Bridging the Nexus Between Cloud ERP and Enterprise Resilience

Ngoc Dang Khoa Nguyen, School of Business and Law, Central Queensland University, Melbourne, Australia

Imran Ali, School of Business and Law, Central Queensland University, Melbourne, Australia

Shivam Gupta, Department of Information Systems, Supply Chain Management & Decision Support, NEOMA Business School, Reims, France

https://orcid.org/0000-0002-2714-4958

Ruihong Chen, Hong Kong Metropolitan University, Hong Kong*

Bajjet Sylvester Naresho, Tanzania Institute of Accountancy, Tanzania

https://orcid.org/0000-0002-4973-5556

ABSTRACT

In today's dynamic business environment, numerous organizations are turning to cloud ERP implementation to enhance their operational efficiency and maintain uninterrupted business operations. Consequently, the literature has witnessed a surge in research at the intersection of cloud ERP and enterprise resilience (ER) over the past decade. This paper aims to present a systematic literature review (SLR) and the authors contribute to the existing literature by (1) exploring the connection between cloud ERP and ER, (2) analyzing how cloud ERP supports three key elements of ER—readiness, response, and recovery—and the intertwined mediators and moderators, and (3) proposing a conceptual framework at the nexus of cloud ERP and ER. The review concludes with suggestions for fruitful future research. Not only does this SLR carry several theoretical implications for the literature on cloud ERP and its impact on ER but also provides decision-makers with comprehensive insights into how cloud ERP reinforces ER, thereby ensuring the continuity of business operations in the turbulent business landscape.

KEYWORDS

Cloud ERP, Dynamic Capabilities, Enterprise Resilience, Systematic Literature Review

INTRODUCTION

In today's ever-shifting and unpredictable local and global markets, enterprises are in constant pursuit of strategic solutions to fortify their resilience and counter the pervasive uncertainty that looms over potential disruptions. The last few years have witnessed unprecedented challenges, such as the COVID-19 pandemic, which have presented formidable hurdles to business operations,

causing interruptions or, in some cases, complete standstills in the seamless flow of information, raw materials, and finished goods (Baral et al., 2022; Yao & Azma, 2022; Zhao et al., 2023). Faced with these formidable challenges, a growing number of contemporary enterprises are embracing a paradigm shift. They are progressively moving away from traditional business models and gravitating toward digital transformations, with cloud-based enterprise resource planning (cloud ERP) emerging as a pivotal solution. This strategic shift is not only instrumental in ensuring uninterrupted business operations but also in gaining a competitive advantage amid the rising tide of uncertainties (Ali et al., 2023; Y. W. Chang et al., 2019; Dudezert et al., 2023).

Advanced technology such as cloud ERP offers numerous benefits to businesses, including improved operational efficiency, streamlined processes, scalability, cost savings, real-time data access, enhanced collaboration, and flexibility (Ahn & Ahn, 2020; Fan et al., 2021; Guo & Wang, 2020). It enables organizations to adapt quickly to changing business needs, optimize resource utilization, and make data-driven decisions for sustainable growth. As such, in the wake of a highly uncertain and disruptive business landscape, recent research started exploring the link between cloud ERP and enterprise resilience (ER; Guo & Wang, 2020; Gupta et al., 2020; Yao & Azma, 2022).

ER cultivates readiness, response, and recovery capabilities to gain an equilibrium position in response to disruptions (Hendry et al., 2019). The readiness, for instance, enables proactively deploying capabilities to avoid possible business vulnerabilities before an incident happens (Kamalahmadi & Mellat-Parast, 2016). The response allows for resistance to disruptions when an incident materializes to mitigate the magnitude of losses. The recovery, following the first two stages, supports quick rebound from disruptions while achieving a normal or even better than a pre-disruptive stage (Ali et al., 2022).

Exploring the interconnection between cloud ERP and ER, many researchers (AlBar & Hoque, 2019; Jesus & Lima, 2021; Sultana et al., 2022) espoused that the adoption of cloud ERP supports information sharing, agility, connectivity, and visibility, contributing to different elements of ER (Avikal et al., 2021; Busto Parra et al., 2021; Roumani & Nwankpa, 2019). Gupta et al. (2020) and Roblek et al. (2021), for example, argued that cloud ERP facilitates data consolidation and transmission, collaboration, and alertness to new incidents, thus supporting readiness to mitigate disruptive impacts. Cloud ERP also assists in readiness for unforeseen events by integrating information systems and improving enterprise information processing capabilities (Y. Chang et al., 2019; Wang et al., 2022). Regarding the response, cloud ERP enables enterprises to respond timely to market changes such as customer requirements through asset tracking, information sharing, and order fulfillment automation (Hustad et al., 2020; Ma et al., 2021). As for the recovery, cloud ERP plays a facilitative role in enhancing cutting-edge capabilities, including real-time reconfigurations, increased data retention, redundancy or disaster recovery and thus rebounding emergency plans in case of unprecedented events (Jesus & Lima, 2021; Pirmanta et al., 2021). As such, cloud ERP ameliorates ER with three pillars in mind: readiness, response, and recovery.

More than 86% of companies that had already embraced cloud ERP to prepare for the challenges of rapid change have positioned themselves to thrive in a competitive future (Accenture, 2023). For example, Western Digital successfully implemented Oracle Fusion, focusing on self-service capabilities, which led to reduced overall cost to manage operations, and improved real-time collaboration and business resilience (Moorhead, 2021). Similarly, Fisker launched one SAP cloud ERP project to effectively support all business processes, with a strong emphasis on transforming best practices into next-generation solutions, forecasting, and adaptability to emerging challenges (Forbes, 2023).

The extant literature on cloud ERP offers several reviews, whereas there is no evidence of a comprehensive review of the interconnection of cloud ERP and ER. For instance, Chen et al. (2015) explore the benefits and challenges of cloud ERP alongside the adoption stages. Abd Elmonem et al. (2016) identified benefits and challenges of cloud ERP implementation. Sørheller et al. (2018) recognized issues associated with cloud ERP. Tongsuksai et al. (2019) investigate critical success factors (CSFs) for cloud ERP implementation. Mahmood et al. (2020) assessed the degree of criticality

of challenges faced by ERP implementation projects. Yasiukovich and Haddara (2020) highlight the importance of cloud ERP adoption for SMEs along with life-cycle stages: adoption decision, acquisition, implementation, use and maintenance, evolution, and retirement. Huang et al. (2021) underline CSFs of cloud ERP adoption, while Ali et al. (2023) investigate the enablers and barriers to cloud ERP in line with various innovation outcomes: business model, service, product, and process. To the best of our knowledge, the extant studies have missed the opportunity to provide a systematic literature review (SLR) at the nexus of cloud ERP and ER. The SLR provides a rigorous framework for searching, synthesizing, and evaluating relevant studies (Tranfield et al., 2003), thus offering insights into what has been accomplished and what still needs to be addressed in a specific domain. The significance of the topic and knowledge gap has motivated this study to explore the literature on how cloud ERP supports ER and ascertain what has already been accomplished in the area as well as recognize areas that need further research.

Our study thus aims to provide an SLR to consolidate the literature, contributing to the knowledge base on the nexus of cloud ERP and ER. To accomplish this objective, we advance the following three research questions (RQs):

- **RQ1.** What are the major findings and recent developments regarding cloud ERP and ER?
- **RQ2.** What are the key methodologies, theories, and national contexts in the existing research?
- **RQ3.** What are the opportunities for more impactful future research at the intersection of cloud ERP and ER?

The rest of the paper is structured as follows to answer the research questions: The following sections illustrate the review methodology; discuss the findings and development of the existing research; demonstrate descriptive analysis, namely methodologies, theories, and national context; offer a conclusion, future research directions, and limitations of the study; and present theoretical and managerial implications.

REVIEW METHODOLOGY

Prior studies on cloud ERP have spanned diversified domains. A heterogeneous body of literature presents the challenge of capturing the breadth of relevant contributions and summarizing key findings. We address this challenge by identifying eligible studies through an SLR (Moher et al., 2009). The SLR method provides a rigorous framework for searching, synthesizing, and evaluating the relevant studies (Tranfield et al., 2003). It plays a crucial role in advancing research, decision-making, and evidence-based practice in various fields.

To retrieve the maximum number of relevant studies, a robust set of keywords is a preliminary stage in an inclusive review. We developed an inclusive set of keywords based on the constant search and review of the articles around the topic. First, we read the literature to better understand the topic of cloud ERP and ER. Second, we have collected the frequently used key terms in the literature surrounding cloud ERP and ER. After that, we collated all keywords and developed a set of keywords: *Cloud ERP*, cloud-based enterprise *resource planning, enterprise resource planning, ERP services, resilien*, agility*, *robustness*, *vulnerabilit**, and *disruption**. Such keyword strings generated various irrelevant documents around the topic. We repeatedly employed numerous combinations of keywords and reviewed the resulting documents. Finally, our review suggests that the following set of keywords have retrieved the maximum relevant documents on the topic: *Cloud ERP*, *resilien**, *agility*, *robustness*, *vulnerabilit**, *disruption**. We used an asterisk sign (*) in *resilien**, *vulnerabilit**, and *disruption** to expand the search and retrieve term variations, including *resilience*, *vulnerability*, *disruptive,* and so forth. Quotation marks ("") grouped multiple-word phrases to be retrieved together by the search system.

