in SM: stability and vulnerability. Stability at work depends on loyalty to the organization, satisfaction with the organization and expectations from the organization. Vulnerability at work depends on the first two categories of employee identity (Table 4), i.e. how satisfied the employee is with his reputation in the school, society, working conditions, service provided and all stakeholders of the organization. Obviously, the architecture of employee identity is not a stable construct (Day et al., 2006, p. 613).

An analysis of the organization's climate will show whether the school's climate needs to change or fit into the organization's existing culture. According to Stacey (1993, pp. 41-45) the nature

of an organization's culture can be analysed through the power structure of the organization. Power comes from the relationships that emerge over time between individuals and groups. The source of power is related to the form it takes. Power in SM takes the form of authority because it is exercised hierarchically.

From a pedagogical point of view, power in SM should come from influence because the principal is the leader of the school. After analysing the source and form of power in school culture, its dominant coalitions in the organization must be identified. In school, these are employees because they work together and have a lot of influence, even though they don't have much authority. In other words, employees are potential allies in the school management coalition.

Since the psychosocial climate refers to the perception of specific sets of events, procedures, and rules of organization, the role of the teacher's identity is extremely important. But, as can be seen from Table 1, the functions of OC and climate are two-way, the role of teacher identity is correlated with the identity of the organization. The teacher's image depends on the values and assumptions within the school (Table 2), as well as on the teacher's identity (Table 4). This identity construct was created in interaction with other employees of culture, climate, and management. And it is precisely this causality of employee identity and school identity that leads to a holistic way of looking at SM.

2.2. Identity of the organization

The identity of an organization depends on employees, which is especially evident in non-profit organizations such as schools. Employees stand out here because they are the most important segment and include the first contact with service users. Employees in non-profit organizations, such as schools, find themselves in a conflict situation, torn between the desire to provide quality services (Grönroos, 2019, p. 781) and their own perception of management.

If there is a lack of management support in building and strengthening the service climate, it will have a negative impact on teachers, and ultimately on the service itself. It is obvious that managerial support is a precondition for teacher satisfaction and motivation, and its absence cannot be hidden from users and directly affects the dissatisfaction of all stakeholders.

Since the culture of the organization is deeply rooted in the employee's perception (Park & Doo,

2020, p. 114), it is necessary to develop brand identity on cultural reputation, on the coherence between the brand of promise and the performance that employees provide (Braxton & Lau-Gesk, 2020, p. 2369). Corporate identity is important for several reasons: it enables the creation of a corporate brand and image (Balmer & Gray, 2003, p. 978), but also because of the strategic dimension of brand positioning in the minds of consumers.

The notion of corporate identity can be most simply presented as the brand characteristics that the organization represents. Corporate identity is the foundation for building the corporate image of a school. Given that services in the school are characterized by indivisibility, the presence of users at the place of service, a high level of perceived risk and several other activities that affect the amount of stress among teachers, these services need a management concept based on management support.

SM must pay attention to employee satisfaction and motivation, providing support, clear communication, and proper delegation of responsibilities. In this way, management can create a favourable work climate and the overall environment. Corporate identity is a multidimensional construct because it encompasses different aspects of the organization, such as: strategy, corporate image, corporate culture, and corporate personality of the brand, all of which interact together.

Let us show the behaviour of principals and teachers from the aspect of SM and climate. The importance of employees in SM is unquestionable. Teachers are the most important resource of the school. Their role, in addition to educational and social, stems from the creation of a cultural community. Providing the service creates positive impressions on users and all stakeholders. Satisfied customers, stakeholders, employees thus promote their organization. As a result, the school becomes recognizable by teachers rather than by equipment, computers, or other technical aids. Teachers are the most important component of SM.

Also, such an understanding of SM creates the image of a corporation. However, image as a perceptual creation (Keller, Aperia & Georgson 2008, p. 42-56) depends on identity. Corporate identity is created by employees. If their identity is positive, then it will be reflected in positive images in the consumer. Employees build a corporate identity through their work, quality of service, CRM, and OC.

According to Balmer (2001a, 2001b), this identity can be represented by the acronym AC²ID Test (see Table 5). The distinctions between identities presented by the AC²ID Test model are designed to enable strategic leadership and management of the corporate brand and at the same time as a diagnostic of planning and analysing existing segments of identity.

Table 5 AC²ID Test in SM

Identity	Impact on SM	Influence on the teacher
Actual	School structure	Employee self-image
Communicated	School competitions	Service quality
Conceived	School image	Employee reputation
Ideal	School culture	Employee motivation
Desired	School personality	Employee loyalty

Source: the author

As can be seen from Table 5, the dissonance between corporate identity and other factors may lead to potential risk. If actual identity reflects internal stakeholders, the principal's style, and the structure of the school, it manifests itself in employees and self-image. It can also affect the communicated identity as it is reflected in the quality of the service which, consequently, calls into question competition with other schools which, in line with corporate marketing, we view as an advertising model. Of course, the image of the school is projected on the reputation of the employees and vice versa.

Therefore, the employee's relationship within the collective depends on SM, but also on the development of OC. The AC²ID Test model serves as a strategic mechanism by which different identities within a corporation can be detected. However, for management to be successful, a synergy between employees, management, and school culture is needed.

2.3. The role of teachers during COVID-19

Since the outbreak of the COVID-19 pandemic, educational institutions have implemented a remote teaching model. It was a big step away from the previous way of teaching. Organizational support from management and ICT played a major role. It was a test of school culture and school climate. Organizational culture consisting of cognitive levels (see Table 2) has been reduced to a hybrid form of communication.

Opportunities that arose relate to expand traditional knowledge and skills in ICT, supportive agents, but also threats related to the lack of face-to-face teaching (Escobar & Morrison, 2020, p.597). The strength of OC is manifested in the

willingness of teachers to participate in a new, remote teaching model and share their teaching materials.

The pandemic has encouraged new innovative and creative teaching methods using ICT (Ellis, Steadman & Mao, 2020, p. 562). Despite the traumatic circumstances of the pandemic, remote teaching took place at all educational levels (Cutri, Mena & Whiting, 2020, p.524).

From a teacher perspective, the strongest constructs were the desire to learn and develop creativity. The weakest constructs were teaching contents that were often extensive and inappropriate for distance learning and doubts about the remote teaching model (Cutri et al., 2020, p. 528).

It is proposed to reconceptualise in the future through three core themes: a) care, b) control and c) power (Murray et al, 2020, pp. 491-497). However, the proposed models only further confirm that school culture is based on teachers' cultural habits and experiences. Remote teaching does not allow classroom control, and neither does mentoring (see Table 6).

Table 6 School culture during COVID-19 pandemic

Symptoms	School culture during COVID-19 pandemic
Remote teaching	Empty school: e-books, e-library
No relationship	No class control, no travel
Teacher vulnerability	Social and collaborative components

Source: the author

The forced transition from face-to-face to remote teaching, i.e., emergency eLearning (Murphy, 2020, p. 492) emphasized even more the importance of organizational culture and teachers. Therefore, the importance of social and collaborative components of learning and partnership with the organization is increasingly emphasized.

From the aspect of teaching and learning in the context of teacher education, three factors of distance learning are important (Carrillo & Flores, 2020, p. 477): social presence, teaching presence, and cognitive presence.

COVID-19 presented significant challenges for managers (Spicer, 2020, p.1738) and the question arises: What happens when an OC dies? (Spicer, 2020, p.1739). Judging by the theoretical model, we can confirm that during the pandemic, the values of school culture (rituals, myths, and ceremonies) were partially lost, while assumptions (norms, rules) were retained, and events became hybrid.

The role of school culture, in the context of school functioning during the COVID-19 pandemic, has confirmed in theory and practice that teachers are the most important resources of any educational institution. Their way of working, behaviour, collegiality, support, and expertise have proven that despite the developed ICT system; they still represent the most important segment of the organization

Conclusion

Employees are the most important resource of any organization. The role of employees is very important because employees are a key element of the marketing mix in service industries such as schools. The image of an organization is created by employees who are in contact with others.

However, due to the very specificity of SM, employees differ from other employees in non-profit organizations. This means that their skills, knowledge, and other abilities are very specific. After all, this is the only element that guarantees success to non-profit organizations.

School is, metaphorically speaking, a living organism. Due to numerous social, cultural, and economic changes, the role of the school is constantly being redefined. Thus, the school, as a non-profit organization, becomes specific because it opens new questions in the field of SM, but also HR. However, it should be noted that each school is at the same time an organization, which, in addition to educational values, is strongly dependent on OC, climate and employees.

Based on the results of certain dimensions of the school climate, a successful manager will strive to achieve an open climate because such a manager has personal integrity, high consideration, and thanks to interpersonal skills does not have to emphasize productivity, but completely controls the organization. Also, such a form leads to satisfied and motivated employees, and most importantly, a satisfied employee is created.

School is characterized by exceptional susceptibility to organizational values, norms, stereotypes, traditions, standards, ceremonies, and rituals and this should not be taken as something bad. This could be seen especially at the time of the COVID-19 pandemic when the role of teachers, school culture and school climate was put to the test.

The models of school culture listed in the paper proved to be vulnerable when it comes to the transition to remote teaching because all the burden was shifted to the teachers. Schools operated in a

cold drive, losing the structure of rituals, myths and ceremonies that form the very core of the values of school culture. All events, rules and norms have adapted to the new circumstances.

Ultimately, during the COVID-19 pandemic, schools showed that the most important segment, along with students, was not expensive IT equipment, large halls, or rich libraries, but teachers themselves.SM

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Defining the digital workplace: a systematic literature review

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Abstract

There have been a significant number of publications about digital workplace transformation. This is due to technological developments in the last decades as well as the COVID-19 pandemic. However, there is no adequate overall definition of the term. This leads to misunderstandings and confused interpretation of the digital workplace, sometimes even narrowing it down to a set of tools or a platform.

Given the complexity of digital workplace transformation, there is a need to have an integrated prospective and analyze it not just from a technological perspective, but from an organizational and processes point of view as well. Therefore, this paper is an attempt to review the concept and offer a comprehensive definition of the digital workplace. This includes all the important aspects of the transformation including tools and platforms as well as personal issues, organization, processes and management.

The paper provides a systematic literature review of the publications in leading bibliographic and citation bases, starting from Web of Science and Scopus to SpringerLink, IEEE Xplore and Association for Information Systems eLibrary. The review includes not only journal papers, but also leading proceedings, books and other referent publications. It addresses the authors' approaches, perspectives, terminologies, focusses and understanding of workplace transformation over the last decade by a comprehensive review of the state of art of the literature in the field of digital workplace. Finally, a set of recommendations are made to further research in increasingly important subject of digital workplace transformation.

Keywords

digital workplace, digital transformation, change management, systematic literature review

Introduction

Modern workplace requires not only technological but also organizational and process adaptation to achieve full functional and operational transformation from a traditional into a digital workplace. Social and technological changes have affected the ways of communication, cooperation

and collaboration. Challenges and opportunities that those changes bring are discussed between policy makers, academics, businessmen and others. There are different viewpoints on how changes affect the way we do business, but it is unquestionable that technology has strong impact on work and organization. According to Coetzee (2019), in the twenty-first century "organizations

from the era of Industry 4.0 are rapidly becoming smart networked jobs as a result of the exponential revolution brought by technological development". Dery, Sebastian and van der Meulen (2017) state that technological and organizational progress has significantly improved the communication, collaboration and coworking in conjunction with lifestyle changes and trends related to work-life balance. It enabled the digital transformation of the workplace. The focus of digital workplace transformation can be on technological tools or so-called "enablers" but it should also include organizational adjustment, changed processes and psychological factors of employees (Eckhardt, Endter, Giordano, & Somers, 2018).

Most of contemporary research perceives the concept of digital workplace and the processes of its implementation as a multidisciplinary function. Therefore, it definitely needs to be further defined and expanded in contrast to the simplified view in science and practice. Eckhardt et al. (2018) note that the key factors in changing the modern labor market and workplace are the following:

- power has shifted from employer to employee;
- the demographics of Western economies have changed towards greater participation of the so-called Millennials in the labor force.

Among other things, the past couple of decades are recognizable by the significant development of information technologies and the changes they have brought in the field of organization and performance of work, as well as changes in the nature of work, which has been significantly accelerated by digital transformation and digital workplace design (Williams & Schubert, 2018). Changes in technology/applications and changes in the workforce require a workplace that encourages productivity, collaboration, innovation and agility which also lowers the cost of information technology and business operations (Attaran, Attaran, & Kirkland, 2019). In addition, digital innovations enable communication and collaboration that can lead to a change in the nature of work. Bearing in mind that work is normally a social activity and that it may require intensive communication and collaboration between employees, the significance of the above-mentioned changes and their effects on jobs transformation are unquestionable (Meske & Junglas, 2021).

All the above changes and needed adaptations impose the demand for a clear definition of digital workplace as well as its success factors, starting from the competencies and attitudes of employees to the implementation of specific tools, techniques and applications.

