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ORGANIZATIONAL EFFECTIVENESS: SYSTEMATIC LITERATURE TOWARDS A CONCEPTUAL FRAMEWORK

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Abstract

To survive in this highly competitive business era, every business organization has to ensure a solid strategic position in the market. Researchers and practitioners highlight that enhancing the organization's effectiveness is essential to secure a strategic place in this competitive business world. Organizational effectiveness refers to the organization's success rate in achieving its goals. But it takes work to ensure the effectiveness of the organization. Therefore, the present study reviewed 25 articles using a systematic literature review approach. Based on the review outcomes, the present study proposes a unique model indicating the factors that enhance the organization's effectiveness. Accordingly, the present study highlights that business intelligence as methods and tools that organizations employ to manage and analyse business information, organizational agility such as market capitalizing agility, and operational adjustment agility. Agility is the capacity of an organization to renew, adapt, and change, and a fast evolving, uncertain, unstable environment and an innovative organizational climate, which is known as a creative organizational environment, are the influencing factors that influence organizational effectiveness. This study offers a unique direction for managers of organizations on how to ensure a strategic market position in this volatile business environment through enhancing organizational effectiveness.

Keywords: Organizational agility, Business intelligence, Organizational innovative climate, Organizational effectiveness, Systematic literature review, Conceptual model

Introduction

Growing competition, technological advancement, and changing customer demand are the underlying reasons for organizations' increasing challenges in the global market. Scholars and practitioners have highlighted the importance of organizational effectiveness (OE) in addressing these challenges (e.g., Awan and Jehanzeb, 2022; Jha et al., 2022). Enhancing organizational effectiveness can ensure organizational success through better management that can reduce cost, improve customer relations, increase corporate value, enhance employee performance, and provide better use of technology. However, enhancing effectiveness has emerged as a significant challenge facing organizations worldwide (Awan et al., 2022; Jha et al., 2022). Consequently, this review seeks to problematize the complex concept of OE targeted at raising the competitiveness of organizations.

Previous studies investigated the role of leadership styles, culture, and communication methods (Nazarian et al., 2021, Zlatković, 2018); HR practices (Murthy and Kumar 2021); learning culture, employee competencies (Potnuru et al., 2021); knowledge management enablers, knowledge management process (Bezzina et al., 2020); technological capabilities, resilience capabilities, environmental dynamism, and competitive intensity (Bustinza et al., 2019); employee involvement climate (Bosak et al., 2017); environmental scanning, competitor orientation, and forward-looking information (Phornlaphatrachakorn and Na-kalasindhu, 2020); Employee ambidexterity, employee agility (Herlina et al., 2021); resilience capabilities, environmental dynamism, competitive intensity, and technological capabilities (Bustinza et al., 2019) to enhance OE.

However, business intelligence (BI) as an important success indicator for contemporary business organizations is being ignored. To be more specific, the impact of BI on OE has never been explored by the researchers. Additionally, contemporary studies have highlighted the impact of BI on enhancing the performance of organizations (Arefin et al., 2015; Rayat & Kelidbari, 2017). According to Arefin et al. (2015), BI systems constantly seek new information by utilizing all channels for data collection, using information system mechanisms to combine and transform the data into meaningful information, monitoring all operational processes, and identifying the root cause of problems. Moreover, BI helps an organization understand its customers, such as their preferences, buying trends, and buying motives, gives access to real-time data, and helps to gain a competitive advantage. Also, BI allows the organization to predict unforeseen challenges and act accordingly, ultimately improving organizational efficiency and effectiveness (Gauzelin & Bentz, 2017; Trieu, 2017). Hence, it is important for the business organization to explore the impact of BI to enhance OE.

Additionally, researchers have argued that organizational agility (OA) improves OE (Holbeche, 2018). Since organizational agility is essential in a business environment that is constantly changing, organizations must innovate and adapt quickly if they want to seize opportunities and overcome competitive challenges. Agility ensures alignment between the employees and the organization's vision and helps organizations adapt to the dynamic market (Saha et al., 2017). Agility is the ability to respond, adapt swiftly, and grow in a changing environment (Holbeche, 2018). Market capitalizing agility (MCA) refers to an organizational agility to adapt in order to respond quickly to market demand and capitalize on it. In comparison, operational adjustment agility (OAA) is known as the firm's capacity to adjust its internal business environment to cope with changes in the market (Krotov et al., 2015).

Furthermore, Ashraf and Khan (2013) highlighted the role of an organizational innovative climate (OIC) in enhancing OE. Similarly, Ren and Zhang (2015) mentioned how an innovative environment influences organizational competitiveness and performance. One of the crucial factors affecting the firm's efficiency and profitability is the OIC. In order to understand how the OIC affects the firm's overall success, researchers have examined it from a variety of angles. The environment for innovation has a direct impact on a company's success and other organizational phenomena (Newman et al., 2020; Ren & Zhang, 2015).