As depicted in Figure 1, we searched for the keyword string in Scopus, the largest database, generating 147 documents with several inclusions (e.g., articles or reviews; written in English; published from 1999 to March 22, 2023). Our review did not limit the time to produce maximum retrieval of documents; nevertheless, the search string has been suggested in 1999 as the time for the advent of the research topic. The second stage was undertaken by excluding irrelevant articles by reading titles, abstracts, and full papers; this process excluded 89 documents, leaving 58 articles from the Scopus database. The inclusions were: (a) papers concentrated on cloud ERP in association with ER, and (b) the search query *"Cloud ERP" OR "cloud based-enterprise resource planning" OR "enterprise resource planning" OR "ERP services" AND resilien* OR agility OR robustness OR vulnerabilit* OR disruption**. We also established an exclusion criterion, which was the presence of one or more keywords solely in reference lists without corresponding discussion in the body text. To improve the search results, we repeated our search in Web of Science (WoS) and Google Scholar and carried out reference checks of our 58 identified documents. In the third stage, we identified a further 29 documents, but 17 of these were removed since they duplicated our findings from the previous search in the fourth stage. In the fifth stage, we read, in full, the remaining 12 documents, of which we included 5 for further consideration and excluded 7 based on the exclusion criterion mentioned before. In the final (sixth) stage, we consolidated the results from both the second and fifth stages of our search, totaling 63 documents across 14 subjects, encompassing business, management, and accounting (27); computer science (31); engineering (23); decision sciences (15); social sciences (13); physics and astronomy (1); economics, econometrics, and finance (5); mathematics (4); materials science (2); energy (3); agricultural and biological sciences (1); environmental science (5); health professions (1); and psychology (3) for our analysis.

ANALYSIS AND FINDINGS

Cloud ERP and ER

This section provides an overview of the findings of the literature review at the intersection between cloud ERP and ER. More specifically, we discuss the findings regarding how cloud ERP reinforces three elements of ER, namely readiness, response, and recovery.

Cloud ERP and Readiness

When exploring the nexus between cloud ERP and readiness, many authors (e.g., Badewi et al., 2020; Gupta et al., 2020; Polireddi & Sekhar, 2023) enumerate that cloud ERP consolidates and transmits data to promote collaboration and flexibility, which are key drivers of readiness. The research also found that cloud ERP with customized configurations offers market flexibility, shorter lead times, and cost-effective mass production, leading to improved readiness for uncertainties (Al-Matari et al., 2022; Liu et al., 2018). To safeguard enterprises from highly impactful disruptions, it is indispensable to highlight the importance of data collection through cloud ERP and its utilization for forecasting sudden spikes in demand, adapting, and quickly responding to swift market changes (Roblek et al., 2021; Wang et al., 2022). In other words, adopting cloud ERP will place enterprises in better positions to foresee disruptions (i.e., readiness), mitigate disruptive impacts, and assure uninterrupted business operations (Ahmadzadeh et al., 2020; Xu & De Vrieze, 2018). Cloud ERP-enabled data analytics helps enterprises navigate crises and adapt to sudden changes before they happen (Borangiu et al., 2019; Skafi et al., 2020; Wang, 2023). For instance, Jayender and Kundu (2021) expound that cloud ERP allows for a resilience culture by offering real-time data accessibility through pre-programmed responses, collaboration, and information sharing, thereby preparing organizations before incidents occur.

Additionally, cloud ERP facilitates designing resilient and intelligent enterprises through real-time information sharing and better collaboration among business partners in increasingly complicated

Figure 1. Stages of data collection
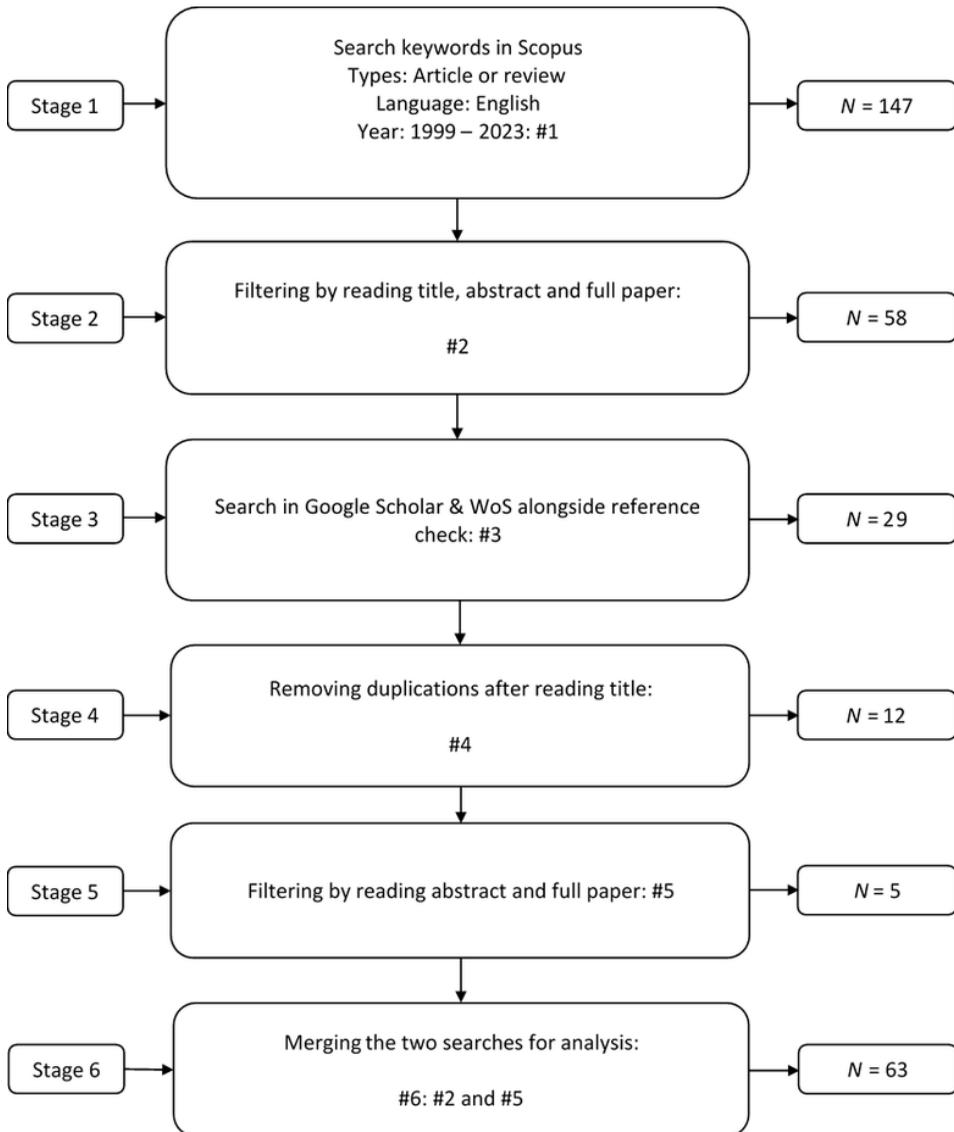
corporates with more stakeholders involved (Ma et al., 2021; Manuel Maqueira et al., 2019; Shajrawi, 2023). For example, Subramanian and Abdulrahman (2017) argue that the implementation of cloud ERP ambidexterity and interoperability for transport and logistics services is inevitable in foreseeing risks and assuring business continuity. Further, the implementation of cloud ERP in accounting and IT enterprises yields enormous benefits with respect to adaptation, visibility, flexibility, and lower operational risks (Chang et al., 2016; Ma et al., 2021). Thus, cloud ERP can substantially support organizations to develop readiness capabilities before an incident happens.

Cloud ERP and Response

Various authors (Jesus & Lima, 2021; Liu et al., 2018; Mathrani, 2022) stressed that cloud ERP eliminates disruption propagation through automated, visible, and transparent information exchange

mechanisms. Cloud ERP also improves robustness and agility, thereby allowing organizations to resist and respond to unforeseen incidents (Avikal et al., 2021; Borangiu et al., 2019; Shajrawi & Aburub, 2022). Extant literature also highlights the importance of cloud ERP in offering provenance and immutability, which secures and shares data, in turn, offering better responses to disruptions (Abdallah & Ayoub, 2020; Morawiec & Sołtysik-Piorunkiewicz, 2023). Additionally, extensive collaboration and functional intersections across organizational boundaries make business partners more flexible and agile to adapt to change (Elgohary, 2019; Liu et al., 2018; Tongsuksai, 2023). Therefore, based on the beneficial effects of cloud ERP such as scalability, agility, data security, and transparency, it is capable of improving ER response capabilities in times of uncertainty (Hustad et al., 2020; Ma et al., 2021; Shajrawi, 2023). For example, cloud ERP possesses the capability to transform conventional risk management and mitigation processes, into cloud ERP-enabled resilience management by stipulating multi-layered protection (Borangiu et al., 2019; Margherita et al., 2021; Polireddi & Sekhar, 2023).

Belhadi et al. (2021) suggest cloud ERP reduces ripple effects during highly impactful disruptions, boosts governance and streamlines business processes. Further, the impact of cloud ERP with customized configuration supports data exchange, enhances adaptive systems, and generates market flexibility which are vital elements of responsiveness (Katsaliaki et al., 2021; Namjoo & Keramati, 2018). Bag et al. (2021) and Jayender and Kundu (2021) add that cloud ERP supports enterprise reconfiguration and adaptation capabilities, enhancing performance and resisting to unanticipated circumstances. Cloud ERP also allows enterprises to improve redundant procedures both inside and between enterprises, which facilitate swift responses to environmental uncertainties (Jayender & Kundu, 2021; Kang & Suh, 2022; Sultana et al., 2022).