1. Goals and methodology of the systematic literature review

In this paper Systematic Literature Review (SLR) is performed following the methodology developed by Barbara Kitchenham and others in several publications (Kitchenham et al., 2009, 2010; Turner, Kitchenham, Budgen, & Brereton, 2008). The review starts by defining the research goals and development of the research protocol, followed by identification of the key databases and papers in them based on defined keywords. Then, the review continues with the analysis, selection and quality assessment of publications. The review ends with data extractions and synthesis.

The main goal of this paper is to identify key research publications in leading bibliographical and citation bases, in order to develop a comprehensive definition of digital workplace and its transformation processes and concepts. Additionally, it defines the key success factors of the transformation process and set a direction for future research in this field.

The aim of the literature review was to identify empirical and theoretical analysis related to the digital workplace as part of the general digital transformation, but also to identify the shortcomings of current research and providing directions for the future research.

The review first defines the basic research questions on the topic of digital workplace and in accordance with that, provides comprehensive and overall digital workplace definitions that can be used by practitioners and future researchers.

2. Source materials

The review started with a search of journals and papers, conference proceedings, reports and other similar related scientific and professional literature in the following bibliographical and citation databases:

- Web of Science (WoS) by Clarivate Analytics,
- Scopus by Elsevier,
- Xplore by The Institute of Electrical and Electronics Engineers (IEEE)

- Electronic library (eLibrary) by The Association for Information Systems (AIS).

Additionally, books, guides and other literature (e.g., selected papers in published monographs) were added, following the keyword rule. Those publications were extracted from the following databases: SpringerLink (EISZ) and Springer E-book packages. The above-mentioned databases were searched by the keywords “digital workplace”. Additional criteria were:

- Publications primary language must be English or German,
- The source/paper should have been published after 2010
- The paper must be peer-reviewed publication.

The first phase of literature review included search of the specific databases related to the subject of the research (subject or topic, depending on the different database) and filtered papers from journals and conferences proceedings, books and other publications. The search and review process consisted of several steps: primary results scanning, filtering of results based on title, filtering based on abstract and final selection based on the content and conclusion of the publications (Figure 1). Some of the publications have been added bearing in mind those were used as primary source in previously selected publications.

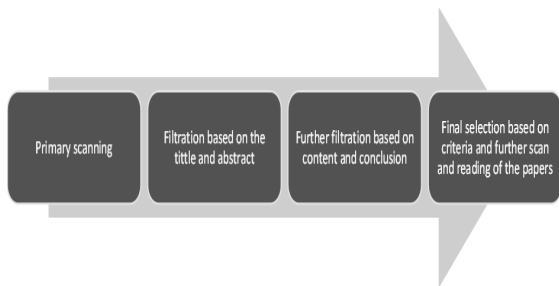


Figure 1 Literature review process
Source: the authors' contribution

The primary results of the database scan included counting the publications followed by further review of the results. The first pass database search results are presented in Table 1 as numbers of “hits”. Further filtering was implemented using the desktop application for quoting and filtering literature Mendeley, with the same add-in for MS Word. The application identified identical publications that occurred in more than one database.

Table 1 Quantity of the results after databases were searched by keywords

Database	Number of hits based on the keywords “digital workplace”
WoS	1,401
Scopus	1,643
IEEE Xplore	176
AIS eLibrary	2,988

Source: the authors, early spring 2021 search

The results were further filtered in the second phase, based on several criteria: existence of keywords in the title or abstract, connection of the paper with the subject of research and whether the publication comes from a related scientific field (Figure 2).

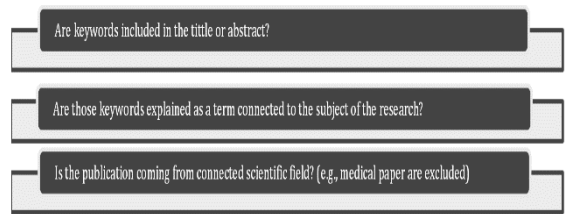


Figure 2 Criteria for filtering publications - second phase
Source: the authors

Some of the publications were in more than one database. Majority of the papers found addressed the digital workplace from an unrelated scientific viewpoint or were unrelated to the research topic. The review continued with 114 publications in the next phase, without duplicates and including books, guides and other related publications. In the third phase some of the primary sources of those 114 publications were added.

Publications are divided in three basic groups: papers from journals, papers from scientific conference proceedings and, edited books and other publications (Table 2).

Table 2 Quantity of review sources by group, second phase

Type of source	Number
Conference Proceedings	37
Papers from scientific journals	57
Edited book and other publications	20
Total	114

Source: the authors

In the next phase, we analyzed the conclusion and content of the publication for each of the following factors, in order to identify review segments:

- Subject of publication research,
- Sample size and industry selection,

- Relation to the SLR research topic,
- Limitations of the research,
- Recommendation for the future research.

When we plot the line graph of numbers of publications per year over time, there is a clear volume increase or upward trend. Number of the publications in the period 2012- 2015 was stable. However, after 2016 and especially after 2018, growth in number of papers was significant, which suggests that research interest for this subject has been increasing in recent years (Figure 3).

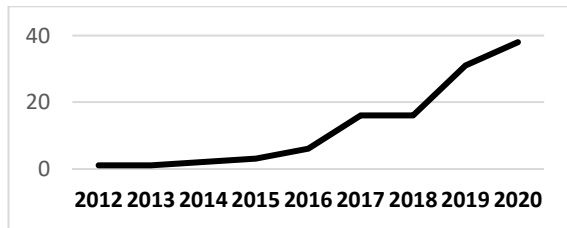


Figure 3 Number of publications per year
Source: the authors

There have been fewer than ten publications in the years before 2016 compared to 31 in 2019 or 38 in 2020. Therefore, progressive growth in the number of publications was present throughout the decade and this upward trend seems to be continuous.

When we separate or dissect the change in volume of different publications over time, it becomes evident that journal papers have the most significant growth. Proceedings, after initial growth, are decreasing in total number. Books, reports and other publications have also grown which might be more correlated with increased professionals' interest in digital workplace transformation. Therefore, we can conclude that conferences directed the scientific community towards digital workplace transformation which became the topic of journal papers afterwards (Figure 4).

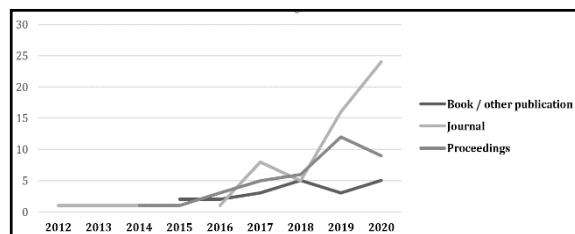


Figure 4 Number of publications per year by type of publication
Source: the authors

We grouped the publications into four main categories of research type: theoretical

publications, systematic literature reviews of the subject, exploratory and empirical research and case studies. More than half of the publications are theoretical as expected, but it is also interesting to note that empirical and exploratory research participates in more than a quarter of total papers (Figure 5).

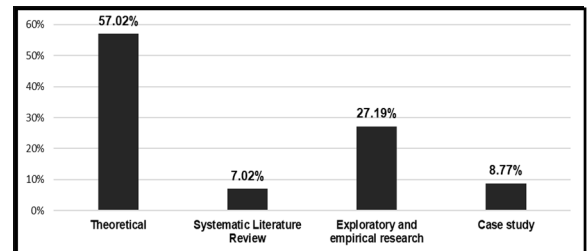


Figure 5 Publications by type of the research
Source: the author's contribution

Analysis of the reviewed papers suggests that even if there is a high number of hits with digital workplace as part of their title, abstract or conclusion, only one third of them have strong focus on digital workplace as contemporary phenomena. Many publications, even if they have words "digital workplace" in the title, are only partly related to the subject of digital workplace transformation, which is definitely a limitation of the current state of research on this subject and suggests that this term is often misused.

3. Further analysis and results

3.1. Research focus

Topics of screened research papers are extremely varied. They range from digital workplace elements to different success factors of the transformation process.

Köffer (2015) provides a concise review of the literature on the digital workplace of the future in his study, focusing exclusively on leading journals and papers on topics related to collaboration, compliance, mobility and stress in the digital workplace. He also makes recommendations based on the literature within each of the four targeted digital workplace topics.

Attaran et al. (2019) focus on the changing nature of the workplace, emphasizing the importance of smart workplace technologies as well as identifying key determinants of the digital workplace implementation success.

The topics of the research are sometimes the types of digital workplace designs, i.e. identification of differences between those focused on people and those focused on processes or

success of the different digital workplace models (Byström, Ruthven, & Heinström, 2017; Lestarini, Raflesia, & Surendro, 2016; Richter, Heinrich, Stocker, & Schwabe, 2018; Schmidt, Praeg, & Gunther, 2018; Williams & Schubert, 2018; Zimmer, Baiyere, & Salmela, 2020).

Research is sometimes focused on the importance of certain digital workplace transformation success factors, such as support of employees and their influence on the success itself. One of the papers examined the factors that lead employee support for digital transformation from the choice of technologies through organizational change to the design of the digital workplace itself (Meske & Junglas, 2021).

Papers in the field of digital workplace design evaluation are focused on certain industries, such as small service businesses (Attaran et al., 2019) or wholesale (Meske & Junglas, 2021). Some papers focus on the analysis of the data collected from a certain given set of companies: e.g., 13 companies in the analysis “Design for the Digital Workplace” by Williams and Schubert (2018). Research on digital transformation at the micro level focuses on individuals. Thus, a study investigating the impact of employee support on digital workplace transformation includes 150,000 respondents in a specific wholesale industry and is limited to Germany (Meske & Junglas, 2021). Also, the focus of the research is limited to a selected set of companies and users of a particular software or system (Williams & Schubert, 2018) or employees in one industry and one region e.g., employees in the wholesale trade in Germany (Meske & Junglas, 2021).

Another topic of the research papers was the development of various models related to the digital workplace. Thus, Eckhardt et al. (2018) and others develop the so-called “Virtual Work Development Model” as a guide for companies striving for transition to a virtual workforce with the purpose of building a virtual workspace using easily accessible and highly effective technologies to regulate collaboration and communication between dislocated workers. The same group of authors, through their model, state that there are three types of readiness of employees for the transition to a virtual workplace: mental readiness, technological readiness and social readiness. Additionally, they provide overview questions to examine these types of readiness (Eckhardt et al., 2018).

One of the limitations of the current SLR is that they do not include papers from top ranked and

indexed databases (such as WoS, Scopus, IEEE etc.). On the other hand, some SLR are exclusively based on papers from the leading databases but they include relatively insufficient numbers of papers (Köffer, 2015).

In addition to the usual keywords, such as digital workplace, digital transformation and collaboration, there are other keywords that are used in the publications: digital workplace design, user cases, enterprise, collaborative systems, company social software (Williams & Schubert, 2018), compliance, mobility and stress (Köffer, 2015), workplace transformation, future of work, self-determination, change management, acceptance (Meske & Junglas, 2021), collaborative learning, organizational accessibility etc. (Koles & Nagy, 2014).

A group of papers analyzes global and regional changes of work and future trends of workplace (Burnett & Lisk, 2019; Bygstad, Aanby, & Iden, 2017; Cárdenas-García, Soria De Mesa, & Romero Castro, 2019; Chopra & Bhilare, 2020; Crooks et al., 2020; Darics & Cristina Gatti, 2019; Egloffstein, 2018; Farrell, Newman, & Corbel, 2021; Francis & Scheers, 2013; Geng, Tan, Niu, Feng, & Chen, 2019; Gerbaulet & Korn, 2018; Hawkins & Jacob, 2015; Ivaschenko, Simonova, Sitnikov, & Shornikova, 2019; Köffer, 2015; Melzer & Diewald, 2020; Odarenko, 2019; Okros, 2020; Poch et al., 2020; Schwarz et al., 2020; Seifert & Nissen, 2018; Shivakumar, 2020; van Laar, van Deursen, van Dijk, & de Haan, 2019; Vukelić & Čizmić, 2019; Walker & Lloyd-Walker, 2019; Willment, 2020; Yordanova, 2019; Yu, Burke, & Raad, 2019) and another group of publications deals with education and upskilling as well as their influence to digital workplace transformation (Bartlett-Bragg, 2017; Brahma, Tripathi, & Sahay, 2020; Harteis, 2018; Harteis, Goller, & Caruso, 2020; Ifenthaler, 2018; Kayser, 2019; Montebello et al., 2019; Oberländer, Beinicke, & Bipp, 2020; Pata & Hirv, 2017; Phillips, 2016; Ravenscroft, Schmidt, Cook, & Bradley, 2012; Rehe, Schneider, & Thimm, 2020; Sarsar & Yilmaz, 2018; Soon, Chiang, On, Rusli, & Fun, 2020; Tripathy, 2019; van der Stappen & Zitter, 2016; Wang, Chen, Yu, Huang, & Chen, 2020; Zaphiris & Ioannou, 2020).