However, the role of BI, OA, and OIC in enhancing OE has yet to be explored. Moreover, the combined effect of BI, OA, OIC, and OE proposed a unique model. Most importantly, the investigation of the unique proposed model has never been explored before. This study offers BI, OA, and an OIC as influencing factors to enhance the OE operating in a highly volatile,

competitive, and complex business environment. This study proposes OE as the dependent variable, BI as the independent variable, organizational agility as the mediating variable, and OIC as the moderating variable. Hence, the uniqueness of this research is to investigate the role of BI in enhancing OE, mediating the role of OG, and moderating the role of an OIC.

The remainder of this article is organized as follows. In the literature review section, the concepts of BI, OA, OIC, and OE have been explained. In the methodology section, the present study describes how it conducted the systematic literature review. The section on formulating hypotheses describes how BI affects OE through the mediating effects of OA and the moderating effects of OIC. The proposed conceptual framework is finally described in the discussion and conclusion sections, which are then followed by sections on the implications of the findings, potential directions for further research, and conclusions.

Literature review

Organizational effectiveness

Organizational effectiveness is one of the core tasks of the organization (Mullins & Christy, 2013). Effectiveness is difficult to quantify since people see it differently based on their views and frames of reference (Oghojafar et al., 2012). Organizational effectiveness refers to how well a company achieves its goals and objectives. Davis and Pett (2002) mentioned that OE is a non-financial element of organizational performance that emphasizes developing and maintaining human capital and resources. Whereas, Douglas et al. (2021) mentioned that OE is not always about a company's profitability or financial issue; rather, it is also influenced by the organization's human capital and defined OE as the ability to achieve organizational objectives through efficient utilization of the resources through regularly upgrading organizational external atmosphere.

Business intelligence

BI is defined as numerous solutions for improving the business's overall performance (Wang and Wang, 2008). In general, "BI is a system that turns data into information and then into knowledge, thereby adding substantial value to a firm's decision-making processes" (Loshin, 2003). According to Chen and Lin (2021), BI can constantly modify business processes to improve resource allocation optimization by identifying the new situation promptly and correctly, demonstrating a dynamic capability of perceptive understanding and cognitive detection of possibilities. Also, Nithya and Kiruthika (2021) defined “BI as being a set of methodologies to convert a raw data set to meaningful and useful information for making decisions would help in quick computations, enhanced communication, and collaboration, increased productivity of teams, efficient use of volumes of data and offers support anytime and anywhere”. Moreover, Brackett (1999) described BI as “a set of concepts, methods, and processes to improve business decisions using information from multiple sources and applying experience and assumptions to develop an accurate understanding of business dynamics.” BI is a voluntary process by which a company may scan and absorb knowledge from a chaotic situation to discover a potential opportunity while reducing the risks associated with instability (Gudfinnsson et al., 2015; Tarek et al., 2016). The examination of BI function has revealed many essential operations, including data gathering, processing, and information exchange and dissemination (Wamba et al., 2017). According to Wixom and Watson (2010), “BI is a broad category of technologies, applications, and processes for gathering, storing, accessing, and analysing data to help its users make better decisions” (p. 14). Also, Wieder and Ossimitz (2015) defined BI as a technologically supported, analytical process that gathers and transforms fragmented data from businesses and markets into knowledge and information about an organization's objectives, positions, and prospects.

Moreover, Chee et al. (2009) mentioned that BI falls into three key groups process, technology, and product. Details and explanations of the three main criteria are provided in **Table 1**.

The fundamental objectives of BI are to provide simple, interactive access to a variety of data, to enable data customization and alteration, and to empower decision makers and analysts to undertake pertinent research and reach informed judgments (Turban et al., 2008). Organizations utilize the BI process to acquire data, analyse it, and present the results to management to address a range of problems or respond to requests for data. Financial data, demographics, biographies, economic data, news stories, and customer and market information are examples of the information required to respond to these requests. Some forms of information are simple to get, while others take more effort and money to obtain. After the data has been collected, it must be evaluated, and relevant reports must be created and distributed to the right people within the company. BI has grown in popularity in information systems programs and has been widely embraced in IT practice (Watson & Wixom, 2010). BI projects in critical industries such as health care (Carte et al., 2008), airlines (Anderson-Lehman, 2004), telecoms (Turban et al., 2008), social media (Ruhi, 2014), and the newspaper industry (Gunnarsson et al., 2007) have all proven successful.

