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## **Emerging digital technologies and professional services: Current and future research agenda**

**Purpose** – The purpose of this editorial is to summarise the eight articles published in this special issue and to extend the growing research on the challenges and opportunities facing professional services providers in adopting emerging digital technologies.

**Design/methodology/approach** – The eight papers included in this special issue adopt diverse theoretical and managerial perspectives with a broad range of methodologies. We have classified these into three broad themes, namely a) Diverse theoretical perspectives, b) Challenges in digitalisation process, and c) Practical applications of digitalisation.

**Findings** – This special issue highlights the different theoretical perspectives used to explain the adoption of emerging digital technologies by professional services providers and the challenges faced by them in this process, using many practical examples of their application.

**Research limitations/implications** – The findings from the eight papers have useful implications for future research but their findings may not always be generalizable beyond the unique context of the studies reported in each of these papers.

**Practical implications** – This special issue may help professional services providers understand the challenges and opportunities offered by emerging digital technologies.

**Originality/value** – This special issue is unique because it is one of the first attempts to understand the unique challenges and opportunities faced by professional services providers in response to the proliferation of emerging digital technologies.

**Keywords** Artificial intelligence, Digital technologies, Digitalisation, Professional services

**Paper type** Editorial – Special issue

## Introduction

Digital technologies and platforms such as computers, mobile devices and social media have changed the way consumers and service providers interact with each other during the last few decades (Moffett *et al.* 2020; Yadav and Pavlou 2014; 2020). The emergence of new digital technologies has further transformed the way service firms develop and deliver their services to customers (Chin *et al.*, 2022; Grewal *et al.* 2020a, 2020b). These technologies include artificial intelligence (Davenport *et al.* 2020; Huang and Rust, 2018; 2020; Makridis and Mishra, 2022; Meyer *et al.*, 2020; Rai 2020), augmented/mixed reality (Hilken *et al.* 2017, 2020), blockchain, machine learning, internet of things (Hoffman and Novak 2018), robotics (Mende *et al.* 2019; Van Doorn *et al.*, 2017), and virtual reality (Sample *et al.* 2020).

Despite such growing widespread interest in the emerging digital technologies, most current research focuses on their impact in the consumer services contexts, such as education, healthcare, retailing, transportation etc. (Grewal *et al.* 2020a, 2020b). By contrast, there is little research on the impact of these new digital technologies on the professional services despite their important contribution to economic growth and employment around the world and significant differences with consumer services in their decision-making process (Kronblad and Pregmark, 2021; Perner, 2021). Professional service providers are also faced with the challenge of integrating the components of these new digital technologies with the knowledge-intensive nature of their activities (Lubarski *et al.*, 2017). For example, a recent study shows that applying digital technology indiscriminately to the professional services may actually erode customer perceived value if the service firms do not balance their service quality dimensions with the application of these new technologies (Nguyen *et al.*, 2020).

Similarly, Perner (2021) shows that frontline workers in knowledge-intensive professional services are influenced by the fit between technological innovations and type of intelligence their services are built on coupled with their occupational identities and the service climate in

their organisations. Thus, indiscriminate adoption of emerging digital technologies by professional services providers may restrict their ability to standardize complex recurring tasks while continuing to offer customized services to address the unique needs of their diverse customer base. Kronblad and Pregmark (2021) show that professional services firms have been quick to adopt digital technologies to deal with the restrictions and regulations imposed during the COVID-19 pandemic and this has led to a new normal in which the adoption of digital technologies would be faster than ever before. Fehrer and Bove (2022) confirm this by showing how Australian health-care industry has switched quickly to tele-health as a key strategy and tactics for recovery and survival, in order to continue providing health-care services successfully during the COVID-19 pandemic.

All these results indicate the importance of this topic and the need for more research to help service providers apply new digital technologies in the professional service context in a responsible and effective manner. This special issue aims to address this important research gap and extend growing research on the role of emerging digital technologies (e.g., artificial intelligence, blockchain, internet of things, machine learning, robotics, virtual reality etc.) to the professional services context (e.g., advertising, audit and financial services, advisory and consulting, construction and real-estate, engineering services, marketing services, research and development, logistics and supply chain, travel and transport services etc.). We attracted high quality manuscripts using a variety of conceptual and empirical (qualitative and quantitative) approaches to create new knowledge about how these technologies may influence the attitudes, perceptions, behaviours and decision-making for the professional services providers, customers, and other value chain partners.