Another group of publications focuses only on specific aspects or physical components of the workplace such as some hardware, ergonomics, communication technologies, gamification, virtual and augmented reality in workplace, knowledge management and knowledge recognition or work

safety and health (Abdullah, 2018; Baptista, Stein, Klein, Watson-Manheim, & Lee, 2020; de Souza Vianna, Leite, Butterworth, Taiar, & Machado, 2020; Dodel & Mesch, 2020; Englert, Woodcock, & Cant, 2020; Ferreira, Araújo, Fernandes, & Miguel, 2017; Garza, 2019; Hanafizadeh, Ghandchi, & Asgarimehr, 2017; Hofma, Avital, Blegind Jensen, & Hofma, 2017; Kim, Park, Jeong, Josue, & Valdez, 2018; Koch, Yan, & Curry, 2019; Kotsopoulos et al., 2017; Kuhlant et al., 2019; Lee et al., 2019; Li & Herd, 2017; Mah et al., 2016; Meyer von Wolff et al., 2019; Meyer Von Wolff et al., 2020; Miele & Tirabeni, 2020; Pompeii, 2020; Richardson, 2021; Rodriguez-Bustelo et al., 2020; Shelton & Smith, 2021; von Wolff et al., 2019; Zhang & Leidner, 2014) or on importance of organizational factors such as management, human resources management, innovation management and employee acceptance for the success of digital workplace or its components (Bader & Kaiser, 2017; Baptista et al., 2020; Dery et al., 2017; Dery & Sebastian, 2017; Eckhardt et al., 2018; Fabbri, Mandreoli, Martoglia, & Scapolan, 2019; Frank, Schmidt, Gimpel, & Schoch, 2018; Genzorova, Corejova, & Stalmasekova, 2019; Gerten, Beckmann, & Bellmann, 2019; Greeven & Williams, 2017; Haddud & McAllen, 2018; Jarrahi & Eshraghi, 2019; Kissmer, Knoll, Stieglitz, & Gross, 2018; Kissmer, Potthoff, & Stieglitz, 2018; Martensen et al., 2016; McParland & Connolly, 2020; Meske, 2019; Meske et al., 2020; Meske & Junglas, 2021; Nitschke et al., 2019; Oravec, 2020; Petersen, 2016; Richter & Richter, 2020; Yalina & Rozas, 2020; Zöllner et al., 2020).

3.2. Current definitions of digital workplace

The term digital workplace was originally mentioned by Charles Grantham and Larry Nichols in 1993 (Grantham & Nichol, 1993). Their understanding and definition of this concept was within the limits of technological and organizational development of the business at that time. In this paper they explain the link between technology, teamwork and business processes as well as their impact on customer satisfaction. They also state that companies can make the transition to a digital workplace as well as integrate advanced communication technologies into key business operations by overcoming obstacles to these changes. They pay special attention to management software and procedures that encourage the use of computers and telecommunications. Despite the fact that times in

the early nineties were significantly different from today, it can be said that these two authors not only set the basic definition of the digital workplace but also predicted some of the trends and even pointed out the need for the companies and individuals to adapt to the digital transformation of business which to some extent had already begun (Grantham & Nichol, 1993).

According to William and Shubert (2018) digital workplace characteristics are grouped into three basics headings, which could be a ground for establishing a comprehensive definition:

- Organizational strategy and digital workplace design;

This feature implies that the digital transformation of the workplace should be part of the overall organizational strategy and commitment to a new way of working, to enable the smooth establishment of a new work culture, to be a framework for designing and defining the development of technology platforms to support collaborative and flexible work, be future-oriented, adaptable and evolving in line with the development of technologies and labor legislation.

- Employees and work;

In short, digital workplace design should have the employee in focus and provide conditions for employees to be productive as well as to support the exchange of data, information and knowledge as well as to encourage employee engagement, collaboration and interaction.

- Technology platforms;

As an integrated platform, technology provides tools for the employees to be productive in doing their jobs. In addition, the mentioned platforms should be integrated into the overall information system of the company and independent of the location of the work, thus enabling flexible but integrated work of employees.

Current definitions of the digital workplace differ in the extent to which they are broader than the simple integration of the information technology.

Kissmer et al. (2018) state that “knowledge exchange, productivity and creativity are pillars of the digital workplace”, without even mentioning technology or tools.

The results of primary research on a larger sample of individuals indicate that the digital transformation of the workplace should be significantly broader than the acceptance of technology, i.e., it should enable the workforce to feel autonomous, competent and connected to others (Meske & Junglas, 2021).

The business and the academy define the digital workplace in different ways. Intel defines technology, agile workplace, and collaboration as pillars of the digital workplace (Constant, 2017 as cited in Attran et al., 2019). Other sources and authors, according to the primary literature review by Attaran and others (2019), state that the digital workplace framework includes three building blocks: personal performance, team performance, and organizational performance that together provide an overview of all activities and projects.

A digital workplace is also defined as a holistic set of tools, platforms and workplaces, delivered in an applicable and productive way but also as a set of technologies that employees use to perform tasks in their workplace (Williams & Schubert, 2018b).

The digital workplace can also be defined as a phenomenon in which new technologies cause significant changes in a wide range of aspects related to work: changes in the way employees perform work, changes in employee work processes and changes in their social relationships in the organization to a gradual change in overall work experience (Meske & Junglas, 2021).

Attaran and others (2019) define digital workplace as a collection of the tools in an organization that enable employees to perform their tasks. The above mentioned tools include intranet, communication tools, email, CRM, ERP, HR systems, calendar and other corporate tools that help in the general daily functioning of the business. The digital workplace affects the physical workspace, technology and people.

Some authors also state that the digital workplace is a significant organizational resource for optimizing employee productivity based on knowledge as well as enabling new more effective ways of working (Köffer, 2015).

William and Schubert (2018) define a digital workplace as an integrated technology platform that provides all tools and services to employees to efficiently perform their work, independently or in collaboration with others, regardless of where they are located whereas all are strategically and organizationally coordinated through digital

workplace design. to meet future organizational requirements and technologies.

The way of doing business in the last twenty years has changed significantly and is oriented towards digitalization and digital transformation (Kahrović & Avdović, 2021). An increasing number of projects, communications and daily operational work are performed digitally using modern tools and technologies. Certainly, the digital transformation of the workplace is far more than the tools themselves and implies organizational, strategic and process changes in order to increase the efficiency and effectiveness of the modern workplace. Office documents and projects have largely gone online and instant messaging systems and email have become a popular communication choice for business correspondence.

There are three main trends that have influenced the establishment and definition of the digital workplace (Attaran et al., 2019):

- Clutter information (Information overload): The amount of information is growing exponentially and finding, filtering and forwarding of information is much more difficult,
- The need for higher speed: The modern workplace is changing significantly faster than before and employees are expected to work faster, collaborate and be more effective and efficient in their work,
- Workforce Demographics: Businesses face the challenge of meeting the changing demands of a multigenerational workforce and different generational groups: on the one hand, baby boomers retire and on the other, millennials are IT enthusiasts who expect flexible working hours and simple tools.

Intel defines several segments and phases of establishing a digital workplace. Below are the parts and phases listed by Constant (2017 2017 as cited in Attran et al., 2019):

- Physical transformation of the working place – agile workplace

The author states that traditional offices and workplaces are often expensive, inefficient, inflexible and challenging for scaling and modification, and therefore it is necessary to focus on an integrated platform with front and back-office tools.

The author states that the digital workplace should satisfy the following criteria: characteristics

of the digital place (which can be different, from the so-called home office, coworking space to third places) which implies easy access, portability, the possibility of continuous operation of the organization in one region or globally and the ability to work outside of corporate constraints; and the characteristics of a distributed early workplace which implies the fact that the workplace is no longer just a physical office space but a combination of physical, virtual, social and mental space that intertwine with the aim of creating a collaborative workplace.

- Solutions in the field of digital technologies

The author notes the importance of the existence of appropriate technologies and IT infrastructure designed and delivered by functional teams with the aim of repairing systems and improving organizational network infrastructure to every switch, router and firewall as well as appropriate software solutions from system to application. This part of the digital workplace includes the selection of cloud technology, big data analytics and similar segments of the application of digital technologies in the work and improvement of work

- Collaboration in the workplace

Here, the author states the need for platforms for knowledge sharing, especially in the segment of problem solving in dislocated locations, but also the choice of communication channels for company employees, which includes: collaboration platform, social networking tools, corporate intranet and public internet. Also, there is the unquestionable importance of virtualization and virtualization of work as well as enabling work on different devices and technologies of users.

Two categories of digital workplace design are identified: the one focused on people and the one focused on processes. Table 3 below is an illustration of the characteristics of each of these two focuses (Williams & Schubert, 2018):

Table 3 Digital workplace design - features and uses

Focus on People Information and Knowledge Management	Focus on Processes Business Process Support
Networked company platform	Multifunctional integrated platform
Solution: portal	Effective tool for business processes
Exchange of information and documents	Project support
Focus: Content and communication	Focus: Processes and coordination

Source: Williams and Schubert, 2018

The digital workplace is interpreted and designed in different ways by different organizations to meet different organizational requirements and expectations. These differences may depend on the business sector, the historical development of the company, but also on the nature of the implementation of a particular chosen solution. As such, the next step should include research into differences in definition and the factors that lead to differences in a deeper way in order to understand the digital-transformative character of the workplace (Williams & Schubert, 2018).

A modern workplace should provide employees with a continuous experience as if they were clients of the company, i.e., the employee feels at all times as a factor of success of the company and not as a mere executor of work. Leaders expect their digital workplace (Attaran et al., 2019) to:

- raise employee engagement,
- enable employees to achieve business results faster, and
- encourage employees to lower costs and increase work efficiency.

The digital workplace, among other things, enables employees to successfully perform their tasks through appropriate platforms, software and devices. Digital workplace is alternative model of working which improves employees' performance, agility, productivity, collaboration and engagement as well as work-life balance (Dery & Sebastian, 2017; Meske & Junglas, 2021; Haddud & McAllen, 2018).

Additionally, in the report (Deloitte, 2016), the digital workplace encompasses more than tools or a virtual office and presents a framework that includes the following four components:

1. Benefit and use: collaboration, communication and connection; Productive business connections within natural working groups that enable knowledge sharing throughout the organization;
2. Technology: a set of digital tools; The key is in embracing the right tools for employees to perform their assigned tasks efficiently;
3. Control: management, risk and compliance; The flow of information and its use must be harmonized with the organizational policies and legal regulations of a particular industry;

4. Business drivers: measurable business values; The direction of the organization should be a guide and direction for the digital workplace.

Digital workplace brings specific challenges and it can fragment work but it also enables employees to enjoy technological contribution to collaboration and cooperation among employees, sometimes distant and in different time zones (Brahma et al., 2020).

One of the basic positive effects of establishing a comprehensive digital workplace is minimizing the so-called “time wasters” (Attaran et al., 2019):

- ineffective meetings, because meetings cost money and any waste of time through ineffective meetings leads to economic costs;
- email management, because employees spend a lot of time reading, replying and sorting emails, so spending time on these tasks is also spending money on organization;
- searching for information and people as a cost to the organization and a significant waste of time;
- duplicating work as a redundant activity that involves performing the same task multiple times or repeating a process previously repeated in another task or activity.

Research also shows that flexible working hours and a digital workplace have a positive effect on workers' absence, including less absence due to health problems, less depression in workers, less sleep problems and lower levels of stress. The most significant advantage of creating a digital workplace is to improve worker productivity accompanied by worker satisfaction, improved worker experience and increased collaboration among workers, reduced operating costs, increased innovation, improved customer experience and ultimately increased revenue (Attaran et al., 2019).

3.2. Future research recommendations by researchers

Previous research suggests that the future focus of theory and practice of digital workplace transformation should be on the identification of the enabling and limiting effects of digital tools and to explore empirical evidence of the success of digital workplace implementation in a variety of organizations.

Meske and Junglas (2021) point out that future research should also focus on the micro level of digital transformation in order to identify the impact of digital transformation workplace and associated routine operations as well as negative effects at the micro level and their impact on worker satisfaction, such as the so-called negativity and technological stress.

In addition, it would be useful to investigate organizational and psychological factors due to extensive exposure to virtual workplaces that may directly or indirectly affect organization and digital transformation with special reference to the lack of face-to-face communication. Also, employee motivation as a factor in accepting the elements of digital workplace transformation requires additional research through case studies and empirical research (Koles & Nagy, 2014).

Some studies indicate the reasons for the lack of effective use of the digital workplace by employees, which may be further investigated in the future because the observed shortcomings are mostly related to the application part of the digital workplace (Attaran et al., 2019), namely:

- challenges and difficulties of applying to different applications;
- inability to access data and applications in and out of the office; and
- need for help in accessing data.

The four primary characteristics of the digital workplace – collaboration, compliance, mobility, stress reduction and minimization of the so-called “waste” in the organization – are research areas of Köffer (2015), who in his work on digital space design, explores the above characteristics and, through the categorization of practical impacts, develops fifteen related concepts as useful tools for digital workplace design by professionals in the future. However, as the author himself states, his study is limited to selected top works and the mentioned concepts and recommendations in workplace design should be expanded, either by consulting additional literature or by consulting specific domain experts from the digital transformation of certain specific activities.