Table 1. Three approaches of BI

Approach	Managerial/Process	Technological	Product
Definition	Focus on the process of gathering data from internal and external sources and of analyzing them in order to generate relevant information for improved decision-making.	Focus on the tools and technologies that allow the recording, recovery, manipulation and analysis of information.	Describe BI as the emerging result/product of in-depth analysis of detailed business data as well as analysis practices using BI tools.
Author	Whitehorn & Whitehorn (1999); Moss & Atre (2003); Oracle (2007); Turban et al. (2008); Markarian, Brobst & Bedell (2007)	Moss & Atre (2003); Moss & Hoberman (2004); Adelman & Moss (2000); Turban et al. (2008); Oracle (2007); *Note: The definition of Moss & Hoberman (2005) spans across both process and technological approaches.	Chang (2006); Gangadharan & Swami (2004); Kulkarni & King, (1997); Turban et al. (2008) *Note: The definition of Turban et al. (2008) spans across all three approaches.

Organizational agility

Organizational agility refers to an organization's capacity to adapt to quick, unpredictably changing conditions and grow in a competitive atmosphere filled with unknown prospects (Goldman, et al., 1995; Irfan et al., 2019; Panda & Rath, 2018). Organizational agility is the proactive "ability to remain flexible in facing new developments, in continuously adjusting the company's strategic direction, and in developing innovative ways to create value" (Weber & Tarba, 2014). According to Lu and Ramamurthy (2011), organizational agility refers to a company's capacity to respond quickly and creatively to unanticipated internal and external changes in the business environment. Agile organizations can use new systems and processes to replace current methods and rebuild organizational structures based on changing circumstances (Teece et al., 2016). An agile company is made up of a network consisting of empowered teams that adhere to rigid standards for coordination, knowledge, responsibility, and alignment. The firm must also possess a healthy environment to ensure that these teams can operate effectively, which eventually improves OE (Saha et al., 2017). Existing literature identified two forms of organizational agility: MCA and OAA (Lu & Ramamurthy, 2011).

MCA is defined as the ability to quickly adapt to the target market's needs by continuously monitoring and exploiting the business climate and seeing unexpected circumstances as fertile ground for new strategic orientations (Sambamurthy et al., 2003). Due to the present significant data era's information overload challenges, an organization's MCA is strongly reliant on its capacity to obtain information and respond to it (Park et al., 2017). Firms with solid MCA can better position themselves to identify opportunities in target markets and be aware of changes in international marketplaces by leveraging existing information and expertise (Lu & Ramamurthy, 2011).

OAA is primarily concerned with a company's potential to understand international business operations and its quick adaptation in response to new opportunities in global markets (Mikalef and Pateli, 2017). It stresses a company's ability to learn and integrate its expertise with temporal events to structure new experienced knowledge and achieve a competitive advantage in chaotic situations (Chakravarty, et al., 2013).

Organizational Innovative Climate

The term “innovative climate” refers to the environment inside a company that encourages innovation (Bos-Nehles & Veenendaal, 2019; Shanker et al., 2017). An innovative climate is a supportive environment that promotes and encourages creative mechanisms to fulfil the organization's objectives (Bibi et al., 2020). Scholars have underlined the necessity of creating and implementing new techniques and methods in an innovative environment (Van der Vegt et al., 2005). However, innovative climate definitions differ in two ways: whether the focus is on the team or organizational level and whether employee perspectives are individual or shared. The current research looks at the individual and organizational views of the innovative climate. There are several definitions of the term innovative climate. However, this study has chosen one that is commonly used by scholars, which considers innovative climate as the “shared perceptions at an individual, team, and organizational level as to the extent to which individual, team, and organizational processes encourage and enable innovation” (Newman et al., 2020). The common perceptions of organizational members about the methods, processes, and behaviours that encourage the development of new knowledge and practices and enable risk-taking are referred to as the innovative climate (Van der Vegt et al., 2005). Individual intellect processes and activities that provide novel concepts, insights, and inventive solutions to issues, as well as their adaptation, usage, and effective execution, are crucial components in fostering an innovative culture in a business (Amabile et al., 1996; Newman et al., 2020). An innovative climate is characterized by the standard views of organizational members about the activities, processes, and behaviours that encourage the development, introduction, and utilization of new ideas. Supporting and promoting the innovation of new ideas, questioning established methods of doing things, and learning from people inside and outside the location are all examples of these activities, processes, and behaviours. These activities are often regarded as the lifeblood of change and the primary drivers of organizational performance and innovation (Daellenbach et al., 1999). Bibi et al. (2020) highlighted OIC could be ensured by accepting innovation as a value of the organization, encouraging team collaboration, providing strong support to the organization, demonstrating trust in the employees, and giving them autonomy while taking initiatives for innovation, through knowledge sharing, giving a reward for the innovation.

Systematic review method

The PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) statement is made up of a four-phase flow diagram (Figure 1) and a 27-item checklist. The PRISMA Statement was created to assist authors in better reporting systematic reviews and

meta-analyses. PRISMA helps evaluate published systematic reviews critically (Moher et al., 2010).