### **Special issue – themes and papers**

In this special issue, we invited submissions that were not mere replications of prior studies form the consumer services area into the professional services domain. Instead, we sought

both conceptual and empirical papers with strong theoretical foundations grounded in the well-established professional services and the growing emerging digital technologies literatures that aimed to make original theoretical contribution. We also encouraged papers using multi-disciplinary perspectives that would help break fresh ground in our understanding of how professional services providers may use the emerging digital technologies to improve their performance and satisfy their customers. As a result, we received 23 submissions out of which 15 were rejected due to either a lack of fit with the theme of this special issue or an unclear or poor contribution. The remaining eight papers went through a rigorous double-blind review process and were finally selected for publication in this special issue.

The eight papers published in this special issue adopt diverse theoretical and managerial perspectives along with a broad range of methodologies. Based on their approaches and contributions, we have classified these eight papers into three broad themes, namely a) *Diverse theoretical perspectives*, including strategic agility perspective (Liu et al., 2023), theory of resources and capabilities (Marino-Romero et al., 2023) and a multidisciplinary perspective (Panda et al., 2023); b) *Challenges in digitalisation process*, for professional legal firms (Kronblad et al., 2023) and small professional services firms (Cardinali et al., 2023); and c) *Practical applications of digitalisation: role of transformational leadership and technology-mediated knowledge sharing* (Nguyen, 2023), AI usage in CXO decision-making (Kondapaka et al, 2023), and use of computerized text analysis to predict customers' evaluation of their service experience (Ferreira et al., 2023). Next, we briefly describe all the eight papers under these three broad themes in this section, followed by a general discussion and recommendations for future research.

#### *Diverse theoretical perspectives*

In the first paper under this theme, Liu et al. (2023) draw on a strategic agility perspective to develop a theoretical framework and empirically examine how digital platform adoption and

capability impact business performance via digital-enabled strategic agility for professional service firms. The authors test their hypotheses using survey data from 127 professional service firms in New Zealand to demonstrate the impact of digital platform capability on the business performance of professional service firms using digital technologies. The results show that organizational innovation and managers' creative efficacy drives digital platform capabilities and digital-enabled strategic agility mediates the impact of digital platform capabilities on business performance. This study highlights the importance of digital-enabled strategic agility in the development of knowledge-based economy and provides useful insights about why and how professional services may use digital technologies especially in the post-COVID uncertain and volatile business environment.

Next, Marino-Romero et al. (2023) analyse the success of digital transformation (DT) in the management and performance of organizations by investigating the role of information technology and its ability to help professional services provider offer greater value to their clients. Professional services providers need specialised skills to help their clients solve complex problems using knowledge from diverse sources (e.g., customers, competitors, and government agencies). The authors use a mixed method design to survey managers of Knowledge Intensive Business Services (KIBS) companies in Spain and analyse their data using PLS-SEM. The results show that digital capability drives digital transformation by helping integrate digital resources in KIBS companies to deliver superior performance. This research highlights the importance of managing the digital transformation process for KIBS companies, by using best management practices with appropriate tools (e.g., CRM, ERP, SAP etc.) to gain more knowledge about their customers and use it to drive innovation.

The authors also underline the need to develop strong internal capabilities use tools and techniques more effectively to absorb knowledge from routine interactions with their customers. This process could lead to an improvement in the organizational performance of

KIBS companies, by helping them make more effective decisions with improved internal communication, deliver greater employee satisfaction and acquire new customers. This study also recommends the use of cloud-based technologies to create sustainable businesses and provide insights for policy makers to develop and implement economic policies that may help businesses become more competitive and sustainable. Overall, this paper contributes to the current literature on the strategies that the managers in KIBS companies could use to create sustainable businesses through digital transformation of their organisations.

Finally, the third paper under this theme by Panda et al. (2023) aims to identify the impact of digitalisation on the key characteristics of Professional Service Firms (PSFs) that are an important part of the service sector and generally associated with high levels of knowledge, capital, and a professionalised workforce. The authors used an exploratory research design with a qualitative method involving in-depth interviews with 49 entrepreneurs/professionals from PSFs focusing on the role of digitalisation, including topics such as capital intensity, knowledge intensity and professionalized workforce. The results show that digitalisation operates at lower levels of knowledge intensity but it increases the capital intensity for most firms and reduces the level of professionalism in the workforce. This study provides initial evidence about how digitalisation has changed the distinctive characteristics of PSFs, which in turn has led to new practices, allows for variation, and transformation of their competitive contexts. These findings would help understand the ongoing tumultuous changes in the Indian professional services sector with the rapid application of digitalisation in recent years.

