Editorial: Intertwining of information systems and knowledge risk in the uncertain business environment

The knowledge risk can be defined as the probability and severity of adverse effects associated with any activity engaging or related somehow to the knowledge (Durst and Zieba, 2019). The operational dimension of knowledge risks pertains to all the risks arising from an organization's day-to-day operations and overall functioning, such as entering into collaborative agreements, outsourcing certain business functions or applying incorrect or outdated knowledge during business operations (Adar and Wuchner, 2005; Durst, 2019). It is important to actively manage knowledge risks while acknowledging that some of them cannot be eliminated (Adar and Wuchner, 2005; Durst, 2019). Knowledge risk management, however, provides ways to deal with knowledge at risk, such as knowledge loss – the result of personnel removed, for example, by turnover or death, or any other reason that the person is no longer part of the organization or cannot be reached. The literature on knowledge management emphasizes the positive aspects of the discipline; it hardly covers the negative aspects, such as when knowledge is misunderstood, repressed or misused for personal or organizational reasons (Burgin and Mikkilineni, 2021; Di Vaio *et al.*, 2021; Wang *et al.*, 2023). Thus, in completing the loop, knowledge risks and knowledge risks management need to be considered together rather than studied in silos. Furthermore, only a few studies attempt to explore the two together, and thus the literature on it remains fragmented primarily. Some studies have been conducted about knowledge loss (Norman, 2004; Parise, 2007; Schmitt *et al.*, 2012); knowledge leakage (Ahmad *et al.*, 2014; Annansingh, 2012; Mohamed *et al.*, 2007; Parker, 2012); spillover effects (Fernandes and Ferreira, 2013); and privacy (Arshad and Ismail, 2018; Hernaus *et al.*, 2018; Wang *et al.*, 2018; Khalil *et al.*, 2022). Yet, studies combining knowledge risk, knowledge risk management and information systems (IS) with an uncertain business environment by considering the "people" and "processes" seem to be an under-researched area in the literature.

IS have been exposed to a fast-changing environment (Arogundade *et al.*, 2020). IS and knowledge risks play a central role in the uncertain business environment (Hammoda and Durst, 2022; Massingham, 2010). Knowledge has generally been seen as a positive asset that organizations ought to maximize. Nevertheless, several researchers recently argued that organizations must also consider knowledge risks, given the increasing number of these risks and the increasing complexity of organizational environment (Choi *et al.*, 2021; Gioe and Hatfield, 2021; Nauhria *et al.*, 2018). Some of the examples include knowledge concealment (Cooke and Leydesdorff, 2006; Saeidpoursarcheshmeh *et al.*, 2021); the hoarding of knowledge (Oliveira *et al.*, 2021); and unlearning or intentionally forgetting the learned facts (Albana and Yeşiltaş, 2021; Durst, 2019). Therefore, the focus on "people" and "processes" by intertwining of IS and knowledge risk in the uncertain business environment is under-researched as many authors suggest the need for identifying the antecedents, mediators, moderators, consequents and control variables associated with IS and knowledge risks while

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neglecting the two concepts of "people" and "processes" (Di Vaio *et al.*, 2021; Gioe and Hatfield, 2021; Oliveira *et al.*, 2021).

As an example, Anaza and Nowlin (2017) considered the importance of identifying the effects of recognition and financial rewards in knowledge risk management by focusing on people, while Gagné *et al.* (2019) emphasized the importance of measuring time pressure or excessive workload as a moderator by focusing processes. Hence, this special issue will reveal the management of possible IS that may help to mitigate the knowledge risks in the unstable business environment by considering the dual aspects of "people" and "processes."

The main aim of this special issue is to combine IS and knowledge risk in the uncertain business environment by considering the "people" and "processes." Organizations are exposed to different knowledge risks (Lee *et al.*, 2021). Recent researchers suggest that IS and knowledge risk management tools play a main role in overcoming the risks in the uncertain business environment (Di Vaio *et al.*, 2021; Gioe and Hatfield, 2021; Lee *et al.*, 2017; Shabbir and Gardezi, 2020). To understand the difference between knowledge management and information management, it is best to say that knowledge management focuses on people (Burgin and Mikkilineni, 2021; Mbassegue *et al.*, 2016), while information management focuses on processes (Lee *et al.*, 2017; Mbassegue *et al.*, 2016). However, recent researchers have not responded to these two concepts of IS and knowledge risk in the uncertain business environment by considering the "people" and "processes" (Choi *et al.*, 2021; Di Vaio *et al.*, 2021; Shabbir and Gardezi, 2020).

Brief overview of research papers

The first paper "Bright and dark side of knowledge management practices in firms using information systems: Examining different moderating impacts" examines both the bright and dark sides of the knowledge management process. They decipher the impact of knowledge sharing and hiding on the employee's creativity and eventually on firm innovativeness. The authors also check the moderation by incentive focus, preventive focus and enterprise social networking adoption on the employee's creativity and firm innovativeness. Partial least squares–structural equation modeling was used to analyze data collected from Indian firms. The results show a significant moderation by all three proposed moderators. Also, knowledge sharing positively influences (bright side) employee creativity, while knowledge hiding has a negative influence (dark side).

The second paper "The role of knowledge management in driving academic advancement: empirical examination from the lens of the social cognitive theory" investigates the relationship between researchers' competencies (based on attitudes, skills and knowledge), academic affiliation and knowledge management and their effect on the growth of scholarly international publications. The social cognitive theory provides the theoretical underpinning for the study. Data is collected from stakeholders involved in research activities in educational institutes. The findings show that researchers' competencies and academic affiliation positively influence scholarly publication growth, while knowledge management is a significant moderator. The study provides empirical evidence on improving research productivity and international publication in educational institutes.