A PRISMA flowchart was used to present the results of the paper's systematic review of OE. The review focused on a specific body of literature, identifying and analysing all earlier work within a time frame using justifiable and transparent selection criteria (Knocke & Schuster, 2017). This study applied the PRISMA approach to explore OE and its antecedents in line with Moher et al. (2009). To search relevant literature, at the first stage, this study performed the latest search on June 27th, 2021, in the Web of Science (WoS) database, and five search or inclusion criteria have been maintained while searching relevant articles:

- Peer-reviewed articles.
- Paper published in the English language.
- Quantitative studies emphasized OE and its antecedents.
- Articles published between 2017 to 2021.
- Articles published in management and business field.

In the first stage, this study got 168 articles in the area of OE. Then, in the second stage, the present study reviewed the title, abstract, and keywords of the articles and found that among the 168 articles, the title, abstract, and keywords of 38 articles did not mention the word “OE”. Hence, after removing 38 articles, 130 articles remain. In the subsequent stage, the present review checked the full text of the 130 articles, and among the 130 articles, 105 were discarded for many reasons, such as qualitative study, conceptual study, and OE not being the focus of the articles. Finally, this study moves forward with a detailed review of the 25 remaining articles.

The summary of the article's selection process has been presented in the PRISMA flowchart (**Figure 1**). Based on the literature search (using the keyword “organizational effectiveness”) performed on the WoS database, applying the PRISMA approach, significant empirical findings of relevant articles related to organizational effectiveness have been presented in **Table 2** of the present article.

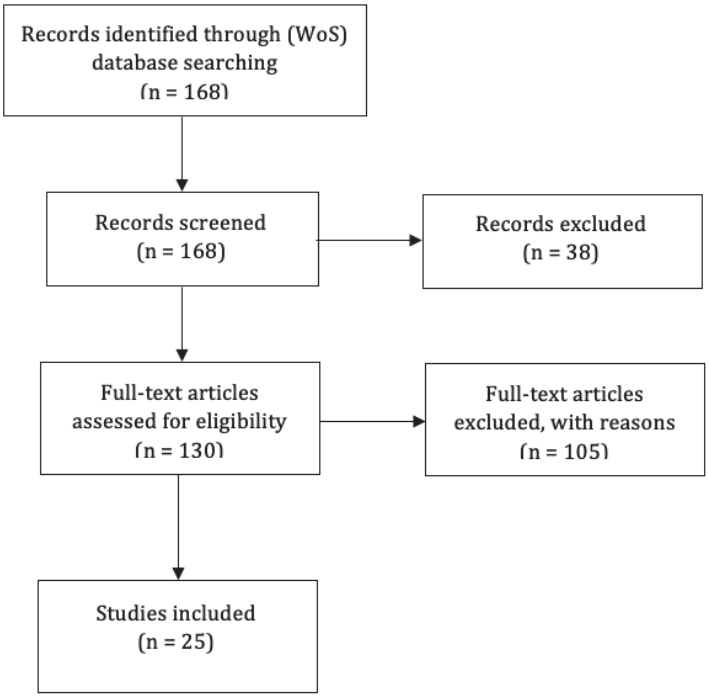

Figure 1. Summary of the article selection process (with PRISMA flowchart)

Table 2. Summary of selected articles

Author(s)	Objective of the Study	Country	Data Analysis Method	Outcomes of the Study
Herlina et al. (2021)	The study aims to explore the impact of ambidexterity, assisted by information and communications technology (ICT), on the workforce's agility and OE in Dry Port (DP) business.	Indonesia	Structural equation modeling	The study indicates that ambidexterity is an influential factor to agility, and that ambidexterity is also an impactful factor to agility and OE. Furthermore, there is also evidence that the power of agility contributes to greater OE, and that ambidexterity has an impact on OE through workforce agility.
Potnuru et al. (2021)	This paper aims to examine the moderating role of organizational learning culture (OLC) on the relationship between human resource development (HRD) practices and employee competencies (EC) in enhancing OE.	India	Structural equation modeling	The results confirmed that training and career development had a significant impact on EC, the moderating effect of OLC on the relationship between HRD practices and EC was found significant and there is a significant and positive relationship between EC and employee perceived OE.
Tayal et al. (2021)	The purpose of this study is to empirically explore the connection	India	Structural equation modeling and process macro	The investigation demonstrated that there exists a significant