In addition, cloud ERP establishes strong connections among all departments, monitors business workflow and suggests correcting measures amid disruption (Liu et al., 2018; Manuel Maqueira et al., 2019; Mathieu, 2023). Cloud ERP also facilitates the transparency of secure and reliable information utilizing various predetermined criteria through a synchronized process (Manuel Maqueira et al., 2019; Roffia, 2023), which is applicable in various industry sectors, including retail (Klumpp & Loske, 2021), healthcare (Rodríguez et al., 2021), the automotive industry (Jayender & Kundu, 2021) and banking (Ahmadzadeh et al., 2020). As such, a cloud ERP response efficiently models the enterprise mechanisms such as boosting efficiency, strengthening trust among stakeholders and promoting business performance as well as thrives in short-term and long-term disruptions from a resilience point of view.

Cloud ERP and Recovery

Cloud ERP has beneficial effects, assisting enterprises in strategic decision-making, enabling them to construct adaptation, survival, and recovery plans amid unprecedented and extraordinary outbreak (Nasir et al., 2022; Roffia & Dabić, 2023; Tolga, 2018). Specifically, cloud ERP plays a facilitative role in improving enterprise performance by supporting real-time reconfigurations and swift recovery plans, which ameliorates ER (Jesus & Lima, 2021; Katsaliaki et al., 2021). In recent times, manufacturing enterprises of all sizes use cloud ERP for facilitating data retention, redundancy or disaster recovery, and automated security management (Mezgár & Rauschecker, 2014; Tong, 2023). Research shows that cloud ERP helps manufacturing enterprises to construct long-term relationships with partners and utilize intra and inter-organizational integration for recovery, such as optimized information on proper deliveries, quality products, and customer satisfaction (Pirmanta et al., 2021). Both Bhatt et al. (2021) and Ahn and Ahn (2020) argue that cloud ERP allows for integrating all enterprise-related activities, standardizing processes, promoting inter- and intra-business collaboration, and improving the robustness of decision-making capabilities, which can shorten the adaptation phase and support swift recovery.

Unlike the legacy ERP systems, web-based services enable ERP users to have swift access to the enterprise's project documentation and data, generating synergy among them and enhancing their work during the production stage (Rodríguez et al., 2021; Tolga, 2018). Similarly, cloud ERP-enabled

agile and flexible approaches facilitate updated adaptation to support business processes, fostering recovery capabilities toward ER (Senarathna et al., 2018; Wu et al., 2013; Morawiec, 2023). By enabling smart-centric decision-making through data analytics, Cloud ERP enormously contributes to enhanced demand forecast accuracy, reduced discrepancies, and minimized business operations interruptions (Manuel Maqueira et al., 2019; Xu & De Vrieze, 2018; Polireddi, 2023). For instance, a networked enterprise expedites increased mutual adaptation and collaboration between partners for creating satisfaction and benefits in different industry sectors, including healthcare (Rodríguez et al., 2021), manufacturing (Shirazi, 2019), banking (Al-Matari et al., 2022) and retail (Klumpp & Loske, 2021). As such, enterprises should capitalize on cloud ERP along with adaptation and recovery mechanisms to enhance contingency plans, optimize core business values, and attain a competitive edge in a dynamic economy.

Moderators

The analysis of 63 studies reveals six articles articulating moderating factors between cloud ERP and ER. For instance, Jayender and Kundu (2021) and Wu et al. (2013) denote that information sharing strengthens the impact of cloud ERP on ER. Liu et al. (2018) stress that systems integration and vendor quality have positive moderating roles between cloud ERP and ER (Bhatt et al., 2021). Gupta et al. (2020) and Elgohary (2019) confound that top management support positively moderates the intersection between cloud ERP and ER. At the firm level, it is suggested that agility acts as a moderating variable in facilitating the relationship between cloud ERP and visibility (Elgohary, 2019; Jayender & Kundu, 2021).

Mediators

Of 63 articles, nine studies discuss mediating mechanisms between cloud ERP and ER. For instance, Elgohary (2019) postulate that management control significantly mediates the relationship between cloud ERP and ER. Badewi et al. (2020) argued that employee skills positively mediate the nexus between cloud ERP and ER. Customer integration mediates the relationship between cloud ERP and ERP in (Pirmanta et al., 2021). As identified by Xu and De Vrieze (2018) and Al-Matari et al. (2022), cloud ERP foresees ER through business process management. Y. Chang et al. (2019) suggest that absorptive capacity plays a mediating role in explaining the relationship between the success of innovation process agility and cloud ERP. Social capital is deemed a crucial mediator for sustaining resilience with cloud ERP (Klumpp & Loske, 2021). Sultana et al. (2022) point out that strategic market agility positively mediates the influence of cloud ERP and ER. Likewise, Jesus and Lima (2021) indicate the mediating role of technological transformation in explicating the influence of cloud ERP and ER.

Conceptual Framework

Building upon the review of the literature and emerging themes, we conceptualize the following framework (see Figure 2) that integrates cloud ERP and elements of ER and the role of moderators and mediators. This proposed framework assumes that cloud ERP positively influences readiness, response, and recovery (antecedents of ER). The framework also captures five mediating mechanisms and eight moderating variables on the nexus between cloud ERP and antecedents (readiness, response, and recovery) of ER.

Future research can examine this framework by underpinning the dynamic capability view (DVC); it empowers firms to reconfigure and reconstruct resources and capabilities within a dynamic business environment, ultimately leading to a sustainable competitive advantage (Teece et al., 1997). Given the intense pressure that firms face due to market uncertainties, it is imperative for them to invest in and nurture their resources into capabilities for maximizing overall business performance (Leonard-Barton, 1992). Building upon the work of Eisenhardt and Martin (2000) and Teece (2014),

Figure 2. Integrated framework for cloud ERP and ER research
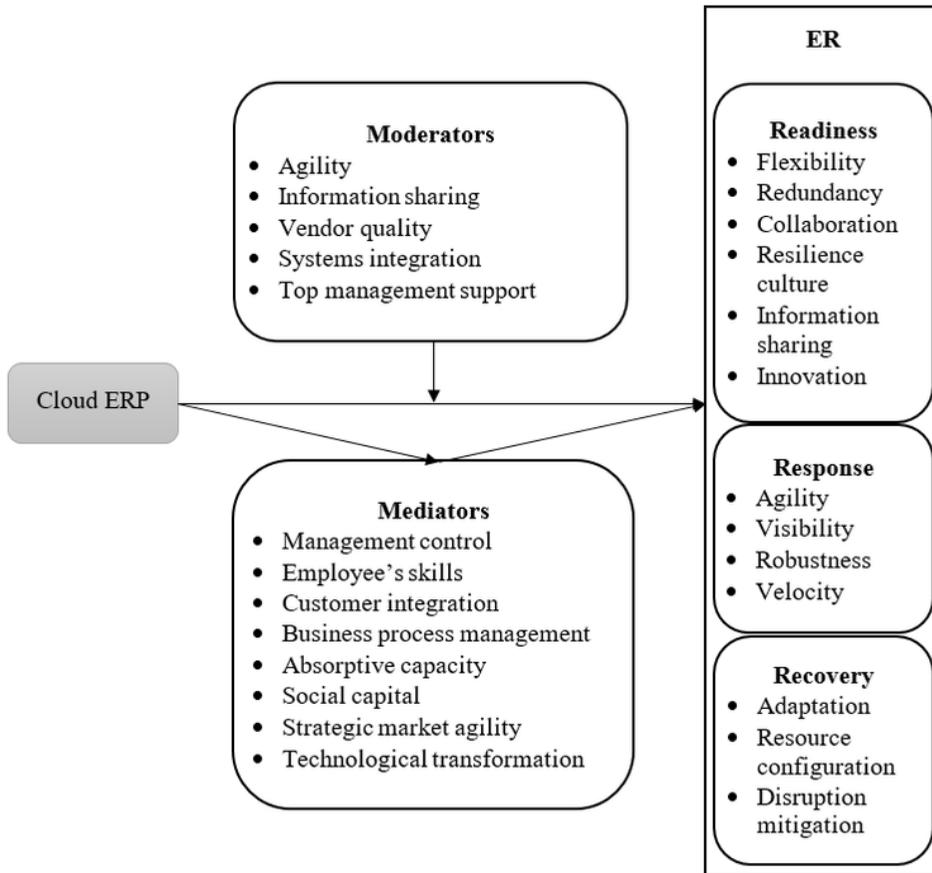
the DVC plays a crucial role in navigating these highly uncertain market dynamics through sensing, seizing, and reconfiguring (or transforming).

From the DVC, survival during intense pressure necessitates enterprises to accomplish sensing, seizing, and reconfiguring capabilities (Roffia, 2023; Putritamara, 2023). In terms of sensing, enterprises sense the technological changes, such as cloud ERP, in the market and subsequently seize the opportunities, e.g., implement cloud ERP, leading to the transformation of business process, e.g., attain better ER (Hendry et al., 2019; Teece, 2014). More precisely, C-level executives sense the opportunities to implement digital infrastructure such as cloud ERP to gather and analyze large-scale and real-time granular data with the aim of forecasting and capitalizing on human behavior {Morawiec, 2023; Wamba, 2023). The advancements in computational speed, data storage, data retrieval, and analytics have tremendously improved redundancy, collaboration, and information-sharing capabilities (Bandara, 2023; Yang, 2023). These executives subsequently seize the feasible capabilities required for establishing processes, incentives, and governance elements, enabling them to harness several digitally enabled activities, including agile cross-functional teams and enhanced scenario-planning practices (Chatterjee, 2023; De-Pablos-Heredero, 2021). Finally, such executives transform these capabilities into indispensable elements that underpin the dynamic integration of internal and external processes, thereby fostering adaptation and resource configuration toward the attainment of ER (Urbinati, 2022; Khurana, 2022).