Additionally, there is no uniform definition of the term digital workplace and not only a large number of companies but also researchers foster the misleading belief that simple tools like email and social networks can be considered as a digital workplace.

3.4. Limitations of the current research

Most of the current research in the domain of digital workplace transformation have identified limitation as a part their publications. Some of the authors focus exclusively on a limited number of companies or on a specific industry. Thus, one of the most specialized papers on the topic of digital workplace is focused on the success of digital workplace implementation in small service companies (e.g., Attaran et al., 2019) or they focus only on selected companies (Eckhardt et al., 2018).

Some authors, such as Köffer (2015), focus exclusively on selected top journals and use this as a basis for their proposals, which, regardless of quality, are based on a relatively small sample of consulted literature from exclusively leading journals and as such require additions or extensions. The largest available literature review, according to Attaran et al. (2019), cites forty-six sources of literature but mostly coming outside referent bibliographic databases (such are Web of Science or Scopus), including some web sources, reports and other sources. Additionally, the authors use limited and unreliable sources from various websites that are often the attitude of individuals and can hardly be considered valid scientific sources. In addition, reports and corporate sources have been used as literature, which can often have a hidden agenda or the promotion of certain products or tools that can be used to establish a digital workplace.

Research related to individuals and their relationship to digital transformation is often focused on a smaller group or even just one company, which is a significant limiting factor in drawing conclusions and research recommendations.

3.5. Future research recommendation

There is a well-justified need for further research of digital workplace transformation. This subject has an increased presence after COVID-19 pandemic and almost every sector, including the public, private, for profit or not for profit sectors have been affected with significant changes in the way of doing everyday work. Current research publications emphasize that it is not only a technological change that is present, such as use of specific tools but also there is organizational and management change that have an important role in the transformation process.

Future research should focus on specific sectors and industries that might be a business, industry or a specific sector such as public administration,

education or healthcare which are all strongly affected by latest changes. Additionally, it would be useful to develop a separate, unique framework for digital workplace implementation for each of the industries in order to explain the transformation process from its own specific viewpoint.

Conclusion and working definition of the digital workplace

Workplace is transforming from so-called traditional to digital, not waiting for individuals and organizations to be completely ready. Therefore, the need for focused research in this field is important not just from a scientific point of view but also based on business needs for adjustment to the new normal. In order to achieve successful digital workplace transformation, an organization should have adequate transformation strategy as well as precisely identified expected outcomes and benefits for the organization. It should be also accompanying regulation of the following processes and procedures in order to achieve the goals.

Digital workplace transformation is a multi-step process of transition from traditional workplace, usually considered as a physically limited space and set of correlated tasks, to digital workplace, which is more flexible regarding place and time of work, and supported through adequate strategic and technological background.

Therefore, we can define digital workplace as digital technology-supported working system consisted of, not only the physical space, employees and tasks, but also set of strategically accepted procedures and rules in order to maximize productivity and improve collaboration, communication and knowledge management.

However, each industry or a specific profession requires its own adjustment of the definition and separate focused framework development in order to maximize benefits of the digital workplace transformation. **SM**

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Strategic decision making and influence of economic freedoms on foreign direct investment (FDI) in Bosnia and Herzegovina

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Abstract

Decision making on foreign direct investment (FDI) is a strategic decision for the country, the company, but also the individual, which is strategic. Where to invest, how and when, certainly depends on economic conditions and economic freedoms. Foreign direct investments represent a value of 357 million euros in 2019, representing a significant factor in the overall development of Bosnia and Herzegovina (BiH). Expectations of an increase in the level of foreign investment are also based on the level of economic freedoms. The research results show a significant impact and positive correlation of economic freedoms on strategic decisions on foreign direct investment in Bosnia and Herzegovina. The role and importance of the impact of economic freedoms on strategic decisions on foreign direct investment became especially important in the conditions of the COVID 19 coronavirus pandemic, when strategic decisions were coupled with even greater risks and sensitivity. The COVID-19 pandemic affected foreign direct investment in the world and expectations regarding the trend of foreign direct investment in BiH. According to preliminary data from the Central Bank of BiH for the first half of 2020, FDI is lower by 46.7% compared to the same period in 2019. Foreign direct investment in less developed countries such as BiH will be under additional pressure in 2020/2021, due to the impact of the COVID 19 pandemic. The decline in global foreign direct investment in 2020 and 2021 is estimated at 30-40% as a result of the pandemic. The results of the research cover the period from 1998 to 2020, and show the existence of a positive correlation between these variables. The analysis used an econometric model of multiple correlation analysis Pearson Correlation.

Keywords

strategic decision making, foreign direct investment (FDI), economic freedoms, Bosnia and Herzegovina development

Introduction

The globalization of the world economy has resulted in the growing importance of foreign direct investment, given the fact that modern economic development is based not only on domestic investment, but also on the mobilization

of various sources of foreign capital. Several parameters have influenced not only new threats, but also opportunities for organizations, under the influence of parameters such as technological disruptions, fluctuating economies and/or demographic changes.

Changes in the global economic environment such as liberal economy, international competition, access to information and homogenization of culture are significant factors that have brought companies into a competitive position. Countries in transition are particularly interesting in this process, for which these types of mobilization of foreign capital are of great importance for their further accelerated development. Countries in transition still consider foreign direct investment a key instrument in the process of transforming their own economies. Due to the above, transition economies have become increasingly open to international operations, implementing the liberalization of economic relations with foreign countries in order to achieve greater competitiveness and attractiveness to attract foreign investors. Foreign investment refers to investment, where investors outside the country retain ownership rights and participate in management and control. FDI is often the most important form of foreign capital inflow from abroad into a country's economy in many countries. This is especially important for small and underdeveloped countries. FDI provides great mobility of capital, because today capital knows no boundaries (Zhang & Chen, 2020). It certainly contributes to increasing economic activity, monitoring processes, adjusting and harmonizing business conditions, market positioning and great development potential, as well as better efficiency.

The effects of FDI are very complex when looking at the relationship between FDI and economic development. If viewed in this way (FDI), macroeconomic indicators generate better employment rates, better productivity, higher market competitiveness, technological progress and a generally better basis for the growth and development of a country's economy (Cicea & Marinescu, 2020). They are especially important for underdeveloped countries, providing greater exports and access to international markets. FDI's generate productivity spillovers for the host economy. This is a consequence of the superior technologies possessed by multinational companies, with imported skills enhancing the marginal productivity of fixed capital in host countries, thus promoting economic growth and development. Foreign direct investments in 2019 amount to 699 million KM and are 26.6% lower compared to 2018. According to preliminary data from the Central Bank of BiH for the first half of 2020, FDI is lower by 46.7% compared to the same

period in 2019 (Central Bank of Bosnia and Herzegovina, 2020).

Foreign direct investment in less developed countries such as BiH will be under additional pressure in 2020/2021, due to the impact of the COVID 19 pandemic. The decline in global foreign direct investment in 2020 is estimated at 30-40% as a result of the pandemic. According to the index of economic freedoms for 2019, published by the prestigious American "The Heritage Foundation", Bosnia and Herzegovina ranks 83rd in the world out of 180 ranked countries (The Heritage Foundation, 2019).

Viewed from the angle of economic freedoms, Bosnia and Herzegovina records a value of 62.9, which positions it in 82nd place on the world list for 2021. Viewed from the angle of key parameters, its value increased by 0.3 points, thanks primarily to the improvement of the tax burden assessment. If we look at the European region, Bosnia and Herzegovina ranks 40th out of 45 countries. Observed in the region, BiH is below average, as shown by FDI inflows, compared to the region. As the BiH economy has been hit by the crisis caused by the coronavirus pandemic, it is predicted that the economy will suffer a significant decline, which is already being felt (around 6.5%, compared to the previous year). Already, FDI in BiH has been significantly reduced (The Heritage Foundation, 2021).

Stiglitz (1990) believes that companies in crisis are usually to blame for that (Stiglitz, 1990). There are many causes. The biggest untruth is that market mechanisms will lead to the solution of the problem on their own. Based on the above, a strategic approach to foreign direct investment in Bosnia and Herzegovina is necessary. The research hypothesis of the work is, H0: There is an impact of economic freedoms on foreign direct investment, which affects Bosnia and Herzegovina economic development, measured by gross domestic product. Economic globalization has meant that we have become more integrated, more interdependent, and that means that there is a greater need for collective action.

The methodological concept of the research includes an econometric model, which is based on the research period from 1998 to 2020. The model is based on multiple correlation analysis – Pearson Correlation. No modern economy can be isolated from the need to export and import capital, regardless of whether, overall, there is a net surplus or net capital deficit, so that the movement of capital between countries is two-way; within one

case certain countries appear as donors and other times as users of capital.

1. Review of the literature and previous research

The fact is that domestic accumulation is not enough for stronger modernization of production and restructuring of certain economic branches, which would enable faster economic development and creation of internationally competitive domestic products. In such a situation, most transition countries consider foreign direct investment to be a key instrument in the process of transforming their own economies. Many factors help explain why FDI growth was particularly pronounced in transition countries. Intense competitive pressures in many industries have led companies to explore new ways to improve their competitiveness.

Kim (2010) considers that foreign direct investment is usually categorized as horizontal, vertical, and conglomerates (Kim, 2010). Horizontal direct investment implies a situation where an investor establishes the same type of business abroad because he operates in his own country. A vertical investment is one in which different but related business activities are established or purchased abroad from the main business of the investor. Bosnia and Herzegovina (BiH) has placed its FDI policies in the context of market liberalization, foreign trade and capital movements, combined with the privatization of state capital in the economy as the most potent channel for attracting FDI. According to data of IBM Institute for Business Value (2019) published in the "Global Location Trends: 2019 Annual Report", BiH is ranked sixth in the world in terms of the number of jobs created under DSU projects per million inhabitants, and BiH is (IBM Institute for Business Value, 2019) third in terms of export-oriented investments. Unfortunately, the COVID-19 pandemic will affect foreign direct investment in the world and expectations regarding the trend of foreign direct investment in BiH. Although preliminary data for 2019 indicated the continuation of FDI growth and reaching a record value for the past ten years, the final data showed a decrease compared to 2018. In addition to the publication of data for 2019, the data for the previous two years were also revised. Foreign direct investments in 2018 are the largest annual inflow realized in the previous ten-year period.

Thanks to a long tradition, good development of the sector and natural resources, the most

significant FDIs are invested in the manufacturing sector, about 35%. The banking sector also has a significant share in the total inflow of foreign direct investment (25%). In order to achieve FDI, strategic decisions of investors are necessary, as well as entities in BiH that need to create an environment for FDI. Strategic decisions imply long-term decisions related to the choice of where to invest and under what conditions (Falchetti, Cattani, & Ferriani, 2021). Foreign investments are one of the most important parameters of the development of the modern economy and represent a platform for trade, organization of production and supply of goods and services. Therefore, decisions from this category are certainly from the category of strategic. Strategic decisions are unique and non-routine by their nature; they concern general goals, they are related to the most important issues and the broader picture of the entire company, they are related to strategies and they are very often unrepeatable and inevitable. FDI is an important factor in development, especially for developing countries (Osei & Kim, 2020). Also, the situation is similar with transition countries. They are characterized by the aspiration for integration into the world economic system.

We can also say that economic freedoms imply that individuals make their own decisions, not under the influence of political processes, pressures of various kinds, or fraud (Gwartney, Hall, & Lawson, 2017). There are several research studies on the impact of FDI on economic performance. Sovbetov and Moussa (2017) performed a systematization of studies (Sovbetov & Moussa, 2017). Quazi (2007) made a significant contribution to this area, which indicates the importance of market potential and how open the country is to trade (Quazi, 2007). If we look at the structure of the index of economic freedoms, most of the literature deals with the study of the impact of the index of economic freedoms on FDI. From this point of view, the transparency of economic policies is a strategic issue for investors, especially for those committed to FDI. The positive correlation between economic freedoms, foreign direct investments and development is a consequence of market trends, resource allocation, better productivity, better production and business portfolio and profitability of investments. Given that FDI involves significant contingencies (especially the greenfield area), it is important to point out that investments depend on economic freedoms, legal certainty, economic stability and risk. Drabek and Payne (2001) pointed out that if

there are specific economic policies related to foreign trade policy, these may be the key pillars of the platform for attracting FDI (Drabek & Payne, 2001). The impact of globalization is also important here. According to Stiglitz (2008), economic globalization has meant that we have become more integrated, more interdependent, and that means that there is a greater need for collective action (Stiglitz, 2008). So far, several studies have been conducted on the relationship between economic freedom, economic development indicators, and FDI.