	between transformational leadership (TL) and OE. Also, the paper looks at the mediating impact of employee innovative behaviour (EIB) and the moderating effect of knowledge sharing (KS) on the aforementioned association.			relationship between the constructs under examination. Further, it was seen that EIB mediated and KS moderated the connection between TL and OE.
Masa'Deh et al. (2018)	The aim of this research is to explore the relationships among definitional metadata quality, data quality metadata quality, navigational metadata quality, lineage metadata quality, perceived ease of use, perceived usefulness and system effectiveness in enhancing OE.	Jordan	Structural equation modeling and a Machine Learning technique.	Results suggest that OE was directly and positively affected by perceived usefulness and BI systems effectiveness. Nevertheless, perceived usefulness did not impact BI systems effectiveness.
Chikukwa et al. (2020)	The current research was designed to explore extrinsic rewards, employee motivation and OE in turbulent economic times	Zimbabwe	Correlation analysis	The findings of this study showed that extrinsic rewards have a positive and significant relationship with employee motivation and OE. In addition, the study found a positive and significant relationship between employee motivation and OE. Recommendations have been provided on how the manufacturing sector can improve employee motivation and OE.
Bezzina et al. (2020)	Objective of this study was to investigate the relationship between knowledge management (KM) enablers and OE.	Malta	Structural equation modeling	Findings revealed that various KM enablers produced direct effects on KM processes, and in turn, two KM processes produced direct effects on OE and mediated the relationship between some KM enablers and OE.
Sharma and Sharma (2020)	This study aimed to examine the influence of Team resilience (TR) on the dependent variable of OE and further to analyze the impact of TR on competitive advantage (CA). Additionally, the	India	Pearson's correlation and process macro	Statistical analyses found a significant relationship between TR and OE. CA was found to be a partial mediator among the relationship between TR and OE. Findings underline the strength of a relationship and predictive ability of

	proposed model aimed at scrutinizing the mediating impact of CA on the relationship between TR and OE.			various dimensions of TR with OE and CA.
Maiti et al. (2020)	The purpose of this study is to study the attitude of the employees toward organizational commitment and its impact on organizational effectiveness and, second, to develop a strategic model for organizational commitment and OE.	India	Structural equation modeling and hierarchical regression analysis for moderation	The results of this study showed that, except performance appraisal and assessment of the employees, employee personality and relationship with coworkers, all other constructs significantly affected organizational commitment. The positive influence of organizational commitment to OE was also moderated by prosocial behavior. Demography exerted a significant impact on organizational commitment.
Sadq et al. (2020)	This study aims to identify the impact of knowledge management through its dimensions; namely knowledge creation, storage knowledge, knowledge sharing, knowledge application and technology knowledge on OE based on the managers' attitudes in private banks in the Erbil city in Kurdistan region, Iraq	Iraq	Structural equation modeling	The study found that knowledge management had an impact on OE.
Bustinza et al. (2019)	The objective of this research is to examine the resilience capabilities act as a mediator in the relationship between technological capabilities and OE. And the moderating effect of environmental dynamism, and competitive intensity.	Spain	Structural equation modeling	The results reinforce the importance of HRPs in building resilience which helps firms to continuously adjust to change and subsequently enhance their OE.
Vihari and Rao (2019)	The aim of the present study is to examine the influence of Sustainable HRM on OE and also to examine the interaction effects with attractiveness reference to employer attractiveness and person organisation fit.	India	Structural equation modeling	Results showed that the sustainable HRM practices have a significant impact in enhancing the OE. The study also suggests that employer attractiveness partially mediates the relationship between sustainable HRM and OE and person organisation fit acts as a moderator, thereby

				strengthening the relationship between sustainable HRM and employer attractiveness.
Alshehhi et al. (2019)	The current study purpose is to evaluate the effect of HRM on ADNOC's efficiency and effectiveness	UAE	Structural equation modeling	Outcomes showed that HRM influences both efficiency and effectiveness.
Johnson et al. (2018)	This study investigated the relationship between the prevalence of workplace aggression and two key outcomes: employee engagement and OE.	Australia	Regression and PROCESS macro	Results showed that hospitals with higher rates of workplace aggression had higher rates of patients with HAIs and that employee engagement was an important mechanism that helped explain this effect.
Akhtar et al. (2018)	The paper aims to measure the impact of individual systems thinking on the overall OE (Cohesion, Communication, Planning –goal setting, and Productivity).	Malaysia and Pakistan	Multiple regression analyses	The results indicate that Malaysian banking employees are ahead of their counterparts in Pakistan while applying systems thinking. The study is significant in enhancing the understanding of the importance of systems thinking for OE.
Malbaši´c et al. (2018)	The purpose of this article is to clarify whether congruence between espoused and attributed organizational values (CEAOV) in contemporary business circumstances is a necessity or just 'nice to have'. Accordingly, two objectives are formulated: (a) to investigate whether CEAOV has a direct impact on organizational effectiveness and (b) to assess the mediating effect of organizational commitment between CEAOV and OE.	Croatia	Structural equation modeling	The results show that CEAOV positively affects OE through the mediation of organizational commitment. The only path to attaining effectiveness is through commitment. No direct effect is found.
Ibidunni et al. (2018)	The focus of this paper was to examine the first order moderating effect of organisational orientation on the relationship between organisational knowledge and performance.	Nigeria	Hierarchical multiple regression	According to the results of this research, strong emphasis and attention should be placed on an organisation-wide culture of learning orientation, such as shared vision and open mindedness; entrepreneurial orientation, such as proactiveness, competitive aggressiveness and