### *Challenges in digitalisation*

The first paper under this theme by Kronblad et al. (2023) explores the challenges faced by traditional legal firms in embracing digitalisation and barriers to solving the ambidexterity problem when faced by new competitors. Specifically, how can they simultaneously uphold their successful way of working while dealing with emerging digital technologies? This study

uses interviews with representatives of law firms combined with data from architects and legal industry data and field notes, to spot patterns and emerging themes. They find that established legal firms face structural and cultural barriers in dealing with ambidextrous issues. Interestingly, when compared with legal firms, established architecture firms have managed more successfully to combine digital exploration with ongoing exploitation, due to difference in their industry contexts and professional cultures. As a result, established legal firms continue to focus on exploitation, while digital exploration is being undertaken by the new-age legal tech firms. Overall, this paper identifies both structural and contextual challenges to ambidexterity for established legal firms and proposes how to overcome this.

Next, Cardinali et al. (2023) report their findings from an exploratory analysis of the digitalisation process in small professional service firms (SPSFs) by exploring their key drivers and barriers, and their influence on customer management practices, along the intra-organizational, inter-organizational and service offering dimensions. They use an exploratory and inductive research design with a qualitative method consisting of in-depth interviews with 19 owners/consultants of small tax/accounting firms, with a focus on the impact of digitalisation on their internal and external processes. The results reveal both internal and external barriers and drivers for digitalization, and their effects on customer management practices, along with the emergence of tensions related to the intra-organizational, inter-organizational and service offering dimensions. This study extends current research on the role of digital technologies in the professional service sector, with a focus on SPSFs, which have received little attention so far. Specifically, this paper highlights the complex challenges in combining processes that are being increasingly standardised and services with the timely need to maintain flexibility and informality in internal and external interactions.

*Practical applications of digitalisation*

The first paper under this theme by Nguyen (2023) begins by identifying knowledge as the main component of professional service firms and thus, a key to their success. The author argues that professional service firms face challenges in having employees share knowledge due to the unique nature of their businesses and operations, which can be overcome by using technology-mediated knowledge sharing (TMKS) that has no space of time limitations. This study explores the role of transformational leadership as a key driver of TMKS along with perceived ease of use and perceived usefulness in using technology, with an online survey of 345 employees in professional service firms, who had experience with technology-mediated knowledge sharing, recruited using snowball sampling approach. The findings confirm a significant impact of transformational leadership on TMKS, moderated by perceived usefulness and gender, and leading to organisational innovation as the final outcome. This study provides useful guidance to professional service firms in how to motivate their employees to share knowledge via technology in order to improve organisational innovation.

In the next paper, Kondapaka et al. (2023), use Service-Dominant Logic to explore the creation of an ideal cognitive-technology fit between human experiences and AI-based solutions for more effective decision-making at CXO level. The authors follow a grounded theory approach using a focus group discussion with seven participants from professional service firms to discover factors that may influence AI applications' usage and CXOs' experience in making business decisions, followed by 21 in-depth interviews with employees from knowledge-intensive professional service firms. Based on the results, this paper develops a theoretical framework to incorporate the factors that govern AI implementation in an organisation and to highlight the important role of harmony between AI and CXOs' experience as a competitive strategy by knowledge-intensive professional service firms. This study extends the current literature on CXO-level decision-making, by underlining the need to balance CXO's expertise with the use of emerging digital technologies like AI.

Finally, Ferreira et al. (2023) use a methodological approach to demonstrate how service firms can use digital technologies to quantify and predict customer evaluations of their interactions with the firm using unstructured, qualitative data using computerised text analysis to harness the power of unstructured data and enhance customer-firm relationships. Three empirical studies were conducted to exemplify the use of the computerized text analysis tool. A secondary data analysis of online customer reviews (n = 2878) in a service industry was used. LIWC was used to conduct the text analysis, and thereafter SPSS was used to examine the predictive capability of the model for the evaluation of customer-firm interactions. A lexical analysis of online customer reviews was able to predict evaluations of customer-firm interactions across the three empirical studies. The authenticity and emotional tone present in the reviews served as the best predictors of customer evaluations of their service interactions with the firm.

This research contributes to the growing body of knowledge regarding the use of computerized lexical analysis to assess unstructured, online customer reviews to predict customers' evaluations of a service interaction. The results offer service firms an inexpensive and user-friendly methodology to assess real-time, readily available reviews, complementing traditional customer research. A tool has been used to transform unstructured data into a numerical format, quantifying customer evaluations of service interactions. From a practical perspective, computerized text analysis is an inexpensive digital tool which, to date, has been sparsely used to analyse customer-firm interactions based on customers' online reviews. From a methodological perspective, the use of this tool to gain insights from unstructured data provides the ability to gain an understanding of customers' real-time evaluations of their service interactions with a firm without collecting primary data. Finally, use of computerised text analysis to interpret qualitative data has the potential to become a popular method for advertising and market research agencies to help their clients build stronger brands.