Prior studies have predominantly explored the outcome of dynamic capability (DC), with relatively fewer studies investigating the antecedents of their formation (Kearney et al., 2022; Sabahi & Parast, 2020). The integration of the DVC in our proposed framework can help research demonstrate the process of DC formation. That is, research can utilize the DVC to demonstrate how enterprises adopting cloud ERP can achieve the three DCs (readiness, response, recovery) of ER and competencies associated with each DC—that is, readiness (e.g., information sharing and flexibility), response (e.g., agility and visibility), and recovery (e.g., adaptation, disruption mitigation, and resource configuration). Our review suggests that the development of dynamic capabilities, specifically readiness, response, and recovery, entails the involvement of various mediating and moderating mechanisms. These mechanisms should be duly taken in future research.

DESCRIPTIVE ANALYSIS

Methodologies Used

The content analysis of 63 documents, shown in Table 1, depicts the past studies employing several methods to explore the interrelationship between cloud ERP and ER. In doing so, we have classified these methods into several categories, namely qualitative with case study method; quantitative methods encompassing survey-based method, analytical modeling, multi-criteria decision-making (MCDM), mixed methods; systematic review; and researcher's opinions.

Theories Used

As depicted in Table 2, 27 out of 63 articles employed theory. RBV has been the most employed theory at organizational level (9 articles). The tenets of this theory are applied to investigate the influential

Table 1. Methodologies in past research

Methodology	Articles	Authors
Quantitative	42 (66.7%)	
Survey-based approach	32	Roffia and Dabić (2023); Bryszewska and Kulesza (2022); Ashraf and Ali (2022); Shajrawi and Aburub (2022); Chernenko et al. (2022); Nasir et al. (2022); Kang and Suh (2022); Sultana et al. (2022); Al-Matari et al. (2022); Avikal et al. (2021); Bag et al. (2021); Jayender and Kundu (2021); Pirmanta et al. (2021); Razzaq et al. (2021); Ahmadzadeh et al. (2020); Abdallah and Ayoub (2020); Ahn and Ahn (2020); Badewi et al. (2020); Gupta et al. (2020); Skafi et al. (2020); AlBar and Hoque (2019); Y. Chang et al. (2019); Elgohary (2019); Manuel Maqueira et al. (2019); Roumani and Nwankpa (2019); Gupta et al. (2018); Liu et al. (2018); Namjoo and Keramati (2018); Senarathna et al. (2018); Subramanian and Abdulrahman (2017); Brusset (2016); Chang et al. (2016)
Analytical modelling	6	Wang et al. (2023); Abdymanapov et al. (2021); Klumpp and Loske (2021); Shirazi (2019); Henriques de Gusmão et al. (2018); Salamat et al. (2016)
MCDM	3	Polireddi and Sekhar (2023); Meghana et al. (2018); Tolga (2018)
Mixed methods	1	Bhatt et al. (2021)
Qualitative (case studies, interviews)	15 (23.8%)	Putra and Soewito (2023); Mathrani (2022); Busto Parra et al. (2021); Jesus and Lima (2021); Ma et al. (2021); Margherita et al. (2021); Roblek et al. (2021); Rodríguez et al. (2021); Wijaya et al. (2020); Borangiu et al. (2019); Heinzelmann (2018); Xu and De Vrieze (2018); Misra et al. (2017); Venkatraman and Fahd (2016); Mezgár and Rauschecker (2014)
Review (systematic review)	3 (4.7%)	Morawiec and Sołtysik-Piorunkiewicz (2023); Katsaliaki et al. (2021); Hustad et al. (2020)
Researcher's opinions	3 (4.7%)	Wang et al. (2022); Senarathna et al. (2018); Wu et al. (2013)

factors or solutions of cloud ERP implementation for enhanced resilience (e.g., Al-Matari et al., 2022; Gupta et al., 2018), effectiveness of determinants of cloud ERP adoption for ER (e.g., Bag et al., 2021; Salamat et al., 2016; Sultana et al., 2022) and the perception of ERP innovation benefits toward business agility and resilience (e.g., Ashraf & Ali, 2022; Badewi et al., 2020; Brusset, 2016; Namjoo & Keramati, 2018). Two studies (e.g., Al-Matari et al., 2022; Sultana et al., 2022) adopted RBV with the DVC to theorize capability management and market orientation to investigate the impact of information systems capabilities on turbulent business performance. Only one study has adopted RBV with TCT as an inter-organizational collaboration theory to mitigate the uncertainties induced by market failure relevant to reduced associated costs (Salamat et al., 2016).

Further, 16 (29.1%) articles employed specific theories for exploring cloud ERP for ER. For instance, drawing upon the DVC, Abdallah and Ayoub (2020) and Gupta et al. (2020) develop an empirical model elucidating how firms can configure and transform their business process capabilities and procedures in an erratic or uncertain environment. In addition, four studies (e.g., AlBar & Hoque, 2019; Razzaq et al., 2021; Senarathna et al., 2018; Skafi et al., 2020) adopted theory of innovation (DOI) and theory of technology adoption (TOE) to explore factors influencing adoption of cloud ERP for agility in small and medium-sized enterprises (SMEs). Only three studies have adopted TOE as the key theoretical underpinning foundation incorporated with other models, including the Iacovo model, critical mass theory, and contextual theory, to investigate influential factors affecting cloud ERP adoption for ER (Ahn & Ahn, 2020; Razzaq et al., 2021; Skafi et al., 2020).

Some studies, on the other hand, applied theories for cloud ERP adoption for resilience at the organizational level, including grey system theory (Nasir et al., 2022) and agency theory (Ma et al., 2021). Three studies employed mathematical theories, including graph theory (Jayender & Kundu, 2021), game theory (Shirazi, 2019), and fuzzy decision theory (Henriques de Gusmão et al., 2018). Other studies used the teleological lens (Rodríguez et al., 2021), disruptive innovation (Sultana et al., 2022), ambidexterity theory (Y. Chang et al., 2019), prospect theory (Tolga, 2018), the *i** model (Misra et al., 2017), and MIR (Ahn & Ahn, 2020).

National Context

The reviewed articles are classified into different categories based on national context (see Table 3). This context plays a vital role in formulating enterprise strategies and achieving resilient performance in terms of cloud ERP implementation. A varied range of nations have adopted socioeconomic initiatives and complied with environmental norms to attain innovative forms of competitive edge. As such, many industries operating in distant geographical locations have faced different challenges. Most (8) of the articles (12.7%) in total had no specific countries, followed by 10.9% (6) being India, 6.3% (4) being Spain and China, and approximately 4.7% (3) being Australia, Brazil, and Indonesia, respectively. Further, three articles considered various nations from diversified regions to show the effects of cloud ERP services for ER all around the globe: comparisons included Germany, France, China, United Kingdom, Russia, Japan, China, Netherlands, South Korea, and Singapore (Margherita et al., 2021); Slovenia, Croatia, Czech Republic, Germany, Austria, Hungary, Sweden, Germany, Malta, Ecuador, and Spain (Roblek et al., 2021); Arab, Europe, United States, Australia and others (Badewi et al., 2020). With respect to a specific nation, two articles focused on Korea, Malaysia, New Zealand, the United States, Indonesia, Iran, Jordan, and Canada, and one each on Italy, Poland, Pakistan, Russia, Bangladesh, Kazakhstan, Austria, Germany, Saudi Arabia, the United Kingdom, South Africa, Lebanon, Egypt, and France.

The analysis reveals that quantitative studies have the highest contribution, with around 66.7% (42 of 63) share in sampled documents, whereas most studies (32 articles) built on survey-based approaches. The second-largest methodological category is qualitative studies (15 out of 63) with respect to the percentage of contributions (23.8%). Alternatively, the portion of solution approaches (analytical modeling) receives a lower share (9.5%) in research, followed by the MCDM approach (4.8%). Surprisingly, we can find just 1.8% (1 out of 63) study on mixed-methods studies, calling

Table 2. Theories in past research

Theory	Articles	Authors
Resource-based view	9	Ashraf and Ali (2022); Al-Matari et al. (2022); Sultana et al. (2022); Bag et al. (2021); Badewi et al. (2020); Gupta et al. (2018); Namjoo and Keramati (2018); Brusset (2016); Salamat et al. (2016)
Dynamic capability view	4	Al-Matari et al. (2022); Sultana et al. (2022); Abdallah and Ayoub (2020); Gupta et al. (2020)
Technology-organization-environment	6	Morawiec and Sołtysik-Piorunkiewicz (2023); Razzaq et al. (2021); Skafi et al. (2020); Ahn and Ahn (2020); AlBar and Hoque (2019); Senarathna et al. (2018)
Transaction cost theory	1	Salamat et al. (2016)
Lacouvo model	1	Razzaq et al. (2021)
Critical mass theory	1	Razzaq et al. (2021)
Contextual theory	1	Skafi et al. (2020)
Grey system theory	1	Nasir et al. (2022)
Agency theory	1	Ma et al. (2021)
Graph theory	1	Jayender and Kundu (2021)
Game theory	1	Shirazi (2019)
Fuzzy decision theory	1	Henriques de Gusmão et al. (2018)
Disruptive innovation	1	Sultana et al. (2022)
Ambidexterity theory	1	Y. Chang et al. (2019)
Prospect theory	1	Tolga (2018)
i^* model	1	Misra et al. (2017)
Model of innovation resistance	1	Ahn and Ahn (2020)

for further research on such approaches. Many of these studies explore a single case in a specific nation's context, thereby presenting geographical limitations—little support for the generalization of findings to a wide-ranging population. Qualitative case studies also have several limitations with reference to statistical generalization by reason of the limitation of sample size. One of the key research methodologies is a literature review conducted in three articles employing a systematic review method for analysis, aiming to synthesize the literature from comprehensive perspectives. Given the nascency of the topic, researcher opinions (3 out of 63) articles account for only 4.7%. Such articles provide better foundations for the conceptualization of key constructs and relationships; thereafter, empirical validation of such conceptualizations ought to be inevitable.