				autonomy as influencers of OE; and market orientation, such as customer and competitors' orientation.
Lee (2017)	This study investigated whether and how diverse elements of sustainable leadership influence the effectiveness of organization.	USA	Multiple regression	The results showed that the relative strengths of the effects of each element of sustainable leadership differed across different aspects of OE.
Sleimi and Emeagwali (2017)	This research set out to test the mediating of employee attitudes on the relationship between SHRM (Society for Human Resource Management) practices and OE.	Palestine	Structural equation modeling	Results show the existence of direct and indirect significant path between SHRM practices and OE. However, the indirect relationship through the mediating role of employee attitudes was stronger than the direct one. To sum up, results indicate that employee attitudes partially mediate the relationship between SHRM practices and OE.
Lo et al. (2017)	This research was conducted to investigate the relationship between three underlying dimensions of knowledge management, i.e. knowledge acquisition, knowledge dissemination and responsiveness to knowledge; and OE with organisation culture as the moderator.	Malaysia	Structural equation modeling	The results of this study indicated that two dimensions of knowledge management namely knowledge dissemination and responsiveness to knowledge are significant and positively related to OE. Lastly, the results indicated that the organisation culture does not moderate any of the relationships between knowledge management and OE.

Developing propositions

Business intelligence and Organizational effectiveness

BI is one of the most searched buzzwords, and it continues to pique the interest of both industry and academia. It is a group of technologies that gather and analyse data to enhance organizational workflows and choices (Herschel & Jones, 2005). It is a mix of gathering, cleansing, and combining data from many sources, as well as reporting the results, that may help businesses make better and enhance OE (Arefin et al., 2015). Prior studies highlighted that the HR practices (Murthy & Kumar, 2021); knowledge management enabler, knowledge management process (Bezzina et al., 2020); dynamic capabilities, HR development (Kareem & Alameer, 2019); system thinking (Akhtar et al., 2018). However, a few studies have been published that describe the impact of BI on OE (Arefin et al., 2015; Turban et al., 2008) and highlight the importance of BI's role in enhancing OE. Arefin et al. (2015) revealed a significant positive impact of BI on OE. According to Wixom and Watson (2010), BI

encompasses the essential functions that enhance an organization's performance and change adaptability. BI tools have thus far mainly been used to manage strategic and tactical company strategies and activities. Businesses use BI to monitor, evaluate, summarize, and improve the performance of their activities. BI aids businesses in enhancing their operational efficiency. It helps company managers and decision-makers in the workplace make correct, timely, and suitable decisions, which boosts output and profits (Olaru, 2014).

Moreover, Turban et al. (2008) mentioned that BI increases the performance of business organizations. It provides suppliers, partners, and workers with convenient access to information and the capacity to evaluate and share it with others. Hence, this study proposes the following:

Proposition 1: BI positively influences OE.

Mediating effect of Organizational agility

BI gathers, analyses, and provides interpreted data to executives to assist them in making the best choice possible at the appropriate moment. BI may help organizations become more agile by recognizing customer event trends, finding operational opportunities and bottlenecks, and alerting management to changes in partners' assets and skills so they can perceive, act upon, or make timely choices (Chen & Siau, 2012). BI delivers broad knowledge and information for the organization to improve its agility (Mikalef & Pateli, 2017). Also, an influential organizational agility is enhanced by the knowledge development initiated on the usefulness of BI. BI aims to collect, store, access, and analyse data, including information on customers, partners, operations, and other environmental changes. Using BI in companies will increase organizational agility by enhancing an organization's capacity to notice changes reflected in BI system data for decision-making. In contemporary information system studies, there is also empirical evidence of BI's contribution to organizational agility (Ghasemaghaei et al., 2017).

As stated, this study considers two types of organizational agility. Dove (2002) emphasizes MCA as identifying relevant items to act on or knowledge management. This agility necessitates collecting and processing large volumes of data from various sources to detect and anticipate external changes and constantly monitoring and improving product/service offerings to meet consumer requirements. On the other hand, OAA emphasizes a company's capacity to respond to the market physically and quickly or make amendments to its internal business operations (Sambamurthy et al., 2003). This agility is primarily focused on routine manoeuvring to respond quickly to changes. It is focused mainly on operational operations and is designed to be reactive (Volberda 1997). Organizational BI systems influence market capitalizing agility by supporting intellectual capacity through knowledge management to advance external businesses, products, or services to meet market demands.

Similarly, organizational BI's ability helps organizations make internal operational amendments to respond immediately to market demands. According to Cheng et al. (2020), there is a significant and positive correlation between BI and MCA, as well as between BI and OAA. Also, Lu and Ram (2011) highlighted that a company with sophisticated IT capabilities or BI can continually scan and analyse changing external signals, monitor internal data, make rapid inventive decisions, and swiftly change internal processes, resulting in higher MCA and OAA. Hence, this study proposes the following:

Proposition 2: Business intelligence positively influences organizational MCA.