The third paper "The interplay of knowledge management, operational and dynamic capabilities in project phases" uncovers the challenges that the project delivery organizations phase while they try to develop competitive advantage over new entrants. For this, this paper uses a case study methodology in exploring knowledge conversion

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transactions while studying project delivery organization in the engineering industry. The model proposed in the study is based on a study by Nonaka and Takeuchi (2005). The extension of the SECI knowledge management model is this paper's key contribution. It provides an overview of the relevant constructs that are related to the knowledge management processes of project delivery organizations. This study also provides a detailed overview of how organizations use knowledge configuration to achieve competitive advantage. Using the case, this paper provides insights into sensing, seizing and sharing knowledge during a project life cycle.

The fourth paper "Applying deep learning to predict innovations in small and medium enterprises (SME): the dark side of knowledge management risk" studies the dark side of knowledge management in small and medium enterprises in Portugal toward innovation. This paper fills the research gap on innovation in uncertain environments for SMEs using predictive models. The focus lies on spinner innovation model factors in uncertain environments. Data collected via survey was analyzed using deep mining techniques. Authors work to identify and test the factors that are crucial to understanding the innovation can be predicted in uncertain business environments. Findings show that knowledge creation, knowledge transfer and public and private knowledge management are key factors for innovation under uncertainty.

The fifth paper "The dark side of HR blog in the workplace: investigating the employees' trust factors affecting using HR blog" discusses the trust issues of employees when they use HR blogs. Using social exchange theory as theoretical background, they uncover the causes that affect employee trust toward HR blogs, a two-way exchange process. A qualitative research design was used. The authors conducted semi-structured interviews with employees and managers of HR blogs. Findings show that there is a lack of trust in using HR blogs. Key factors include but not limited to are functionality, lack of feedback, lack of tangible outcomes and lack of guidelines for using the HR blog. Practical implications provide strategies to restore employee trust in HR blogs at the workplace.

The sixth paper "Investigating the dark side of mobile bookkeeping applications: a moderated – mediation" studies the resistance barriers to adopting mobile bookkeeping applications. They focus on factors like usage, value, tradition, risk, compatibility and complexity. Furthermore, they explore the mediating role of technostress between barriers and user resistance. Innovation resistance theory is used as a theoretical underpinning for the study. Analysis of the data was done using SEM. Data analysis showed usage, risk and tradition as key barriers causing user resistance. Technostress is a key mediator, which itself gets moderated by self-efficacy.

The seventh paper "The dark side of online transition of exams in higher education: a perspective of an emerging nation" highlights the issues with online assessments conducted in a post-Covid world using Kolb's experiential learning mechanism. Using the data collected from university students studying business and STEM courses, the authors explore the relationships between the key factors that affect student perceptions regarding online assessment. They found trustworthiness and apprehensible education as the important factors influencing students' perception of online assessments. They suggest a robust infrastructure will help students transition to an online evaluation mode.

Discussion on research papers

The papers in this special issue research are on SMEs in Portugal, higher education in Sri Lanka, the use of HR blogs in Saudi Arabia or the use of a single case to study project

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delivery organizations in a single industry. Though these papers give us new perspectives, their respective research domains lack generalizability in other contexts. Considerable scope exists for future researchers in replicating the studies and finding the similarities and differences between the findings of studies published in this special issue and findings from similar studies for the replication in different geographies. For example, SMEs are not limited to a specific country, and future researchers can replicate the study in different geographies. One country of particular interest for future researchers can be India, where the government is giving a heavy push to the SME sector. Researchers working in developed countries like India would like to consider knowledge management issues and risks which can be considerably higher given the weak laws compared to some other developed countries (Nauhria *et al.*, 2018). Similarly, the educational institutes in India are giving a push for the online medium of education by launching online modules of their on-campus courses, but satisfaction from the assessment methods followed in India can be different from the one in Sri Lanka. Such comparative studies conducted by future researchers will help in strengthening the knowledge about information and innovation management and knowledge management and its risks on a universal or global level (see Table 1) (Norman, 2004; Shabbir and Gardezi, 2020).

Furthermore, papers in this issue focus on uncertainty during crises like Covid-19 where knowledge management is endangered, and risks are significantly higher for knowledge loss. Covid-19 was a peculiar case and may be treated as an outlier or a new normal for the future. Future researchers who think that Covid-19 was an outlier and the knowledge management risks will be less in the future can take longitudinal research and see how organizations are evolving in a post-Covid world. Have the organizations reverted to the old way of knowledge and risk management or have they taken instances such as Covid-19 as a new normal and have adopted strategies that will make them more resilient (see Table 1)?

Finally, the researchers in the same geographical region as the authors of the articles in the special issue can check the problem in different industries. For example, innovation is not limited to SME firms, but is equally important or it is given more emphasis by organizations that are medium and large scale as a source of competitive advantage (Mbassegue, 2016; Parker, 2012). Future research can be done using data collected from different industries that apply the same research methodology used in our issue articles and check the robustness of the findings (see Table 1).

Table 1. Summary table on the future ideas stemming from this issue

Context	Scope for future extension
Geography	Future research in different geographies will improve the generalizability of the findings in this issue (cross-cultural domain)
Disruptive situations	Future research with and without disruptive situations will enrich the knowledge management domain in post-Covid world
Different industry	Future research in different industries will provide an opportunity for cross industries findings to be helpful for conglomerates

Source: Developed by authors

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Conclusion

This special issue will be of significant importance to the practitioners and policymakers within academic institutions by allowing them to understand the combined effect of IS and knowledge risks in the uncertain business environment by considering the dual aspects of "people" and "processes."

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