Based on their research, Pearson, Nyonna and Kim (2012) came to results that show a positive correlation between the parameters of economic freedoms and their impact on foreign direct investment in the United States (Pearson, Nyonna, & Kim, 2012). According to Fofana (2014) results show the existence of the impact of economic freedoms on the movement of investments in the country, on a research sample of 25 Western European and 26 sub-Saharan countries (Fofana, 2014). The basis of this analysis was related to the parameters of economic freedoms, such as economies of scale, population, legal legislation and legal order, and others. The results of empirical research have shown that the aggregate index of economic freedom has no significant effect on FDI in Africa. One of the restrictions within his empirical study was insufficient observation number.

It is essential to mention the issue of responsibility for making a strategic decision. Without the implementation and realization of strategic decisions, they remain just "words on paper". The responsibility for the implementation of strategic decisions lies, no more and no less, than at all levels of management. In some theoretical and even practical approaches, only top managers at the top of the organization are considered to be responsible. According to the broader understanding, their main responsibility is related to social responsibility (respect for social responsibility and other related issues) and the general strategy related to achieving the goals of the entire organization. According to Nordhaus (1969), growth can be provided on the basis of knowledge that is growing exogenously (Nordhaus, 1969). Nordhaus (2018) stated that the economic growth rate of 3%, compared to the previous year, is a continuation of the economic recovery trend (Nordhaus, 2018). Hayrdaroglu (2016) analysed the BRICS countries in the period 1995-2013, and came up with new scientific truths

that indicate that economic freedoms are positively linked to economic growth, and FDI is positively linked to economic growth (Hayrdaroglu, 2016). This research results show a negative correlation between government size and economic growth.

Kurečić and Kokotović (2017) investigated the connection between political stability and foreign direct investments in small economies and the results show the existence of a positive correlation (Kurečić & Kokotović, 2017). Also in this study, a part of the analysis related to large and developed countries was missing. Gregory, Romer and Weil (1992) state that a significant contribution to economic growth was recorded in the retail and manufacturing industries, which had an impact on the increase in employment compared to the previous year (Gregory, Romer, & Weil, 1992). Trade relations research has been the focus of many researchers, and the most significant ones are below. The results of Johnson's research (1953) show the interdependence and modelling of tariffs between the two countries (Johnson, 1953; see also Riezman, 1982; Kennan & Riezman, 1988; Grossman & Helpman, 1994). Mayer (1981) and Riezman (1982) explored the relationship of trade agreements based on negotiations between the two countries, which generates conditions for foreign direct investment (Mayer, 1981; Riezman, 1982). Positive effects from FDI inflows are also related to the "increase in labour productivity through technological transfers, management and marketing proficiency that enables long-term technological progress and economic growth" (Boghean & State, 2015). On institutional quality, Estrin (2017) in her research came to results that show the positive impact of FDI on the labour market (Estrin, 2017). In their research endeavours, Zongzheng and Mao (2019) assess the importance of tax incentives for investments (Zongzheng & Mao, 2019).

Macroeconomic variables have a significant impact on the attraction of foreign investment in highly developed countries then in developing countries (Walsh & Yu, 2010, p. 24). Economic freedom implies the existence of a market economy based on free competition, protection of human rights and their property, as well as voluntary exchange (Caetano & Caleiro, 2009). Ferreira, Carreira, Li and Serra (2016) investigated the relationship of economic freedoms, through factors of corruption to foreign direct investment in a market economy (Ferreira, Carreira, Li, & Serra, 2016).

The experiences of a large number of countries have shown that foreign direct investment is a more favourable channel for the inflow of necessary foreign accumulation compared to taking classic loans on the international financial market. Viewed from the macro aspect, the advantages of foreign direct investments are reflected in the following: the country's trade and balance of payments improve, the domestic economy fits faster and more efficiently on the world market, the domestic market supply improves and the number of new jobs increases. At the micro level, domestic companies have the following benefits: they get to modern technology faster and cheaper, they introduce more modern work organization, they acquire more modern knowledge in the field of market processing, etc.

The importance of foreign direct investment in developing countries is growing significantly, and in this regard, the creation and modelling of a strategic approach is becoming a research focus. In this regard, the number of research studies investigating the role and importance of FDI, as a strategic resource for the development of small and underdeveloped countries, increasing productivity, technological progress and a better business environment is growing (Sekkat & Veganzones-Varoudakis, 2007). Issues of economic freedom are increasingly occupied by the research space, given its effects on the level of trust of agents, as well as the level of strategic decisions on FDI (Voyer & Beamish, 2004).

2. Research methodology and sampling

According to the United Nations Conference on Trade and Development (2020), investors are guided by two strategies, the amount of foreign direct investment decreases in developed countries and shifts to developing countries, which contributes to their growth (United Nations Conference on Trade and Development, 2020). The next strategy that investors apply refers to the trend, to indirectly reach cheaper resources and cheaper labour through quality FDI. In underdeveloped countries, the development of production capacities certainly contributes to the development of the economies of those countries. Some studies show the existence of subjectivity parameters, which includes fuzzy logic clustering (Caetano & Caleiro, 2009). The period of the research scope covers the period 1998-2020 years. The Heritage Economic Freedom Index platform is created by The Heritage Foundation and The Wall

Street Journal, and its platform is built by 10 pillars, business freedoms, trade freedoms, fiscal parameters, public spending, monetary factors, investments, funding sources, legal issues, corruption and human resources, and the parameters range from 0-100. Each of the previously listed parameters influences strategic decisions on foreign direct investment. It is necessary to perform modelling and strategic positioning, where the starting point of the model platform is the expression ($Y = a + bX$ or $Y = b_0 + b_1X$), which is the basis of linear programming and modelling. If we have more variables and parameters that are stochastic or deterministic in nature, it is possible to create more complex models of the second, third or fourth degree, such as ($Y = a + bX + cX^2$) (Draper & Smith, 1998). Then, in modelling a multiple regression model, Y is a normally distributed variable (Draper & Smith, 1998):

$$Y = \beta_0 + \beta_1 X_1 + \dots + \beta_p X_p + \sigma(Y), \quad \text{sd}(Y) = \sigma \text{ (independent of X's)}$$

Y - dependent variable (indicator of mathematical relation and relations of independent and dependent variables (economic development of Bosnia and Herzegovina, measured by GDP)). The variables of the multiple linear regression model in the above form, express the average regular, quantitative relationship between the dependent variable Y and ρ of the independent variables, $\beta_0 + \beta_1 + \dots + \beta_p$. These variables, in essence, represent estimates of the parameters of the regression model.

The variables of the model $\beta_0 + \beta_1 + \dots + \beta_p$ and σ are the result of in-depth analysis and research of available data.

β_0 = variable of the zero model, and shows the level of relative importance

β_1, β_p = regression coefficients, show the relative assessments of the development of the economy of Bosnia and Herzegovina for the unit change of variables of economic freedoms and foreign direct investment

$\sigma = \sigma_{\text{res}}$ = residual standard deviation

β_1 - model platform parameter, which implies the mean increase of Y based on the unit increase of parameter X_i , while the other parameters remain fixed. This means that it is equal to the mean increase in Y per unit of increase of X_i , while the other X_i are kept fixed. β_i correction factor is factor X_i for other parameters X . The solution is reduced to the least squares model. According to Draper &

Smith (1998) the partial correlation coefficient is given in the following form (Draper & Smith, 1998):

$$R_{Y/X_1X_2}^2 = \frac{r_{x_1y}^2 + r_{x_2y}^2 - 2r_{x_1y}r_{x_2y}r_{x_1x_2}}{1 - r_{x_1x_2}^2}$$

$$r_{yx_1x_2} = \frac{r_{yx_1} - r_{yx_2} \cdot r_{x_1x_2}}{\sqrt{1 - r_{yx_2}^2} \sqrt{1 - r_{x_1x_2}^2}}$$

The model of econometric analysis is given below.

Table 1 Economic Index of Freedoms of Bosnia and Herzegovina (1998-2020)

Index	Overall Score	Property Rights	Government Integrity	Judicial Effectiveness	Tax Burden	Government Spending	Fiscal Health	Business Freedom	Labour Freedom	Monetary Freedom	Trade Freedom	Investment Freedom	Financial Freedom
Year													
1998	29.40	10.0	10.0	N/A	78.8	16.7	N/A	40.0	N/A	0.0	69.4	30.0	10.0
1999	29.40	10.0	10.0	N/A	78.8	16.70	N/A	40.0	N/A	0.0	69.4	30.0	10.0
2000	45.10	10.0	10.0	N/A	82.0	52.0	N/A	40.0	N/A	83.3	69.0	30.0	30.0
2001	36.60	10.0	10.0	N/A	67.0	0.0	N/A	40.0	N/A	75.2	67.6	30.0	30.0
2002	37.40	10.0	10.0	N/A	66.8	0.0	N/A	40.0	N/A	77.2	72.6	30.0	30.0
2003	40.60	10.0	10.0	N/A	66.1	3.2	N/A	40.0	N/A	77.9	78.2	30.0	50.0
2004	44.70	10.0	10.0	N/A	70.1	18.3	N/A	40.0	N/A	82.4	71.8	30.0	70.0
2005	48.80	10.0	33.0	N/A	70.1	23.8	N/A	40.0	54.8	84.5	71.8	30.0	70.0
2006	55.60	10.0	31.0	N/A	75.1	47.8	N/A	55.7	54.9	86.1	75.2	50.0	70.0
2007	54.40	10.0	29.0	N/A	74.9	47.8	N/A	55.4	53.8	82.5	80.2	50.0	60.0
2008	53.90	10.0	29.0	N/A	73.7	48.3	N/A	57.2	54.2	76.6	79.8	50.0	60.0
2009	53.10	10.0	33.0	N/A	71.8	37.6	N/A	59.9	52.1	79.0	77.2	50.0	60.0
2010	56.20	10.0	32.0	N/A	83.2	28.8	N/A	61.3	61.2	74.7	80.8	70.0	60.0
2011	57.50	20.0	30.0	N/A	83.9	24.1	N/A	60.4	60.2	80.6	86.0	70.0	60.0
2012	57.30	20.0	32.0	N/A	84.3	24.4	N/A	55.2	60.4	80.7	86.0	70.0	60.0
2013	57.30	20.0	32.0	N/A	83.2	26.9	N/A	54.3	61.2	79.0	86.4	70.0	60.0
2014	58.40	20.0	33.9	N/A	82.9	27.4	N/A	55.5	62.4	80.1	86.9	75.0	60.0
2015	59.00	20.0	42.0	N/A	82.9	27.3	N/A	53.5	63.4	84.0	87.2	70.0	60.0
2016	58.60	20.0	39.0	N/A	83.9	33.1	N/A	54.6	59.4	84.3	87.0	65.0	60.0
2017	60.20	41.2	32.7	40.0	83.5	33.7	89.3	47.4	59.3	84.0	86.6	65.0	60.0
2018	61.40	39.5	28.4	43.7	83.5	41.5	94.4	49.3	59.6	83.5	87.8	65.0	60.0
2019	61.90	40.2	30.2	37.9	84.3	46.1	96.6	49.7	67.0	83.1	82.6	65.0	60.0
2020	62.60	44.4	41.8	33.9	83.6	49.3	97.3	45.7	67.4	82.7	80.0	65.0	60.0

Source: the Heritage Foundation, 2021

Based on the previous data, the movement of the index of economic freedoms and variables that build a given platform is visible. Also, the movement of the index of economic freedoms from 1998 is visible, from when the index of economic freedoms is calculated until 2019 and 2020 (the years affected by the corona virus COVID 19). The analysis is given below.

Table 2 Movement of foreign direct investment (FDI) and gross domestic product (GDP) of Bosnia and Herzegovina in the period 1998 - 2020

Years	GDP (million \$)	FDI (million \$)
1998	4,116,699,437.40	66,736,468.36
1999	4,685,733,115.47	176,780,594.76
2000	5,505,887,894.49	146,075,610.88
2001	5,748,993,411.42	118,495,219.81
2002	6,651,106,833.49	267,769,568.96
2003	8,369,878,822.85	381,784,637.39
2004	10,596,205,714.29	889,597,294.55
2005	11,222,953,519.43	623,812,851.56
2006	12,864,610,993.52	845,962,876.36
2007	15,778,767,669.70	1,841,972,230.25
2008	19,112,739,664.47	1,004,852,659.85
2009	17,613,836,209.96	138,511,019.73
2010	17,176,781,336.76	443,840,207.09
2011	18,644,723,860.97	471,610,992.22
2012	17,226,849,297.07	391,976,946.38
2013	18,178,503,835.45	313,295,008.33
2014	18,558,343,508.34	544,866,345.46
2015	16,211,541,820.24	383,089,615.73
2016	16,913,330,693.97	313,198,153.36
2017	18,080,118,128.39	509,429,047.92
2018	20,183,510,561.26	594,804,957.64
2019	20,164,193,806.88	390,210,690.89
2020	19,389,000,000.00	273,147,483.63

Source: the World Bank, 2021

The data in the table above show a trend of GDP growth in the observed period. The inflow of funds through FDI is not only an inflow of capital, but a basis for increasing trade flows, economic growth and development and job creation. The movement of FDI is influenced by several macroeconomic, socio-political, corporate and technological factors. A study conducted by UNCTAD in the early 2017 and involving CEOs of the world's leading companies listed as the most significant factors influencing FDI flows: the economic situation of Asian developing countries, the state of the US economy, the economic situation in the European Union, oil prices, changes in tax regimes, exchange rate volatility and rising interest rates. Most respondents saw technological change and the digital economy as positive factors driving cross-border investment, despite the risk of cyber-attacks and data security.