CONCLUSION

Our study examines the literature on the interrelationship of cloud ERP and ER over the past decade. Building upon 63 articles, this SLR suggests that cloud ERP can support three elements—readiness, response, and recovery—of ER. Further, our year-wise analysis of publications reveals that the literature on cloud ERP for ER has been growing from 2012 to 2023. Analysis of national context shows limited studies in the developing and emerging contexts. Lastly, our literature review around each finding results in a conceptual framework, elucidating the interconnection of cloud ERP for ER (readiness, response, and recovery) and a set of mediators and moderators. A more detailed discussion of the avenues for future research has been provided in the following sections.

Table 3. National contexts in past research

Nation	Articles	Authors
India	6	Bhatt et al. (2021); Avikal et al. (2021); Jayender and Kundu (2021); Gupta et al. (2020); Meghana et al. (2018); Gupta et al. (2018)
China	4	Wang et al. (2023); Wang et al. (2022); Liu et al. (2018); Subramanian and Abdulrahman (2017)
Spain	4	Busto Parra et al. (2021); Rodríguez et al. (2021); Manuel Maqueira et al. (2019); Xu and De Vrieze (2018)
Australia	3	Sultana et al. (2022); Senarathna et al. (2018); Venkatraman and Fahd (2016)
Brazil	3	Jesus and Lima (2021); Henriques de Gusmão et al. (2018); Gonzalez et al. (2012)
Indonesia	3	Putra and Soewito (2023); Pirmanta et al. (2021); Wijaya et al. (2020)
Canada	2	Namjoo and Keramati (2018); Misra et al. (2017)
Iran	2	Ahmadzadeh et al. (2020); Shirazi (2019)
Jordan	2	Shajrawi and Aburub (2022); Abdallah and Ayoub (2020)
Korea	2	Kang and Suh (2022); Y. Chang et al. (2019)
Malaysia	2	Al-Matari et al. (2022); Razzaq et al. (2021)
New Zealand	2	Mathrani (2022); Ma et al. (2021)
United States	2	Roumani and Nwankpa (2019); Wu et al. (2013)
Austria	1	Heinzelmann (2018)
Bangladesh	1	Nasir et al. (2022)
Egypt	1	Elgohary (2019)
France	1	Brusset (2016)
Germany	1	Klumpp and Loske (2021)
Italy	1	Roffia and Dabić (2023)
Kazakhstan	1	Abdymanapov et al. (2021)
Lebanon	1	Skafi et al. (2020)
Pakistan	1	Ashraf and Ali (2022)
Poland	1	Bryszewska and Kulesza (2022)
Russia	1	Chernenko et al. (2022)
Saudi Arabia	1	AlBar and Hoque (2019)
South Africa	1	Bag et al. (2021)
United Kingdom	1	Chang et al. (2016)
Multiple countries	3	Margherita et al. (2021); Roblek et al. (2021); Badewi et al. (2020)
Non-country specific	8	Morawiec and Sołtysik-Piorunkiewicz (2023); Polireddi and Sekhar (2023); Katsaliaki et al. (2021); Hustad et al. (2020); Borangiu et al. (2019); Tolga (2018); Salamat et al. (2016); Mezgár and Rauschecker (2014)

Research on cloud ERP for ER has been presented through diverse theoretical lenses, such as RBV, DOI, the DVC, TOE, TCT, and MIR. With the emergence of various mechanisms, moderators, and mediators such as collaboration, agility, resource configuration, top management support, and business process management, future authors can enhance our understanding of how different firms perceive the decision processes involved in cloud ERP capability provisioning. By combining multiple theories, such as RBV and TCT, we can gain valuable insights into the rationale behind inter-

organizational relationships, including the mechanisms and antecedents that help mitigate disruptions caused by market failures and enable cost reduction. There are also opportunities for utilizing TOE and contextual theory frameworks for influential factors grounded in benefits, challenges, and critical factors, or DOI and MIR or TOE, DOI, and critical mass theory to conduct future research in this field. Future researchers can analyze several constructs of cloud ERP for ER, including antecedents and mechanisms. To this end, comparative research analyzing the performance of cloud ERP for ER will be attention-grabbing.

Most research on cloud ERP for ER primarily relies on survey based single/mono method. The relative share of case study approaches, analytical models, MCDM, researcher's opinions, and systematic reviews is considerably low. We thus suggest future research adopting these methods to foster methodological development in this field. A case study explores the real-life application of theoretical concepts. Analytical modeling helps devise quantitative and statistical solutions. MCDM assesses the effects of metrics. Systematic review synthesizes literature from overarching viewpoints. Researcher opinions provide concepts of key findings and relationships. There is a scarcity of studies employing mixed-method approaches, which not only facilitate generalizations but also foster a deeper comprehension of the subject matter. The existing studies do not enable us to know how cloud ERP for ER evolves over various stages of the implementation. It is, therefore, essential for tracking these developments over time through longitudinal surveys.

Future Work

Most studies on cloud ERP have focused on ER within market contexts such as Asia, Europe, and North America. Following recent growth in cloud ERP for ER in emerging economies, including China (Wang et al., 2022), India (Bhatt et al., 2021), and Brazil (Jesus & Lima, 2021), future research is encouraged to explore cloud ERP and ER for competitive edge within the context of the southern hemisphere. These contexts are characterized by institutional voids that scholars can exploit for developing context-specific cloud ERP for ER studies. Further, most studies highlighting the implementation of cloud ERP for ER have been conducted by developed nations such as the United Kingdom (Chang et al., 2016), the United States (Roumani & Nwankpa, 2019), Germany (Klumpp & Loske, 2021), and Australia (Senarathna et al., 2018). These studies have indicated the need to encourage enterprises from other parts of the world to adopt cloud ERP for ER based on several factors, challenges, or even benefits.

Limitations

Aside from the intriguing findings, like any other literature review, this study also has its limitations. Although we developed a comprehensive search string and utilized three major databases, it is possible that some articles were unintentionally overlooked. However, it is worth noting that our dataset consists of 63 papers, so the omission of a few articles is unlikely to significantly impact the key findings. We conducted our article search until March 22, 2023, to provide up-to-date insights on the topic, but it is possible that additional articles will be published by the time our paper is released. Given that the topic of cloud ERP and ER is still emerging, it would be valuable to conduct further literature reviews on the trends and trajectory of knowledge in this domain. In order to provide more comprehensive knowledge, we specifically focused on cloud ERP and ER, while future research could explore reviews involving other emerging technologies such as cloud computing and ER, or artificial intelligence and ER. Lastly, our study only employed the SLR methodology. Future studies may apply a mixed-method approach combining SLR with bibliometric analysis. The integration of two methods may provide a powerful means to combine qualitative and quantitative insights to offer a more complete and insightful perspective on the state of knowledge and the direction of future research. The combination of two approaches can help overcome the key limitation or critique of the bibliometric method i.e., primarily focuses on quantitative data, such as citation counts, publication counts, and author collaboration networks.

IMPLICATIONS

Theoretical Implications

Our research makes theoretical contributions to cloud ERP and ER in several ways. First, our study consolidates the dispersed literature and models numerous research findings, bringing coherence to this field. Second, we classify the literature into key findings such as readiness, responses, and recovery. Through comprehensive literature reviews within each construct, not only do we offer conceptual clarity around the topic, but also identify potential avenues for future research directions, which can further advance scholarly understanding in this field. Third, our proposed conceptual framework provides an opportunity for testing the interrelationship among mechanisms, in turn adding empirical findings to the extant body of knowledge in this area. This framework underscores the importance of cloud ERP and its far-reaching impact on ER, along with the imperative role of the DVC. Our framework thus provides a promising opportunity and standpoint to prospective studies for incorporating multidisciplinary knowledge toward cutting-edge practices in enhanced resilience. Fourth, drawing upon the digital transformation, many entrepreneurs have recently embraced fully automated digital technologies, and studies tend to concentrate on the effects of technological innovations on firm performance toward resilience. Several examples of such innovations encompass blockchain (Liu, 2022; Iftikhar, 2022), artificial intelligence (Zdravković, 2022; Srivani, 2023), and metaverse (Singla, 2023; Weking, 2023).

As such, future research can broaden our framework for exploring the importance of such innovations alongside cloud ERP toward enhanced ER. In particular, cognitive computing embedded cloud ERP services can optimize cognitive organizational infrastructure (e.g., capabilities and processes) and cognitive technological one (e.g., data and technologies), ultimately delivering more robust process resilience (Gupta, 2023). Thus, we encourage future research to use cloud ERP for ER. Recent studies pinpoint the role of automated technologies in bolstering firm performance, particularly in the face of disruptions such as the COVID-19 pandemic. Given the knowledge of cloud computing for ER, our framework can be advanced to better understand the significance of automated technologies for addressing disruptions introduced by the pandemic and rebounding firm performance.

Managerial Implications

By consolidating the findings of 63 articles into a single document, our review provides valuable knowledge for managers and policymakers regarding how cloud ERP enhances ER and facilitates the transformation of legacy systems into innovative ones. We argue that organizations that adopt cloud ERP experience minimal impact from operational risks, such as forecasting errors and information asymmetries. Likewise, our findings illustrate that leaders who invest in cloud ERP can significantly reduce disruptions caused by unstable settings, including delivery delays, inter-organizational operational risks, and information-sharing challenges.