Proposition 3: Business intelligence positively influences organizational OAA.

Prior studies highlighted the role of organizational agility in influencing organizational performance (Chakravarty et al., 2013; Li et al., 2020) and organizational creativity (Darvishmotevali et al., 2020). Moreover, previous evidence also showed the connection between organizational agility and OE (Dyer & Shafer, 1998; Holbeche, 2018). For two reasons, organizational agility is critical to improving an OE. First, organizational MCA may enhance OE by transforming existing knowledge into professional knowledge to satisfy the needs of the new market. Second, organizational OAA may strengthen OE by effectively using and integrating this explicit knowledge to swiftly pick the best locations in their target markets and achieve a competitive advantage. Hence, this study proposes the following:

Proposition 4: Organizational MCA positively influences OE.

Proposition 5: Organizational OAA positively influences OE.

Diverse studies have highlighted the mediating effect of organizational agility. In their study, Cheng et al. (2020) explored the mediating role of organizational agility, and the outcomes revealed that organizational MCA mediates the relationship between BI and the organizational speed of internationalization. A mediation test examines whether the mediator, mediates the effects of the independent variable, on the dependent variable. This makes using mediators as a research approach in organizational behaviour highly common since it explains the causal link between two variables or "how" the relationship operates (Preacher and Hayes, 2004). This study also showed that organizational OAA mediates the relationship between BI and organizational speed of internationalization. Similarly, Liu et al. (2014) also revealed the mediating role of organizational MCA and OAA in the relationship between knowledge management capability and firm performance. Likewise, outcomes of the study conducted by Lei et al. (2020) revealed that both MCA and OAA mediate the relationship between e-commerce capabilities and agricultural firm performance gain. Accordingly, the present study highlights that organizational agility: both MCA and OAA may serve as a linkage between BI and OE. Because BI influences or improves both MCA and OAA, both of which impact OE. Aforementioned associations between BI and OE (P1); BI and organizational agility (MCA and OAA) (P2 and P3); organizational agility and OE (P4 and P5) are rational to propose the mediational role of organizational agility since BI influences organizational agility: both MCA and OAA, which in turn enhances OE. In an organizational context, based on the organization's capacity, the level of both MCA and OAA may vary, and the ability of organizational BI can improve the level of both MCA and OAA, which ultimately enhances OE. As a result, organizational agility (MCA and OAA) can be proposed as a potential mediator in the relationship between BI and OE. Hence, this study suggests the following:

Proposition 6: MCA mediates the relationship between BI and OE.

Proposition 7: OAA mediates the relationship between BI and OE.

Moderating effect of Organizational Innovative Climate

As mentioned earlier in this study that OA influences OE. Moreover, organizational agility's effect on OE, competitiveness, and performance highly relies on individual observations of the organizational working climate (Bibi et al., 2020; Gelade & Gilbert, 2003). Consequently, this study assumes that the association between organizational agility and OE will be

strengthened when the organization perceives an OIC. Usually, the "climate" was thought to be a broad notion encompassing numerous elements of organizational practices that encourage workers to have joyful work experiences (Bos-Nehles & Veenendaal, 2019). Siegel and Kaemmerer (1978) defined an *OIC* as one that encourages the emergence and development of new ideas, acknowledges creative potential, and is characterized by liberty and ownership.

Organizational agility will strengthen OE more when the organization supports an OIC. According to social exchange theory, an innovative environment is supposed to enhance OE. More specifically, the OIC is supposed to nurture the positive effect that BI can have on OE. Previous research has shown that the OIC acts as a moderator in influencing both individual and organizational-level outcomes. Moderating effect is occurred when a third variable modifies the nature of the connection between a predictor and an outcome. In other words, when two constructs have a connection that is not constant but depends on the values of a third variable, which is known as a moderator variable, the situation is said to be in moderation. The moderator variable (or construct) modifies a relationship between two constructs in a model by modifying its strength or even its direction (Hair et al., 2021).

The moderating influence of OIC on the association between HR practices and innovative work behaviour was found by Bos-Nehles and Veenendaal (2019). Similarly, the outcomes of the Luo et al. (2018) study showed the moderating effect of OIC on the relationship between extraversion and employees' innovation. Also, Cai et al. (2019) showed the moderating effect of OIC on the indirect relationship between IT capability and organizational agility while product innovation. As a result, the question in the context of the current study is whether an OIC moderates the relationship between organizational agility (market capitalizing agility and operational adjustment agility) and OE. OIC strengthens the connection between organizational agility and OE and vice versa. Hence, this study proposes the following:

Proposition 8: OIC moderates the relationship between MCA and OE.

Proposition 9: OIC moderates the relationship between OAA and OE.