3. Findings

The following research results were obtained based on the input parameters (Table 3).

Based on previous econometric research and analysis, we can conclude that there is a significant correlation between economic freedoms and GDP in Bosnia and Herzegovina (0.940527792). This trend is mostly dependent on Trade Freedom, Tax Burden and Monetary Freedom, thus partially confirming our research hypothesis of Ho's work. The second part of the analysis shows that there is a correlation between economic freedoms and FDI in Bosnia and Herzegovina, but it is not significant (0.291401437 and 0.071961395). This is a consequence of many other parameters that determine FDI in Bosnia and Herzegovina, such as country risk and others. Graphical representations of models and research are also given below. The research model with the results is given below (Figure 1).

Model - Strategic decision making and influence of economic freedoms on foreign direct investment (FDI) in Bosnia and Herzegovina, becomes an important factor in strategic decision making.

Table 3 Results of the econometric model research

	Index Score	FDI (million \$)	GDP (million \$)
Observations	23	23	23
Mean	51.2783	483,992,194.8306	14,043,230,875.4701
Stdevp	10.0608	377,169,704.4837	5,472,830,656.8289
Variance	101.2200	142,256,985,980,327,000.0000	29,951,875,398,326,300,000.0000
Coefficient of variation	0.1962	0.7793	0.3897
Median	55.6000	390,210,690.8934	16,913,330,693.9653
Max	62.6000	1,841,972,230.2525	20,183,510,561.2553
Min	29.4000	66,736,468.3604	4,116,699,437.4041
Coefficient of determination-one	0.084914798		
Coefficient of determination-two		0.884592528	
Coefficient of determination-three			0.088480479
Pearson Correlation-one	0.291401437		
Pearson Correlation-two		0.940527792	
Pearson Correlation-three			0.297456685
Correlation	0.071961395	0.071961395	0.071961395
(1-α)	0.95	0.95	0.95
α	0.05	0.05	0.05

Source: the authors' own research

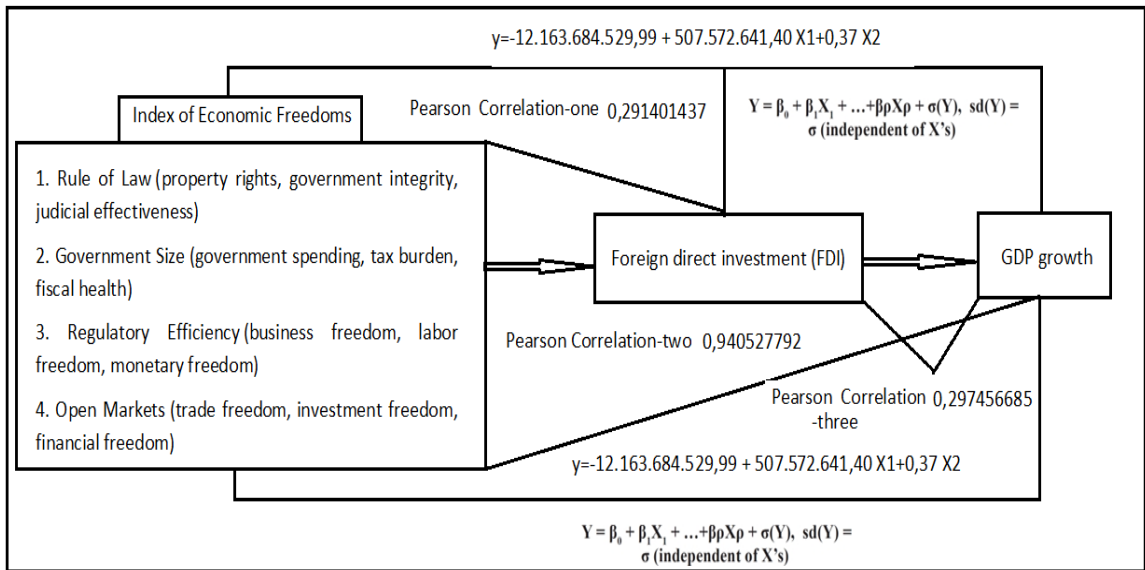


Figure 1 Model - Strategic decision making and influence of economic freedoms on foreign direct investment (FDI) in Bosnia and Herzegovina
Source: the authors' own research

4. Discussion

Based on the modelling of the platform and the conducted research and analysis, we came to the knowledge about the existence of a significant impact of economic freedoms on GDP growth in

Bosnia and Herzegovina. Also, the results of the research show that foreign direct investments depend on other factors and that economic freedoms are not the dominant factor in strategic decision-making, on investing in the BiH economy.

According to this analysis, foreign direct investments also depend on other parameters, such as country risk, trust, experiences of other countries, influences of informal groups and others. The results of the research are comprehensive, from the beginning of the calculation of economic freedoms for Bosnia and Herzegovina until today. The lack of a significant correlation between economic freedoms and foreign direct investment was especially pronounced during the coronavirus pandemic, when investors withdrew, regardless of the parameters of economic freedoms. This is proof of the vulnerability of Bosnia and Herzegovina's economy. For example, if we look at a similar comparison with the Chinese economy, where there is a significant correlation between economic freedoms on FDI and GDP growth, their economy withstood the crisis more easily, and also recovered very quickly. In general, only a strategic approach and way of thinking can balance and establish the above correlation to the higher level, which will affect the growth of the economy of Bosnia and Herzegovina.

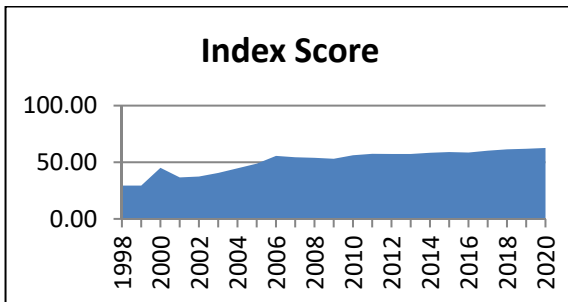


Figure 2 Movement and impact of economic freedoms in Bosnia and Herzegovina (1998-2020)
Source: the authors' own research

Observed historically from the period when economic freedoms in BiH began to be counted, we can say that there is a constant progress, which can be seen in the previous chart. If we look at the analysis and research, we can see that although the historical trend shows a small impact on FDI, the ratio, which represents this indicator, is improving. If we look at 1998 and 1999, we can see that today, in 2021, the value of economic freedoms is twice as high. This should certainly give confidence to foreign direct investors. If we look at the trend of the last five years, we can see that there has been an increase in this parameter by 1,232 points. The current assessment is at the level of moderate economic freedom. In order to increase the parameter of economic freedoms, it is necessary to

increase the values of parameters such as property rights, judicial efficiency and the integrity of the government. For further improvements of this parameter, a high level of economic, social and political integration and harmonization at all levels is necessary. This will certainly be important in the future, in the conditions of the coronavirus and the COVID 19 pandemic (The Heritage Foundation, 2021).

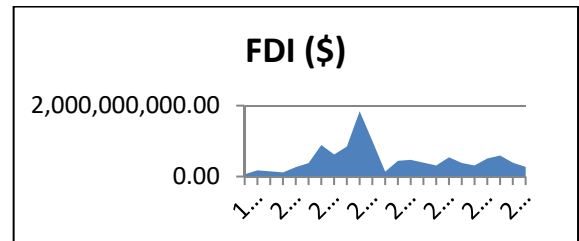


Figure 3 Movement and impact of foreign direct investment (FDI) in Bosnia and Herzegovina (1998-2020)
Source: the authors' own research

Indicators of the business environment and competitive position point to the conclusion that there is a strong need to implement structural reforms that would ensure an increase in the growth rate of BiH economy. The seriousness of this problem was also recognized by BiH. Authorities that have shown commitment through the Reform Agenda and have begun to take action to improve the business environment. Thus, they established the Agency for the Promotion of Foreign Investments (FIPA), in addition to FIPA, there is also the Foreign Trade Chamber of BiH, which operate jointly with the relevant ministries and agencies. Although Bosnia and Herzegovina has strategies for attracting FDI, they are still not adequately organized. The COVID-19 pandemic presents a major challenge for strategic decision-making on FDI, especially in small underdeveloped countries. This was reflected through a reduction in the supply of raw materials, middle entrances and final goods. If we look at the experiences of the developed, we can see that the governments of many countries are applying measures to eliminate bottlenecks in the supply chain, such as China, the developed countries of Europe and the United States. The consequences of COVID-19 have affected many countries, and have particularly affected developing countries and small open economies that are highly vulnerable to market and trade fluctuations, such as Bosnia and Herzegovina.

4.1. Theoretical and practical implications

The paper investigates the impact of the strategic concept with two independent variables (economic freedoms and foreign direct investments) on the economic development of Bosnia and Herzegovina. Theoretical implications relate to the strategic decision-making model and the impact of research variables on economic development. All the most important, scientifically proven and empirically confirmed benefits from the application of the concept of strategic decision-making are systematized, as well as the most important parameters of its improvement. The cause-and-effect relationship between independent and dependent research variables is explained. The model includes 12 research subvariants that build an index of economic freedoms, which can be individually modelled and measure their impact on foreign direct investment and strategic decision-making, as well as the development of Bosnia and Herzegovina measured on the basis of GDP. Also, the influence of all individual parameters of the index of economic freedoms is incorporated into the basic model, which is a research contribution. The practical contribution is reflected in the results of the application of the model to Bosnia and Herzegovina. The results of the practical research confirmed the research hypothesis of the paper. The practical implementation is also reflected in pointing out the importance of applying the model, especially from the point of view of Bosnia and Herzegovina, which should work on improving economic freedoms.

The outbreak of the COVID-19 pandemic has caused a number of negative economic consequences that threaten the decline in gross domestic product (GDP), employment, public revenues, investment and exports. On a global scale, the pandemic has caused two effects - a fall in the value of stock indices and a fall in oil prices, which in this accident could alleviate the balance of BiH's difficulties.

At the centre of events are multinational corporations - companies whose top management makes strategic investment decisions on FDI in other companies and countries. Many of them have made decisions to relocate and relocate their production to other countries and other markets, which has significantly influenced the recomposition of the global value chain in the world in the last three decades. Some of the most important sectors are certainly the automotive industry, IT sector, electrical equipment, petroleum

products and energy, chemical and pharmaceutical industry, etc.

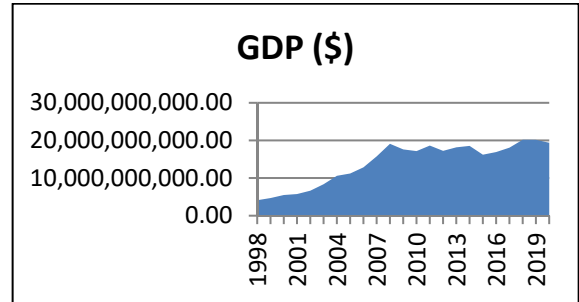


Figure 4 Movement and impact of gross domestic product (GDP) in Bosnia and Herzegovina (1998-2020)
Source: the authors' own research

If we look historically, there is a trend of GDP growth. In 2020, there is a decline caused by COVID 19 conditions. Different tax policies have led to different tax rates, which range around 10%. The total tax is around 20.4% percent of total domestic income. If we look at macroeconomic indicators, we see that public spending was at around 41% of GDP, and a budget surplus of 2% of GDP was created.

4.2. Limitations of the study

Analysing the sampling flow, the existence of difficulties in conducting the research is visible. Further impact analysis is limited to obtaining additional data. One of the limiting factors of research is certainly the cost of research, where much larger financial resources are needed to conduct implicit research. Also, the availability of data for a wider time frame of the research. The Index of Economic Freedoms has been calculated for Bosnia and Herzegovina only since 1998.

4.3. Direction for future research

The directions of further research activities will largely depend on the nature and severity of the problems that companies face in their business. The emergence of the global COVID 19 crisis, caused by the coronavirus, will greatly affect major changes, especially in the field of foreign direct investment in Bosnia and Herzegovina and strategic decisions, as well as the level of economic freedoms. One of the directions of further research would refer to the sectoral analysis and areas in which the impact of economic freedoms is more important on foreign direct investment, and thus the development of Bosnia and Herzegovina. Also, the direction of further research could certainly go

in the direction of exploring the impact of intuition of business decision makers on economic development, based on economic freedoms and foreign direct investment.