Based on our review, we suggest that managers recognize that cloud ERP simultaneously supports the readiness, response, and recovery elements of enterprise resilience. The readiness capabilities encompass redundancy, information sharing, and flexibility, which effectively mitigate costly vulnerabilities and eliminate redundant procedures both within and between enterprises. The implementation of cloud ERP with scalability features in a retail company assists managers in efficiently addressing demand fluctuations during holiday sales, thereby meeting customer demand without disruptions (Santos, 2023). The response capabilities enable firms to gain agility, visibility, robustness, and velocity, thereby expediting decision-making, facilitating quick responses, and optimizing business process management. Within a distribution companies, for instance, C-level executives can harness the data provided by cloud ERP to make informed decisions in rapidly evolving environments, promoting enterprise resilience (Li, 2022). Cloud ERP also enables adaptation, resource configuration, and disruption mitigation during the recovery phase by integrating real-time

business activities, standardizing processes, and rebounding contingency plans. To exemplify this, the facilitation of remote work through cloud ERP in a professional services firm necessitates an overarching strategy that takes data security and team dynamics into consideration. Overall, our study paves the way for decision-makers to incorporate cloud ERP into their strategies as a viable factor for stimulating innovative and resilient business operations amid the rising uncertainties in the business environment.

REFERENCES

Abd Elmonem, M. A., Nasr, E. S., & Geith, M. H. (2016). Benefits and challenges of cloud ERP systems: A systematic literature review. *Future Computing and Informatics Journal*, *1*(1–2), 1–9. doi:10.1016/j.fcij.2017.03.003

Abdallah, A. B., & Ayoub, H. F. (2020). Information technology drivers of supply chain agility: Implications for market performance. *International Journal of Productivity and Quality Management*, *31*(4), 547–573. doi:10.1504/IJPQM.2020.111674

Abdymanapov, S. A., Muratbekov, M., Altynbek, S., & Barlybayev, A. (2021). Fuzzy expert system of information security risk assessment on the example of analysis learning management systems. *IEEE Access : Practical Innovations, Open Solutions*, *9*, 156556–156565. doi:10.1109/ACCESS.2021.3129488

Ahmadzadeh, A., Sheikh Aboumasoudi, A., Shahin, A., & Teimouri, H. (2020). Developing a QFD model for prioritizing the CSFs of ERP based on the enablers of organizational agility. *Benchmarking*, *28*(4), 1164–1185. doi:10.1108/BIJ-08-2020-0411

Ahn, B., & Ahn, H. (2020). Factors affecting intention to adopt cloud-based ERP from a comprehensive approach. *Sustainability (Basel)*, *12*(16), 6426. Advance online publication. doi:10.3390/su12166426

Al-Matari, A. S., Amiruddin, R., Aziz, K. A., & Al-Sharafi, M. A. (2022). The impact of dynamic accounting information system on organizational resilience: The mediating role of business processes capabilities. *Sustainability (Basel)*, *14*(9), 4967. Advance online publication. doi:10.3390/su14094967

AlBar, A. M., & Hoque, M. R. (2019). Factors affecting cloud ERP adoption in Saudi Arabia: An empirical study. *Information Development*, *35*(1), 150–164. doi:10.1177/0266666917735677

Ali, I., Arslan, A., Chowdhury, M., Khan, Z., & Tarba, S. Y. (2022). Reimagining global food value chains through effective resilience to COVID-19 shocks and similar future events: A dynamic capability perspective. *Journal of Business Research*, *141*, 1–12. doi:10.1016/j.jbusres.2021.12.006 PMID:34908632

Ali, I., Nguyen, N. D. K., & Gupta, S. (2023). A multi-disciplinary review of enablers and barriers to cloud ERP implementation and innovation outcomes. *Journal of Enterprise Information Management*. 10.1108/JEIM-08-2022-0273

Ashraf, Y., & Ali, F. (2022). How innovative organization culture affects firm performance in the wake of enterprise resource planning? Evidence from energy- and non-energy-sector firms in Pakistan. *Frontiers in Environmental Science*, *10*, 991319. Advance online publication. doi:10.3389/fenvs.2022.991319

Avikal, S., Nigam, M., & Ram, M. (2021). A hybrid multi criteria decision making approach for consultant selection problem in ERP project. *International Journal of Systems Assurance Engineering and Management*. 10.1007/s13198-021-01505-0

Badewi, A., Abusalim, T., A-Asfahani, L., & Shehata, D. (2020). ERP system as an enabler for bottom up innovations. *Scandinavian Journal of Information Systems, 32*(2), 305–344. https://www.scopus.com/inward/record.uri?eid=2-s2.0-85099400587&partnerID=40&md5=085e3e67a61133a34a2a68c8752081a0

Bag, S., Dhamija, P., Gupta, S., & Sivarajah, U. (2021). Examining the role of procurement 4.0 towards remanufacturing operations and circular economy. *Production Planning and Control*, *32*(16), 1368–1383. doi:10.1080/09537287.2020.1817602

Baral, M. M., Mukherjee, S., Nagariya, R., Singh Patel, B., Pathak, A., & Chittipaka, V. (2022). Analysis of factors impacting firm performance of MSMEs: Lessons learnt from COVID-19. *Benchmarking*. Advance online publication. doi:10.1108/BIJ-11-2021-0660

Belhadi, A., Kamble, S. S., Gunasekaran, A., Zkik, K., M, D. K., & Touriki, F. E. (2023, July 04). M, D. K., & Touriki, F. E. (2021). A big data analytics-driven Lean Six Sigma framework for enhanced green performance: A case study of chemical company. *Production Planning and Control*, *34*(9), 767–790. Advance online publication. doi:10.1080/09537287.2021.1964868

Bhatt, N., Guru, S., Thanki, S., & Sood, G. (2021). Analyzing the factors affecting the selection of ERP package: A fuzzy AHP approach. *Information Systems and e-Business Management*, *19*(2), 641–682. doi:10.1007/s10257-021-00521-8

Borangiu, T., Trentesaux, D., Thomas, A., Leitão, P., & Barata, J. (2019). Digital transformation of manufacturing through cloud services and resource virtualization. *Computers in Industry*, *108*, 150–162. doi:10.1016/j.compind.2019.01.006

Brusset, X. (2016). Does supply chain visibility enhance agility? *International Journal of Production Economics*, *171*, 46–59. doi:10.1016/j.ijpe.2015.10.005

Bryszewska, M. A., & Kulesza, J. (2022). An analysis of the production process of the care cosmetic line using problem-based learning tools. *Education Sciences*, *12*(11), 816. Advance online publication. doi:10.3390/educsci12110816

Busto Parra, B., Pando Cerra, P., & Álvarez Peñín, P. I. (2021). *Combining ERP, lean philosophy and ICT: An Industry 4.0 approach in an SME in the manufacturing sector in Spain*. EMJ-Engineering Management Journal. doi:10.1080/10429247.2021.2000829

Chang, V., Ramachandran, M., Yao, Y., Kuo, Y. H., & Li, C. S. (2016). A resiliency framework for an enterprise cloud. *International Journal of Information Management*, *36*(1), 155–166. doi:10.1016/j.ijinfomgt.2015.09.008

Chang, Y., Wong, S. F., Eze, U., & Lee, H. (2019). The effect of IT ambidexterity and cloud computing absorptive capacity on competitive advantage. *Industrial Management & Data Systems*, *119*(3), 613–638. doi:10.1108/IMDS-05-2018-0196

Chang, Y. W., Hsu, P. Y., Shiau, W. L., & Hsu, M. C. (2019). An empirical study on factors affecting switching intention to cloud enterprise resource planning: A comparison between public and private clouds. *Journal of Global Information Management*, *27*(4), 46–69. doi:10.4018/JGIM.2019100103

Chen, C. S., Liang, W. Y., & Hsu, H. Y. (2015). A cloud computing platform for ERP applications. *Applied Soft Computing*, *27*, 127–136. doi:10.1016/j.asoc.2014.11.009

Chernenko, I. M., Kelchevskaya, N. R., & Pelymskaya, I. S. (2022). Regional determinants of low carbon transition in Russian companies: The impact of human capital and digitalization on corporate carbon management practices. *R-Economy*, *8*(1), 77–89. doi:10.15826/recon.2022.8.1.007

Dudezert, A., Laval, F., Shirish, A., & Mitev, N. (2023). When Companies Make Your Day: Happiness Management and Digital Workplace Transformation. *Journal of Global Information Management*, *31*(5), 1–35. Advance online publication. doi:10.4018/JGIM.322386

Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: What are they? *Strategic Management Journal*, *21*(10–11), 1105–1121. doi:10.1002/1097-0266(200010/11)21:10/11<1105::AID-SMJ133>3.0.CO;2-E

Elgohary, E. (2019). The role of ERP capabilities in achieving competitive advantage: An empirical study on Dakahlia Governorate companies, Egypt. *The Electronic Journal on Information Systems in Developing Countries*, *85*(4), e12085. Advance online publication. doi:10.1002/isd2.12085

Fan, C. I., Huang, J. J., Tseng, S. W., & Chen, I. T. (2021). Dependable data outsourcing scheme based on cloud-of-clouds approach with fast recovery. *IEEE Transactions on Cloud Computing, 9*(2), 546–561. *Article*, *8468122*. Advance online publication. doi:10.1109/TCC.2018.2871181

Gonzalez, N., Miers, C., Redígolo, F., Simplício, M., Carvalho, T., Näslund, M., & Pourzandi, M. (2012). A quantitative analysis of current security concerns and solutions for cloud computing. *Journal of Cloud Computing, 1*(1), 1–18. Advance online publication. doi:10.1186/2192-113X-1-11

Guo, Y., & Wang, C. (2020). The impact mechanisms of psychological learning climate on employees' innovative use of information systems. *Journal of Global Information Management*, *28*(2), 52–72. doi:10.4018/JGIM.2020040103