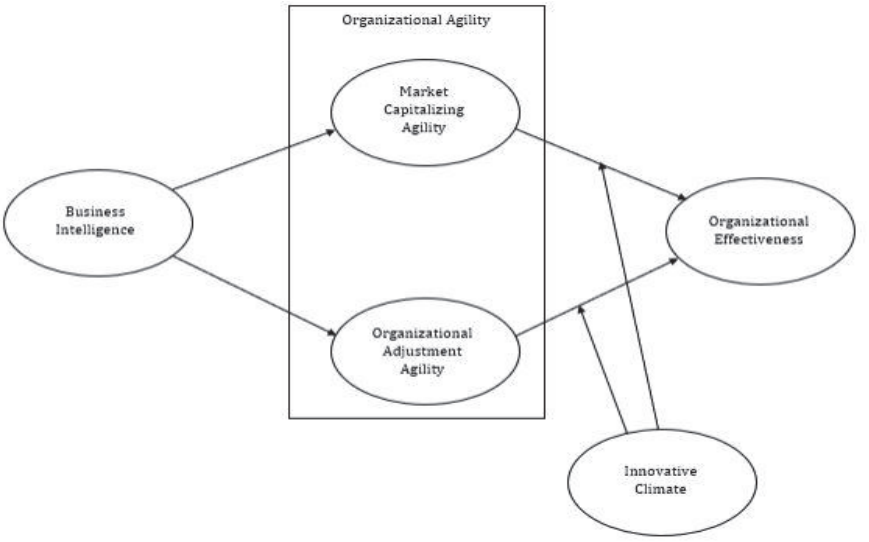

Figure 2. Proposed conceptual model

Discussion and conclusion

Theoretical contribution

This paper makes numerous contributions to organizational behaviour by drawing attention to the proposed relational element of the conceptual model.

First, different scholars and researchers have mentioned that organizations face challenges in ensuring effectiveness due to the changes in the global business arena. Previously, researchers have highlighted the role of leadership, culture, and knowledge management systems in enhancing the OE. However, the present study highlights business intelligence's role in enhancing OE. Numerous studies have shown that BI provides tangible business benefits and is utilized by decision-makers across the organization for efficient decision-making in a wide range of business operations (Chau & Xu, 2012; Ranjan, 2009).

Second, this study proposes the unique mediational effect of organizational agility, such as MCA and OAA, in the relationship between BI and OE. organizational agility is associated with organizational change adaptation capacity. This is the first study to highlight the role of organizational agility in the relationship between BI and OE. By proposing organizational agility as a mediator, the present study emphasizes that, due to the upgrading of BI systems, it is essential for the organization to be more agile to enhance its OE because business intelligence makes organizational agility, and more agile enhances the OE.

Third, the present study proposes the moderating role of OIC in the relationship between organizational agility and OE. The proposed moderating role of OIC is another unique contribution to the dome of organizational behaviour or management. The presence of an OIC strengthens the impact of organizational agility, which ultimately enhances OE.

This article presents a fresh line of inquiry to investigate unique hypotheses that have been raised in the literature but have not yet been investigated. It emphasizes the idea of OE, for instance. It contributes to the literature on organizational behaviour by investigating the influence of BI on OE via its investigation of the mediator, organizational agility (MCA and OAA), in the relationship between BI and OE, as well as the moderator, OIC, in the relationship between organizational agility and OE. Previous studies by Cheng et al. (2020) explored the impact of business intelligence and OA on enhancing the speed of the firm's internationalization. Also, the impact of organizational strategy, design, procedure, and culture on OE was examined by Arefin et al. (2015), along with the potential mediating impact of BI systems. Hence, this unique and comprehensive model will add new knowledge to the existing literature on organizational behaviour.

Practical implications

This paper makes numerous predictions with numerous managerial implications. First, by improving knowledge of the antecedents of OE, this paper will help managers develop ways to use BI to enhance organizational performance through enhancing OE. Second, from the organizational perspective, we consider business intelligence to enhance OE and increase organizational agility. More specifically, the organization may review its capacity to improve its BI system for developing the organizational MCA and organizational agility to enhance OE. Finally, by highlighting the role of an OIC, the present study shows the necessity of an OIC to enhance OE.

Limitations and future research directions

There are a few limitations to this article. First, a systematic review must rely on reliable databases and retrieve relevant journal articles (Moheret al., 2009). This article used the term “OE” for its database search. However, researchers in the future may use other terms or alternative terminologies, such as "organizational efficiency" and "organizational performance," along with "OE," to get a broader range of results. Second, it can be mentioned as a constraint when a particular study area only sometimes appears in different databases. For instance, WoS only provides articles from a small selection of publications. Therefore, researchers may include Scopus in the future, and further manual efforts incorporating comprehensive journals may be beneficial. Finally, this article concludes by proposing a comprehensive framework to enhance the OE. Hence, in the future, researchers may test or validate the proposed model of the present study by collecting data from different country contexts.

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