Conclusion

Attracting foreign investors is a priority for a large number of countries, especially those in development. "Most countries in transition have established Investment Promotion Agencies (IPAs) in the 1990s and have adopted strategies to attract them. These strategies included the opening of state ownership to foreign investment, especially in infrastructure and services (Slovenia), the provision of tax and state incentives and financial support to investors in certain regions or industries (Hungary and the Czech Republic), income tax relief and customs relief on high-tech imports (Slovakia). Tax incentives are very important for FDI, because foreign investors opt for the country that has lower taxes. In order to attract foreign investment, attraction policies (strategies) are needed that include programs to improve workforce skills and take advantage of increased competition. Various activities are being undertaken to attract foreign capital (Busenbark, Semadeni, Arrfelt, & Withers, 2021).

Some of them are changes in national laws, financial measures aimed at reducing taxes and providing various financial incentives. Investors care about the social and political environment, ease of doing business, quality and reliability of infrastructure and utilities, and the possibility of employing professional and educational workers. The strategy for attracting FDI includes improving the investment environment, legislative and institutional framework, removing administrative barriers to investment, strengthening the investment potential of the SME sector by joining global value chains, adapting education and the labour market to the needs of investors, creating a supportive environment for investment in research, development, innovation and KET technologies, strengthening investment potential in the tourism sector, development of regional infrastructure, promotion of BiH as a desirable investment destination and development of the country's investment profile by sectors, implementation of communication strategy to encourage investment, development of a plan to attract greenfield investments in export-oriented sectors, in emerging industries and high-tech sectors, and attracting greenfield investments, developing a plan for the implementation of brownfield investments by

placing in the state asset function, investor support in all phases of investment project implementation, financial frameworks for strategies and action plan for strategies.

Looking at 2020 and the constraints on supply and demand, and in general the intention to reduce FDI in BiH, it is expected that in 2021, under the influence of COVID-19, FDI will be reduced by 30% -40%. This will have a negative impact on the leading sectors in BiH. In certain areas, revenue is expected to fall above 100%. The reason for this is the fact that reinvested earnings from previous FDI will also be absent. How the economy will develop further in the COVID-19 era depends on estimates of the course of the pandemic. The world-famous consulting firm McKinsey developed two scenarios of the global flow of the economy during the COVID-19 era. The first is a belated recovery scenario in which Europe and the US experience a peak in late April and a decline in June 2020. China and Asian countries are recording recovery and virus control in the late first quarter or early second quarter. In economic terms, this scenario predicts a decline in consumption, investment, unemployment and a large number of bankruptcies with consequences for the financial system. The recession disappears in the fourth quarter of 2020, which was partially realized. The second scenario is a prolonged contraction scenario in which Europe and the US control the virus in the early 2020s. However, it is confirmed that COVID-19 is not of a seasonal character; it lasts throughout the year. After a deep recession and numerous bankruptcies, the recovery occurs in the US and Europe in the 2nd quarter of 2021, and in China in the 1st quarter of 2021. Based on these two scenarios, it is clear that the BiH economy is entering a recession as a result of exclusively external factors, i.e. it will hit both efficient and productive and well-positioned export and domestic companies. The recession will have its own sectoral and socio-cluster characteristics. The research hypothesis of the work is, H0: There is an impact of economic freedoms on foreign direct investment, which affects Bosnia and Herzegovina economic development, measured by gross domestic product, which is partially confirmed (0,071961395). From the point of view of economic freedoms, Bosnia and Herzegovina is still at a low level compared to the world's leading economies. This is often the reason for insufficient trust in the economy of Bosnia and Herzegovina and often a factor influencing foreign direct investment.

Strategic decisions are most important here. As we can see, the result of the strategic decision-making process is strategic decisions. In order for them to be valorised, it is necessary to take certain actions based on those decisions. The action dimension implies that strategic management arises from the concept of strategic planning. On the other hand, planning and thinking alone will not be expedient unless they are followed by concrete action to achieve the goals. Strategic decisions and strategic thinking will certainly be the basis for improvements, development of the BiH economy and attracting foreign direct investment (FDI) in the future. **SM**

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Knowledge management and digital business transformation

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Abstract

The fourth industrial revolution is in progress, and the center of this revolution is the digital transformation. Companies need to keep up with new business models and advances in digital technologies so that they can agilely adapt to changes in the market. Also, organizations should become aware of the growing importance of knowledge management, as well as the skills needed to make business decisions. Research related to knowledge management is becoming more complex, which indicates the multi-disciplinarity of this area and its close connection with digital technologies and digital transformation. The aim of this paper is to try to explain the importance of knowledge management in organizations and where it fits into the digital business transformation. For the purpose of this paper, a standard methodology of the systematic literature review was used. The paper provides an overview of the current scientific cognition of knowledge management and knowledge management systems and analyzes the relationship between knowledge management and digital transformation.

Keywords

Knowledge management, knowledge management systems, digital transformation, organizational culture.

Introduction

In order to gain or increase market share in the digital age, companies must act quickly when a new business opportunity arises. This means that companies need information technology (IT) solutions immediately. To achieve this, staff employed in companies must be qualified and able to use modern technologies, which can drive process automation. Business and IT functions need to find ways to improve knowledge exchange because knowledge management has strategic importance for maintaining a competitive position in the market.

According to Markić (2016), knowledge management is, in the scientific sense, the concept of organizing, extracting, distributing and using knowledge within the organization, while in the

applied sense it represents the business practice and applied technologies. The goal of knowledge management is to provide the necessary knowledge to make business decisions. This means that the necessary knowledge should be available to the right people at the right time and used to improve business efficiency, in order to establish innovations that enable development (Vukotić, Zakić & Ćurčić, 2017). Knowledge management implies a constant process of knowledge renewal in the organization and consists of several phases: knowledge collection, knowledge storage, knowledge distribution, and application of knowledge (Tešić, Marković, Plečić & Pantelić, 2013).

Knowledge management has also been identified as one of three pillars of digital transformation, in addition to infrastructure

management and API management (Mcinerney & Koenig, 2011). Other authors support a similar point of view which emphasizes the main points for the realization of digital transformation and those are digital strategy, effective integration strategy in business process, knowledge management, an adaptation of organizational culture, and integration of digital technologies in business (Schumann & Tittmann, 2015). From the digital transformation perspective, knowledge management can be helpful in identifying and selecting the content of digitization (what needs to be digitalized) and adequate digital technologies that will give the best results during digital transformation. Digitalization and its integration in processes is an ongoing opportunity to develop appropriate knowledge management strategies, especially in the initial phase of digital transformation when organizational culture is more changeable than in the late stages. An adapted perspective of knowledge and continuous learning, which is tightly bonded with the change of organizational culture in the company, can help in the realization of digital transformations, which can result in achieving a higher level of market competitiveness, successful realization of business goals, better product development, improved customer orientation, etc. (Schumann & Tittmann, 2015).

The efficiency of the knowledge management process hugely depends on the success of the application of modern information and communication technologies. Knowledge Management Systems (KMS) are excellent tools for sharing knowledge within an organization (Kaljević, 2016) and they are mostly grouped by the actions they perform, from searching the knowledge base to visualizing certain data (Mičić, 2016). KMS systems increase the ability of organizations to be more flexible and respond quickly to changing market conditions, as well as to be more innovative, productive, and make better business decisions (Alavi & Leidner, 1999). The quality of knowledge management systems depends on features such as ease of use, characteristics of user interface, flexibility, and efficiency of search engines (Alavi & Leidner, 2001). Although the concepts of knowledge management and KMS appeared at the end of last century, the emergence of modern digital technologies has opened up completely new possibilities when it comes to knowledge management.

But this is not only for knowledge management: it can be observed that modern business, in general, is characterized by an increasing reliance on digital technologies (Sofronijević, Milićević & Ilić, 2017), such as Cloud Computing, Big Data, Internet of Things, Mobile, Social Media, and others. All these technologies use digitalized data to enhance business activities in organizations, effectively enabling digital business transformation. Integrating digital technologies into all areas of business requires relatively large financial investments. Therefore, it is necessary that the process of integration of these technologies is monitored from the beginning to the end, in order to achieve a positive result of digital transformation. The goal of digital transformation is to review current business models, implement digital technologies, initiate a change in organizational culture, and enable a more flexible response to changes. If organizations do not continuously work on the improvement of their business processes, the digital transformation will not give the desired results. Briefly, the process of digital transformation involves constantly discovering new ways to meet the growing needs of customers, which is greatly facilitated by knowledge management.

All of the above unequivocally indicates the existence of a deep connection and mutual influence between the digital business transformation and knowledge management, and their mutual relationship is the research subject of this paper.

1. Research methodology

For the purposes of the paper, the standard methodology of systematic review of the literature recommended by Brereton, Kitchenham, Budgen, Turner & Khalil (2007), Kitchenham, Brereton, Budgen, Turner, Bailey & Linkman (2009) and Kitchenham et al. (2010) was used. The systematic literature review protocol consists of the following steps:

1.1. Defining research questions

This paper discusses the following research question (RQ):

RQ: What is the relationship between knowledge management, digital transformation and cultural change in the organization?

RQ derives from the analysis of relevant literature to the given topic, in which it is noticeable that knowledge management is increasingly seen as a process necessary to

maintain a competitive position in modern business, which also applies to the process of digital transformation. In this context, modern trends dictate the implementation of digital technologies in all aspects of business, including the knowledge management segment. By analyzing the process of digital transformation and the process of knowledge management, it is noticeable that cultural changes in the organization cannot be absent.

1.2. Finding relevant researches

Finding relevant literature for the topic of the paper was carried out manually in the following electronic libraries:

- Kobson (<https://kobson.nb.rs/>) and,
- Google Scholar (<https://scholar.google.com/>).

The papers were first selected based on keywords, then according to the title, then according to the abstract and finally according to the conclusion. The keywords that are used to search for papers are: knowledge management, knowledge management systems, digital transformation and organizational culture. The search for papers was performed based on keywords in English due to the relatively small number of available relevant papers in Serbian.

1.3. Defining the criteria for inclusion and exclusion of studies

The first criterion that the studies had to meet refers to the time period. Therefore, this research included those studies that were published in the period 2015-2020. The second criterion that the studies had to meet was that they were scientific, professional, or review papers published in a scientific journal or proceedings from conferences, books, or doctoral dissertations. In the first phase of the search based on keywords, 3,120 works were found. In the next step, papers that are considered relevant to the research topic were selected based on the title and there were 1,216 of them. The next criterion referred to the selection of papers based on abstracts and 139 studies were selected. According to Brereton et al. (2007), standard abstracts related to information technology and software engineering are not sufficient to conclude on their basis whether the study is relevant, and it is necessary to read the conclusions. Accordingly, after reading the conclusions, 35 relevant studies were selected.

1.4. Qualitative evaluation

Qualitative assessment of the relevance of selected papers was performed using criteria developed at York University, Center for Reviews and Dissemination (CDR) Database of Abstracts of Reviews of Effects (DARE), using Mendeley software.

2. A review of the current standpoints in the literature

In all aspects of modern life, access to quality information based on knowledge has become very important, so in the business world, knowledge is becoming one of the most important resources of the organization (Rašinović, 2018). That approach has led to the development of a new concept called knowledge management, which has become a key factor in achieving a competitive advantage (Petrov, Čelić, Uzelac, & Drašković, 2020). In the past two decades, the concept of knowledge management, with a special focus on intellectual capital and modern technologies, has received growing attention. According to Jokanović, Tomić & Duđak (2017), knowledge management emphasizes the importance of organizational culture, teamwork, learning, and exchange of knowledge, skills, and experiences. Jokanović et al. (2017) state that knowledge management consists of several phases, namely: creation, presentation, use, and transfer of knowledge. The creation and representation of knowledge refer to the way how knowledge appears in the minds of individuals. The utilization of knowledge refers to its use in decision making. Finally, knowledge transfer refers to the way an individual acquires and exchanges knowledge with other people. Since the efficiency of this process largely depends on the exchange of knowledge, this phase is the most important aspect of knowledge management (Petrov et al., 2020). According to Kaljević (2016) the basic sub-processes of knowledge management are knowledge creation, knowledge storage, knowledge sharing, and knowledge use. Knowledge sharing is crucial for organizations that want to use this resource to gain a competitive advantage. In this phase of knowledge management information technologies play a key role. An overview of the phases according to different authors is shown in Table 2.

Therefore, it is completely logical that the scientific literature on knowledge management emphasizes the importance of information technologies, because they facilitate the

acquisition, storage, transfer and analysis of knowledge (Zbucha & Vidu, 2018). All this leads to the emergence of information systems intended for knowledge management. Knowledge management systems using different digital

technologies and IT tools can play different roles in supporting knowledge management, but also in digital transformation.