## **Conclusion and future research directions**

This special issue contains eight articles that approach its topic, “Emerging digital technologies and professional services: Current and future research agenda” using diverse conceptual, empirical and practical perspectives.

For example, under the first theme, ‘Diverse theoretical perspectives’, Liu et al. (2023) use the strategic agility perspective to explore the process by which professional service firms adopt digital platforms and study the impact of digital capability on business performance via digital-enabled strategic agility using survey data from professional service firms in New Zealand. Similarly, Marino-Romero et al. (2023) study the use of information technology by professional services providers to offer greater value to their clients, using a mixed method design to survey managers of Knowledge Intensive Business Services (KIBS) companies in Spain to show that digital capability drives digital transformation and superior organisational performance. Finally, Panda et al. (2023) explore the impact of digitalisation on the key characteristics of professional service firms using an in-depth interviews with entrepreneurs and professionals from Indian professional service firms, focusing on the role of capital intensity, knowledge intensity and professional workforce, in digitalisation process.

All these three papers confirm the importance of dynamic capabilities such as strategic agility, digital capability, and knowledge intensity coupled with other variables, such as capital intensity and a professional workforce, for the success of digital transformation process, using data from three countries using different methodologies. However, we need more research using other theoretical perspectives and data collected from other countries and different types of professional service providers, in order to provide further useful insights into the challenges and opportunities faced by these firms in their digitalisation efforts. In particular, multi-disciplinary theoretical perspectives may be more useful for a more realistic conceptualisation of the process by which these firms react to emerging digital technologies.

Next, the two papers under the theme ‘Challenges in digitalisation’, explore the unique challenges faced by different types of professional services firms. For example, Kronblad et al. (2023) use in-depth interviews with representatives of legal firms combined with data and field notes from architecture and legal industries to show that the traditional legal firms face structural and cultural barriers in dealing with digital exploration with ongoing exploitation and hence do poorly compared to architecture firms in embracing new digital technologies. Similarly, Cardinali et al. (2023) use in-depth interviews with representatives of small professional financial services firms to identify several internal and external barriers as well as key drivers for digitalisation and reveal the complex challenges in combining standardised processes and services with the need for flexibility and informality. Both these papers make a useful contribution by highlighting the challenges faced by different businesses based on their unique contextual features and limitations, including firm characteristics and capabilities.

Finally, the three papers under the theme ‘Practical applications of digitalisation’, further illustrate the processes used by different businesses when dealing with emerging digital technologies. For example, Nguyen (2023) uses an online survey of professional service firm employees in Vietnam to explore the impact of transformational leadership on technology-mediated knowledge sharing (TMKS), which is moderated by perceived usefulness and gender, and leads to organisational innovation as the final outcome. Similarly, Kondapaka et al. (2023), use a focus group discussion with participants from professional service firms followed by in-depth interviews with employees from knowledge-intensive professional service firms in Sweden to explore the combined influence of artificial intelligence applications’ usage and CXOs’ experience in making business decisions. Finally, Ferreira et al. (2023) use three empirical studies to illustrate the use of computerised text analysis to interpret unstructured data by professional service providers, such as advertising and market research firms. All these papers employ different approaches to demonstrate the practical

benefits of using digital technologies for different types of professional services firms in three countries, namely Vietnam, Sweden and South Africa.

Overall, the eight papers included in this special issue provide a strong evidence of ongoing efforts by professional services firms to adopt and deal with the advent of emerging digital technologies around the world. However, there are still many topics that require further attention from researchers, including but not limited to the following:

- a) Reasons for the differences in the pace and success rates of adoption by professional services providers for various emerging digital technologies (e.g., artificial intelligence, blockchain, internet of things, machine learning, robotics, virtual reality etc.)
- b) Impact of digitalisation and adoption of specific digital technologies on the performance of professional service firms (e.g., process efficiency and outcomes, customer and employee satisfaction and loyalty, profitability and firm value etc.).
- c) Other drivers and inhibitors of the adoption of emerging digital technologies in professional services, which may influence their popularity and long-term usage.
- d) New conceptual models and frameworks that capture and depict the attitudes, perceptions, evaluations and behaviours of customers, employees, users and decision-makers in the professional services context.
- e) Explore the impact of emerging digital technologies on important customer and employee outcomes for professional services providers, such as affective well-being, commitment, and retention, internal service quality, service climate, and organisational culture
- f) Study the organisational level drivers of the adoption and usage of emerging digital technologies, such as firm innovativeness, industry type, firm size, country-of-origin etc.
- g) Explore the national level factors that influence the adoption and usage of emerging digital technologies, such as national cultural value, socio-economic indicators, technological development and infrastructure etc.

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