Gupta, S., Kumar, S., Singh, S. K., Foropon, C., & Chandra, C. (2018). Role of cloud ERP on the performance of an organization: Contingent resource-based view perspective. *International Journal of Logistics Management*, *29*(2), 659–675. doi:10.1108/IJLM-07-2017-0192

Gupta, S., Meissonier, R., Drave, V. A., & Roubaud, D. (2020). Examining the impact of cloud ERP on sustainable performance: A dynamic capability view. *International Journal of Information Management*, *51*, 102028. Advance online publication. doi:10.1016/j.ijinfomgt.2019.10.013

Heinzelmann, R. (2018). Occupational identities of management accountants: The role of the IT system. *Journal of Applied Accounting Research*, *19*(4), 465–482. doi:10.1108/JAAR-05-2017-0059

Hendry, L. C., Stevenson, M., MacBryde, J., Ball, P., Sayed, M., & Liu, L. (2019). Local food supply chain resilience to constitutional change: The Brexit effect. *International Journal of Operations & Production Management*, *39*(3), 429–453. doi:10.1108/IJOPM-03-2018-0184

Henriques de Gusmão, A. P., Mendonça Silva, M., Poleto, T., Camara e Silva, L., & Cabral Seixas Costa, A. P. (2018). Cybersecurity risk analysis model using fault tree analysis and fuzzy decision theory. *International Journal of Information Management*, *43*, 248–260. doi:10.1016/j.ijinfomgt.2018.08.008

Huang, Q., Rahim, M., Foster, S., & Anwar, M. (2021). *Critical success factors affecting implementation of cloud ERP systems: A systematic literature review with future research possibilities*. Academic Press.

Hustad, E., Sørheller, V. U., Jørgensen, E. H., & Vassilakopoulou, P. (2020). Moving enterprise resource planning (ERP) systems to the cloud: The challenge of infrastructural embeddedness. *International Journal of Information Systems and Project Management*, *8*(1), 5–20. doi:10.12821/ijispm080101

Jayender, P., & Kundu, G. K. (2021). Intelligent ERP for SCM agility and graph theory technique for adaptation in automotive industry in India. *International Journal of Systems Assurance Engineering and Management*. 10.1007/s13198-021-01361-y

Jesus, C., & Lima, R. M. (2021). Business processes reconfiguration through the implementation of an enterprise resource planning system. *Journal of Applied Engineering Science*, *19*(2), 488–497. doi:10.5937/jaes0-27393

Kamalahmadi, M., & Mellat-Parast, M. (2016). Developing a resilient supply chain through supplier flexibility and reliability assessment. *International Journal of Production Research*, *54*(1), 302–321. doi:10.1080/00207543.2015.1088971

Kang, Y., & Suh, J. (2022). Information technology and the spatial reorganization of firms. *Journal of Economics & Management Strategy*, *31*(3), 674–692. Advance online publication. doi:10.1111/jems.12472

Katsaliaki, K., Galetsi, P., & Kumar, S. (2021). Supply chain disruptions and resilience: A major review and future research agenda. *Annals of Operations Research*. Advance online publication. doi:10.1007/s10479-020-03912-1 PMID:33437110

Kearney, A., Harrington, D., & Rajwani, T. (2022). Strategy making in hyper uncertainty: Towards a conceptual framework from the seaport industry during Brexit. *The International Journal of Organizational Analysis*. Advance online publication. doi:10.1108/IJOA-04-2022-3255

Klumpp, M., & Loske, D. (2021). Sustainability and resilience revisited: Impact of information technology disruptions on empirical retail logistics efficiency. *Sustainability (Basel)*, *13*(10), 5650. Advance online publication. doi:10.3390/su13105650

Leonard-Barton, D. (1992). Core capabilities and core rigidities: A paradox in managing new product development. *Strategic Management Journal*, *13*(S1, 1S), 111–125. doi:10.1002/smj.4250131009

Liu, S., Chan, F. T. S., Yang, J., & Niu, B. (2018). Understanding the effect of cloud computing on organizational agility: An empirical examination. *International Journal of Information Management*, *43*, 98–111. doi:10.1016/j.ijinfomgt.2018.07.010

Ma, D., Fisher, R., & Nesbit, T. (2021). Cloud-based client accounting and small and medium accounting practices: Adoption and impact. *International Journal of Accounting Information Systems*, *41*, 100513. Advance online publication. doi:10.1016/j.accinf.2021.100513

Mahmood, F., Khan, A. Z., & Bokhari, R. H. (2020). ERP issues and challenges: A research synthesis. *Kybernetes*, *49*(3), 629–659. doi:10.1108/K-12-2018-0699

Manuel Maqueira, J., Moyano-Fuentes, J., & Bruque, S. (2019). Drivers and consequences of an innovative technology assimilation in the supply chain: Cloud computing and supply chain integration. *International Journal of Production Research*, *57*(7), 2083–2103. doi:10.1080/00207543.2018.1530473

Margherita, A., Nasiri, M., & Papadopoulos, T. (2021). The application of digital technologies in company responses to COVID-19: An integrative framework. *Technology Analysis and Strategic Management*. Advance online publication. doi:10.1080/09537325.2021.1990255

Mathrani, S. (2022). Enhancing production agility using enterprise systems. *Knowledge Management Research and Practice*, *20*(1), 91–103. doi:10.1080/14778238.2021.1970489

Meghana, H. L., Mathew, A. O., & Rodrigues, L. L. R. (2018). Prioritizing the factors affecting cloud ERP adoption: An analytic hierarchy process approach. *International Journal of Emerging Markets*, *13*(6), 1559–1577. doi:10.1108/IJoEM-10-2017-0404

Mezgár, I., & Rauschecker, U. (2014). The challenge of networked enterprises for cloud computing interoperability. *Computers in Industry*, *65*(4), 657–674. doi:10.1016/j.compind.2014.01.017

Misra, S. C., Rana, R., Verma, R., Kumar, V., & Kumar, U. (2017). Modelling change management and risk management in a financial organization due to information system adoption. *Transnational Corporations Review*, *9*(4), 248–268. doi:10.1080/19186444.2017.1401204

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., Altman, D., Antes, G., Atkins, D., Barbour, V., Barrowman, N., Berlin, J. A., Clark, J., Clarke, M., Cook, D., D'Amico, R., Deeks, J. J., Devereaux, P. J., Dickersin, K., Egger, M., Ernst, E., & Tugwell, P. et al. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *PLoS Medicine*, *6*(7), e1000097. Advance online publication. doi:10.1371/journal.pmed.1000097 PMID:19621072

Morawiec, P., & Sołtysik-Piorunkiewicz, A. (2023). ERP system development for business agility in Industry 4.0: A literature review based on the TOE framework. *Sustainability (Basel)*, *15*(5), 4646. Advance online publication. doi:10.3390/su15054646

Namjoo, M. R., & Keramati, A. (2018). Analyzing causal dependencies of composite service resilience in cloud manufacturing using resource-based theory and DEMATEL method. *International Journal of Computer Integrated Manufacturing*, *31*(10), 942–960. doi:10.1080/0951192X.2018.1493231

Nasir, S. B., Ahmed, T., Karmaker, C. L., Ali, S. M., Paul, S. K., & Majumdar, A. (2022). Supply chain viability in the context of COVID-19 pandemic in small and medium-sized enterprises: Implications for sustainable development goals. *Journal of Enterprise Information Management*, *35*(1), 100–124. doi:10.1108/JEIM-02-2021-0091

Pirmanta, Z. J. H. T., & Basana, S. R. (2021). The effect of ERP on firm performance through information quality and supply chain integration in COVID-19 era. *Uncertain Supply Chain Management*, *9*(3), 659–666. doi:10.5267/j.uscm.2021.5.004

Polireddi, N. S. A., & Sekhar, K. R. (2023). Improved fuzzy-based MCDM–TOPSIS model to find and prevent the financial system vulnerability and hazards in real time. *Soft Computing*. Advance online publication. doi:10.1007/s00500-023-08318-2

Putra, A. P., & Soewito, B. (2023). Integrated methodology for information security risk management using ISO 27005:2018 and NIST SP 800–30 for insurance sector. *International Journal of Advanced Computer Science and Applications*, *14*(4), 625–633. doi:10.14569/IJACSA.2023.0140468

Razzaq, A., Asmai, S. A., Abidin, Z. Z., Talib, M. S., Ali, M. F., & Mohammed, A. A. (2021). Propose a conceptual framework for the cloud ERP adoption among Malaysian SMEs. *Journal of Engineering Science and Technology*, *16*(4), 3387–3406. https://www.scopus.com/inward/record.uri?eid=2-s2.0-85114292500&partnerID=40&md5=dc645989c92ac30cdefdce0c3e26e2f7

Roblek, V., Meško, M., Pušavec, F., & Likar, B. (2021). The role and meaning of the digital transformation as a disruptive innovation on small and medium manufacturing enterprises. *Frontiers in Psychology*, *12*, 592528. Advance online publication. doi:10.3389/fpsyg.2021.592528 PMID:34177680

Rodríguez, P. R., Otero-Neira, C., & Svensson, P. G. (2021). Framing static and dynamic time-periods through the teleological lens in the implementation process of enterprise resource planning. *Journal of Business-To-Business Marketing*, *28*(4), 395–420. doi:10.1080/1051712X.2021.2012081

Roffia, P., & Dabić, M. (2023). The role of management control and integrated information systems for the resilience of SMEs. *Review of Managerial Science*. Advance online publication. doi:10.1007/s11846-023-00657-6

Roumani, Y., & Nwankpa, J. K. (2019). An empirical study on predicting cloud incidents. *International Journal of Information Management*, *47*, 131–139. doi:10.1016/j.ijinfomgt.2019.01.014