Table 1 Overview of the phases of the knowledge management process according to the authors

Authors	Phases			
Tešić et al., 2013	collecting	storage	distribution	application
Kaljević, 2016	creation	storage	sharing	usage
Markić, 2016	organizing	extracting	distributing	usage
Jokanović et al., 2017	creation	presentation	usage	transfer
Zbucha & Vidu, 2018	acquisition	storage	transfer	analysis

Source: the authors

Studying the literature on knowledge management, it can be noticed that there is a difference between the concepts of knowledge sharing and knowledge transfer, as well as a review of barriers related to knowledge transfer (Paulin & Suneson, 2011). Contradictions and discrepancies between the definitions of knowledge sharing and knowledge transfer can be found on several levels. Namely, while knowledge sharing takes place mainly between individuals, knowledge transfer takes place between individuals, teams, and organizations. Another difference relates to the fact that knowledge sharing can be focused or unfocused, but generally, there is no clearly defined goal in advance, while knowledge transfer must be clearly focused. Finally, knowledge sharing is considered a two-way process, as opposed to knowledge transfer which is seen as directed one-way communication. Regarding barriers related to knowledge transfer, they are often focused on the organizational culture that prevails in the company. Culture refers to the readiness and conditions under which an individual is willing to share knowledge with other members of the organization (Uzelac, Čelić, Drašković, Berić & Petrov, 2018). Also, according to (Pham, Phan, Tučková, Vo & Nguyen, 2018), organizational culture has a positive effect on people's behavior towards the environment, which is one of the current topics today.

It is noticeable that there is a mutual conditionality between organizational culture and knowledge management. On the other hand, in order to be successful, digital transformation also requires a change in the culture of the organization. According to Halper (2019) in the modern business environment, it is necessary to change the culture and the way people work and cooperate with each other when using and exchanging data.

Optimization of knowledge flows in the organization, as an important determinant of knowledge management, implies efficient handling of information within the organization, which is today impossible to achieve without the strategic integration of multiple technologies. Knowledge management implies the application of collective knowledge of employees in order to achieve the company's business goals (Kaljević, 2016), but the efficiency of knowledge application is largely conditioned by the quality of information used in decision-making. All this clearly shows that information management is closely related to knowledge management (Nikolić, Vesić & Stošić-Mihajlović, 2017), where it can be freely stated that there is no efficient information management without digital business transformation.

The fact is that digital transformation involves the strategic integration of multiple technologies. However, despite the focus on digital technologies, the biggest demands placed on organizations are not technologies, but new ways of finding solutions for knowledge management. Technological change is forcing employees to find faster and more flexible ways of working and to acquire additional skills in order to manage the change. This is another proof that the change of organizational culture through the development of teams in charge of knowledge management is more important than the development of technological skills (APQC, 2019). Helmy, Abdelaal, Zaki, Ismail & Khater (2018) state that further considerations are needed regarding the necessary changes in the organizational culture, which are pointed at adapting to work with new technologies, and not at imposing those technologies on employees.

It is commonly known that knowledge is a strategic resource for a company in the struggle to maintain a competitive advantage. With an increase of knowledge in an organization, the

growth of knowledge contributes to the value of the company and improve its ability to respond to new challenges. For that reason, companies are increasingly investing in knowledge management and establishing knowledge management systems. The growing importance of knowledge has encouraged managers to focus more on knowledge management strategies to align organizational processes, culture, and IT implementation (Choi, Poon & Davis, 2008). The knowledge management strategy takes place within a complex system that has a defined organizational structure and culture and is enabled through information technology. A successful knowledge management strategy identifies the key capabilities of the company to achieve business results. Often these opportunities are found in business processes that need to be transformed to take advantage of knowledge resources and expand the organization's capabilities (Melão & Pidd, 2008).

According to Drechsler et al. (2020) knowledge management implies the optimal use of information and knowledge that an organization has at its disposal to improve its business, which is an integral part of digital transformation. This leads to the previously mentioned opinion that the process of knowledge management is one of the pillars of digital transformation. Kane (2019) states that companies must focus on three business problems if they want to effectively manage digital transformation, namely: navigation of digital disruptions, leadership review, and how to become a digital organization. Navigation of digital disruptions contains two terms at its core: digital disruption and digital transformation. Digital disruptions refer to the way in which digital technologies change business rules. On the other hand, the digital transformation speaks how companies are adapting to the new reality that has emerged as a result of digital disruption. Regarding the issue of leadership, the fact is that companies often don't recognize it, believing that all problems are solved by implementing new digital technology. Namely, it is relatively easy to implement new technology, and it is extremely difficult to change the way of doing business. There is only one way to a successful digital transformation, and that is through a change of culture. Some of the cultural characteristics that need to be changed are increasing agility, encouraging experiments, continuous learning, rewarding cooperation, accepting risks and developing functional teams (Kane, 2019).

3. A brief overview of the authors' standpoints

Reflecting on the standpoints of the authors, it can be concluded that knowledge management, digital transformation, and organizational culture are in a vicious circle of interdependence and mutual impact.

Organizational culture hugely influences the readiness and success of the organization in the adoption of knowledge management and digital transformation. Building (forming) an appropriate organizational culture is an important prerequisite for successful application of knowledge management and digital transformation, but at the same time, the application of these two concepts in the organization inevitably affects (directly or indirectly) and leads to certain changes in employee thinking and overall organizational culture.

The digital business transformation affects (sooner or later) all business processes enabling their implementation more efficient. This refers to the process of knowledge management, which is supported by digital technologies and based on the entire business digitalization, can reach great goals in terms of its importance for managing the organization and make it a crucial part of modern management system.

It is obvious that there is no successful digital business transformation without adequate knowledge management. Without efficient knowledge management, no one can expect the formation of the quantum of organizational knowledge that is necessary to clearly identify the reasons for initiating digital transformation, determine the elements of the organizational value chain that need to be transformed and determine priorities in digital transformation. Knowledge management has a crucial role in determining the context and way of realization of digital transformation.

Conclusion

Digital transformation is an inevitable step that all companies must take in order to survive in the market. Successful digital transformations start with a change in employee thinking, which further leads to a change in organizational culture. In contrast, companies that start their digital transformation by changing technology often fail. Companies need to learn how to do business in the digital world and how to invest the right resources in the right places. The fact is that digital

transformation demands investing in digital technologies. Therefore, before starting the whole process of digital transformation, organizations must first assess, from different perspectives, which processes are currently hampering growth and which processes must be digitalized first. In this context, it is important to connect people who need this knowledge with people who have that knowledge. Therefore, it is necessary to manage knowledge in the organization in an optimal way. Only then the correct digitization process can be chosen. Digital transformation is an ongoing process. It involves creating and maintaining an environment in which people enjoy communicating and exchanging ideas. These processes promote the exchange of knowledge, which leads to cultural change, which is a necessary component of digital transformation and which should be the first step in the process of knowledge management and in the process of digital transformation. **SM**

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Ljubojević, T.K., & Dimitrijević, N.N. (1994).

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Authors must be listed by their last names, followed by initials. Publication year must be written in parentheses, followed by a full stop. Title of the article must be in sentence case: only the first word and proper nouns in the title are capitalized. The periodical title must be in title case, followed by the volume number, which is also italicized:

Author, A. A., Author, B. B., & Author, C. C. (Year). Title of article. *Title of Periodical, volume number* (issue number), pages.

➤ Journal article, one author, paginated by issue

Journals paginated by issue begin with page 1 in every issue, so that the issue number is indicated in parentheses after the volume. The parentheses and issue numbers are not italicized, e.g.

Seliverstova, Y. (2021). Workforce diversity management: A systematic literature review. *Strategic Management, 26*(2), 3–11.
<https://doi.org/10.5937/StraMan2102003S>

➤ Journal article, one author, paginated by volume

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

Perić, O. (2006). Bridging the gap: Complex adaptive knowledge management. *Strategic Management, 14*, 654–668.

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

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

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

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

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

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

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

Boškov, T., Ljubojević, K., & Tanasijević, V. (2005). A new approach to CRM. *Strategic Management*, 13, 300-310.

➔ **Journal article, more than six authors, paginated by issue**

Ljubojević, K., Dimitrijević, M., Mirković, D., Tanasijević, V., Perić, O., Jovanov, N., et al. (2005). Putting the user at the center of software testing activity. *Management Information Systems*, 3(1), 99-106.

➔ **Journal article, more than six authors, paginated by volume**

Strakić, F., Mirković, D., Boškov, T., Ljubojević, K., Tanasijević, V., Dimitrijević, M., et al. (2003). Metadata in data warehouse. *Strategic Management*, 11, 122-132.

➔ **Magazine article**

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

➔ **Newsletter article with author**

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

➔ **Newsletter article without author**

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

B. BOOKS, BROCHURES, BOOK CHAPTERS, ENCYCLOPEDIA ENTRIES, AND BOOK REVIEWS

Basic format for books

Author, A. A. (Year of publication). *Title of work: Capital letter also for subtitle*. Location: Publisher.

Note: "Location" always refers to the town/city, but you should also include the state/country if the town/city could be mistaken for one in another country.

➔ Book, one author

Ljubojević, K. (2005). *Prototyping the interface design*. Subotica: Faculty of Economics in Subotica.

➔ Book, one author, new edition

Dimitrijević, M. (2007). *Customer relationship management* (6th ed.). Subotica: Faculty of Economics in Subotica.

➔ Book, two authors

Ljubojević, K., Dimitrijević, M. (2007). *The enterprise knowledge portal and its architecture*. Subotica: Faculty of Economics in Subotica.

➔ Book, three to six authors

Ljubojević, K., Dimitrijević, M., Mirković, D., Tanasijević, V., & Perić, O. (2006). *Importance of software testing*. Subotica: Faculty of Economics in Subotica.

➔ Book, more than six authors

Mirković, D., Tanasijević, V., Perić, O., Jovanov, N., Boškov, T., Strakić, F., et al. (2007). *Supply chain management*. Subotica: Faculty of Economics in Subotica.

➔ Book, no author or editor

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

➔ Group, corporate, or government author

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

➔ Edited book

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

➔ Chapter in an edited book

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

➔ **Encyclopedia entry**

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

C. UNPUBLISHED WORKS

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

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

➔ **Paper or manuscript**

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

➔ **Doctoral dissertation**

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

➔ **Master's thesis**

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

D. ELECTRONIC MEDIA

The same guidelines apply for online articles as for printed articles. All the information that the online host makes available must be listed, including an issue number in parentheses:

Author, A. A., & Author, B. B. (Publication date). Title of article. *Title of Online Periodical, volume number* (issue number if available). Retrieved from <http://www.anyaddress.com/full/url/>

➔ **Article in an internet-only journal**

Tanasijević, V. (2003, March). Putting the user at the center of software testing activity. *Strategic Management*, 8 (4).
Retrieved October 7, 2004, from <http://www.ef.uns.ac.rs/sm2003>

➔ **Document from an organization**

Faculty of Economics. (2008, March 5). *A new approach to CRM*. Retrieved July 25, 2008, from <http://www.ef.uns.ac.rs/papers/acrm.html>

➔ Article from an online periodical with DOI assigned

Jovanov, N., & Boškov, T. A PHP project test-driven end to end. *Management Information Systems*, 2 (2), 45-54.

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Author, A. A., & Author, B. B. (Publication date). Title of article. *Title of Journal, volume number*. Retrieved from <http://www.anyaddress.com/full/url/>

Jovanov, N., & Boškov, T. A PHP project test-driven end to end. *Management Information Systems*, 2 (2), 45-54. Retrieved from <http://www.ef.uns.ac.rs/mis/TestDriven.html>.

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If a work is directly quoted from, then the author, year of publication and the page reference (preceded by “p.”) must be included. The quotation is introduced with an introductory phrase including the author’s last name followed by publication date in parentheses.

According to Mirković (2001, p. 201), “The use of data warehouses may be limited, especially if they contain confidential data”.

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

If the author is not named in the introductory phrase, the author's last name, publication year, and the page number in parentheses must be placed at the end of the quotation, e.g.

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

➔ Summary or paraphrase

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

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

➤ One author

Boškov (2005) compared the access range...

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

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

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

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

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

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

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

➤ Six or more authors

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

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

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

➤ Unknown author

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

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

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

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If the author is an organization or a government agency, the organization must be mentioned in the introductory phrase or in the parenthetical citation the first time the source is cited:

According to the Statistical Office of the Republic of Serbia (1978), ...

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The overview is limited to towns with 10,000 inhabitants and up (Statistical Office of the Republic of Serbia [SORS], 1978).

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➔ When citing **more than one reference from the same author**: (Bezjak, 1999, 2002)

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(Griffith, 2002a, 2002b, 2004)

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

(Bezjak, 1999; Griffith, 2004)

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

If two or more sources used in the submission were published by the same author in the same year, the entries in the reference list must be ordered using lower-case letters (a, b, c...) with the year. Lower-case letters will also be used with the year in the in-text citation as well:

Survey results published in Theissen (2004a) show that...

➔ To **credit an author for discovering a work**, when you have not read the original:

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

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

➔ When **citing more than one author**, the authors must be listed alphabetically:

(Britten, 2001; Sturlasson, 2002; Wasserwandt, 1997)

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

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

(Mirković & Boškov, 2006, p.12)

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

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

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

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

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

FOOTNOTES AND ENDNOTES

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

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