Sabahi, S., & Parast, M. M. (2020). Firm innovation and supply chain resilience: A dynamic capability perspective. *International Journal of Logistics*, *23*(3), 254–269. doi:10.1080/13675567.2019.1683522

Salamat, V. R., Aliahmadi, A., Pishvaee, M. S., & Hafeez, K. (2016). Assessing partnership alternatives in an IT network employing analytical methods. *Scientific Programming*, *2016*, 1319249. Advance online publication. doi:10.1155/2016/1319249

Senarathna, I., Wilkin, C., Warren, M., Yeoh, W., & Salzman, S. (2018). Factors that influence adoption of cloud computing: An empirical study of Australian SMEs. *AJIS. Australasian Journal of Information Systems*, *22*. Advance online publication. doi:10.3127/ajis.v22i0.1603

Shajrawi, A., & Aburub, F. (2022). Impact of ERP usage on service differentiation: Role of mediating effect of organizational agility. *Arab Gulf Journal of Scientific Research*. Advance online publication. doi:10.1108/AGJSR-06-2022-0085

Shirazi, B. (2019). Cloud-based architecture of service-oriented MES for subcontracting and partnership exchanges integration: A game theory approach. *Robotics and Computer-integrated Manufacturing*, *59*, 56–68. doi:10.1016/j.rcim.2019.03.006

Skafi, M., Yunis, M. M., & Zekri, A. (2020). Factors influencing SMEs' adoption of cloud computing services in Lebanon: An empirical analysis using TOE and contextual theory. *IEEE Access, 8*, 79169–79181. Advance online publication. doi:10.1109/ACCESS.2020.2987331

Sørheller, V. U., Høvik, E. J., Hustad, E., & Vassilakopoulou, P. (2018). Implementing cloud ERP solutions: A review of sociotechnical concerns. *Procedia Computer Science*, *138*, 470–477. doi:10.1016/j.procs.2018.10.065

Subramanian, N., & Abdulrahman, M. D. (2017). Logistics and cloud computing service providers' cooperation: A resilience perspective. *Production Planning and Control*, *28*(11–12), 919–928. doi:10.1080/09537287.2017.1336793

Sultana, S., Akter, S., & Kyriazis, E. (2022). How data-driven innovation capability is shaping the future of market agility and competitive performance? *Technological Forecasting and Social Change*, *174*, 121260. Advance online publication. doi:10.1016/j.techfore.2021.121260

Teece, D. J. (2014). The foundations of enterprise performance: Dynamic and ordinary capabilities in an (economic) theory of firms. *The Academy of Management Perspectives*, *28*(4), 328–352. doi:10.5465/amp.2013.0116

Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, *18*(7), 509–533. https://www.jstor.org/stable/3088148. doi:10.1002/(SICI)1097-0266(199708)18:7<509::AID-SMJ882>3.0.CO;2-Z

Tolga, A. Ç. (2018). Evaluation of ERP softwares with fuzzy AHP integrated TODIM method. *Sakarya University Journal of Science*, *22*(5), 1351–1370. doi:10.16984/saufenbilder.380388

Tongsuksai, S., Mathrani, S., & Taskin, N. (2019). Cloud enterprise resource planning implementation: A systematic literature review of critical success factors. *Proceedings of the 2019 IEEE Asia-Pacific Conference on Computer Science and Data Engineering*. doi:10.1109/CSDE48274.2019.9162373

Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British Journal of Management*, *14*(3), 207–222. doi:10.1111/1467-8551.00375

United Nations. (2021). *World economic situation and prospects 2021*. https://www.un.org/development/desa/dpad/wp-content/uploads/sites/45/WESP2021_FullReport.pdf

Venkatraman, S., & Fahd, K. (2016). Challenges and success factors of ERP systems in Australian SMEs. *Systems*, *4*(2), 20. Advance online publication. doi:10.3390/systems4020020

Wang, L., Guan, S., Deng, W., & Lu, P. (2022). ERP system design for hydrogen equipment manufacturing industry based on low code technology. *Mobile Information Systems*, *2022*, 5371471. Advance online publication. doi:10.1155/2022/5371471

Wang, Z. X., Jv, Y. Q., Wang, Z. D., & Ma, J. H. (2023). Coordination estimation of enterprise resource planning and manufacturing execution system diffusion in China's manufacturing industry: A panel Lotka–Volterra method. *Computers & Industrial Engineering*, *176*, 108923. Advance online publication. doi:10.1016/j.cie.2022.108923

Wijaya, S. F., Prabowo, H., Gaol, F. L., & Meyliana, M. (2020). Determination of ERP readiness assessment using agile parameters: A case study. *Advances in Science. Technology and Engineering Systems*, *5*(4), 733–740. doi:10.25046/aj050487

Wu, D., Greer, M. J., Rosen, D. W., & Schaefer, D. (2013). Cloud manufacturing: Strategic vision and state-of-the-art. *Journal of Manufacturing Systems*, *32*(4), 564–579. doi:10.1016/j.jmsy.2013.04.008

Xu, L., & De Vrieze, P. (2018). Supporting collaborative business processes: A BPaaS approach. *International Journal of Simulation and Process Modelling*, *13*(1), 57–72. doi:10.1504/IJSPM.2018.090271

Yao, X., & Azma, M. (2022). Do cloud-based enterprise resource planning systems affect the productivity of human resources in the COVID-19 era? *Kybernetes*, *51*(6), 1967–1990. doi:10.1108/K-03-2021-0243

Yasiukovich, S., & Haddara, M. (2020). Tracing the clouds. A research taxonomy of cloud-ERP in SMEs. *Scandinavian Journal of Information Systems, 32*(2), 237–304. https://www.scopus.com/inward/record.uri?eid=2-s2.0-85099349569&partnerID=40&md5=706fe6838c15adb669efeaf879a25229

Zhao, F., Meng, T., Wang, W., Alam, F., & Zhang, B. (2023). Digital transformation and firm performance: Benefit from letting users participate. *Journal of Global Information Management*, *31*(1), 4. Advance online publication. doi:10.4018/JGIM.322104

Ngoc Dang Khoa Nguyen is a PhD candidate at the School of Business and Law, Central Queensland University, Australia. Khoa has completed his Master of Enterprise Resource Planning Systems degree from Victoria University, Australia. With nine years of experience as an IT consultant in different industries (e.g., retail, healthcare, education, and marketing) in both Australia and Vietnam, Khoa has gained invaluable expertise. Driven by the recent advances in information systems management, Khoa's current research aims to determine how firms in the emerging economy could leverage various strategies for successful digital technology implementation. Khoa's research focuses on digital technologies and innovation management, covering several emerging topics such as cloud ERP, digital transformation, sustainability, and resilience. Khoa's research has been featured in high-quality conference proceedings and journals, including Palgrave Macmillan, IEOM, and the Journal of Enterprise Information Management. Khoa's research has received accolades including the Best Track Paper Award at the Australian International Conference on IEOM in December 2022.

Imran Ali is a senior lecturer in operations and innovation management at the School of Business and Law, Melbourne Campus, Central Queensland University, Australia. He holds a PhD in Business Management (Logistics and Supply Chain Management) from the University of South Australia. Dr Ali's research interests encompass a diverse range of topics, including global supply chains, Industry 4.0 technologies, risk and resilience, climate change, circular economy, and sustainable supply chain performance. His research has been featured in a multitude of highly respected international journals and conference proceedings, such as the International Journal of Operations and Production Management, International Journal of Information Management, IEEE Transactions on Engineering Management, Journal of Business Research, Production Planning and Control, and Supply Chain Management: An International Journal, among others. He sits on the editorial board of the Journal of Business Research, the International Journal of Logistics Management, and the International Journal of Emerging Markets. Dr. Ali has been recognized with several awards, including the 2022 Vice Chancellor and Dean's Award for Outstanding Early-Career Researcher at Central Queensland University, Australia, and the Best Proceedings Paper at the 2019 Academy of Management Conference. In addition, he has collaborated with UNDP and FAO of the UN and has had the opportunity to work on various promising projects in the food industry.

Shivam Gupta is a professor at NEOMA Business School, France, with a history of working in the higher education industry. Skilled in statistics, cloud computing, big data analytics, artificial intelligence, and sustainability. Strong education professional with a PhD focused on cloud computing and operations management from the Indian Institute of Technology (IIT) in Kanpur. Postdoctoral research was pursued at Freie Universität Berlin and SUSTech, China. He has completed the HDR program at the University of Montpellier, France. He has published several research papers in reputed journals and has been the recipient of the International Young Scientist Award by the National Natural Science Foundation of China (NSFC) in 2017 and winner of the 2017 Emerald South Asia LIS award.

Ruihong Chen is a master's degree candidate at the Hong Kong Metropolitan University. He is actively engaged in research focusing on innovation and entrepreneurship. In addition to his academic pursuits, he has also established himself as a productive investor.

Bajjet Naresho holds a PhD in supply chain management from Central Queensland University, Australia, and is a lecturer in supply chain management at the Tanzania Institute of Accountancy. Bajjet is also working as the head of the Certification Section. His current research focuses on goal congruence, incentive alignment, and commitment in public–private partnership arrangements in the agricultural sector. Other research interests include supply chain collaborations, partner commitments, transactions management, procurement, and agri-food supply chain management. Bajjet has received several awards in his career, including an excellent undergraduate student award from the Tanzania Institute of Accountancy and the best professional candidate from the Procurement and Supplies Professionals and Technicians Board. He has also led the transformation of TIA academic processes from manual to digitalization (i.e., student management system). Bajjet is also a procurement and supplies professional in Tanzania and is registered as an authorized procurement professional.