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Digital technology driven knowledge sharing for job performance

Hepu Deng, Sophia Xiaoxia Duan and Santoso Wibowo

Abstract

Purpose – The purpose of this study is to investigate how digital technologies are used for facilitating knowledge sharing and decision-making through enhanced coordination and communication and their impact on job performance in organizations.

Design/methodology/approach – A conceptual model is developed within the background of the social capital theory through a comprehensive review of the related literature for exploring how digital technologies can improve knowledge sharing and decision-making via enhanced communication and coordination between individuals in organizations for better job performance. This model is then tested and validated based on structural equation modeling of the collected survey data in Australia.

Findings – This study shows that digital technology enhanced coordination and communication have significant impact on knowledge sharing. It finds out that digital technology driven coordination significantly influences decision-making and digital technology driven knowledge sharing significantly influences decision-making. Furthermore, this study reveals that enhanced decision-making and knowledge sharing can lead to better job performance in organizations.

Originality/value – To the best of the authors' knowledge, this study is the first attempt to explore the role of digital technologies in enhancing knowledge sharing and decision-making for better job performance in a digitalized working environment in organizations. The validated model can be used as the foundation to further investigate the changing role of digital technologies in driving knowledge sharing for better performance of individuals and competitive advantages of organizations.

Keywords Digital technologies, Knowledge sharing, Coordination, Communication, Decision-making, Job performance

Paper type Research paper

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1. Introduction

Knowledge sharing is about exchanging information and know-how between individuals for the accomplishment of specific tasks in organizations (An *et al.*, 2014; Swanson *et al.*, 2020; Stachová *et al.*, 2020). It provides a link between individuals through transferring knowledge that individuals have in the delivery of specific products and services in organizations. This leads to better employee engagement, effective decision-making, reduced loss of knowledge and stimulated innovation, ultimately resulting in better job performance for individuals and competitive advantages for organizations (Kwahk and Park, 2016; Razmerita *et al.*, 2016; Nguyen *et al.*, 2021). As a result, organizations have been actively pursuing various means for promoting knowledge sharing to enhance the performance of individuals and improve the competitiveness of organizations (An *et al.*, 2014; Malik *et al.*, 2020).

The rapid development of digital technologies provides individuals with new means for sharing knowledge in delivering specific products and services in organizations (Tseng and Huang, 2011; Ahmed *et al.*, 2019). Such technologies ranging from social media, including Facebook, LinkedIn and Instagram, to digital platforms, such as weblogs, Zoom, Microsoft Teams and Skype, big data and online resources, are changing how knowledge is created, distributed and shared under various circumstances (Ahmed *et al.*, 2019). The increasing

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adoption of distributed working environments because of COVID-19 further accelerates such changes with the growing use of digital technologies to facilitate knowledge sharing and decision-making (Duan *et al.*, 2020; De *et al.*, 2020). As a result, both individuals and organizations have started to experience profound and far-reaching impact that these changes have brought not only in terms of scale, access and availability of knowledge but also in the manner how knowledge is shared, where it comes from and what roles that individuals play in creating, distributing and sharing knowledge (Kwahk and Park, 2016; Swanson *et al.*, 2020; Lepore *et al.*, 2021). This calls for more research on better understanding how the use of digital technologies in organizations affects knowledge sharing and what impact such digital technology driven knowledge sharing has on job performance of individuals (Ahmed *et al.*, 2019; Kwayu *et al.*, 2021).

The capability of digital technologies for facilitating knowledge sharing through enhancing coordination and communication (Waizenegger *et al.*, 2020) and improving decision-making (Kossek *et al.*, 2006) promises better job performance for individuals and improved competitiveness for organizations (Wang *et al.*, 2020; Lepore *et al.*, 2021). Such a promise, however, has not been fully materialized because of the behavior of individuals that are afforded and constrained by digital technology use (Majchrzak and Markus, 2012; Treem and Leonardi, 2013; Wang *et al.*, 2020) and the complex interaction between and among individuals in organizations (Argyris and Monu, 2015; Duan *et al.*, 2020). While the use of digital technologies does provide the potential for significantly improving knowledge sharing between individuals in organizations (Ahmed *et al.*, 2019), it often blurs the boundaries between work and nonwork domains and exacerbates work-life conflict, therefore negatively impacting job performance of individuals (Lee and Sirgy, 2019; Farivar and Richardson, 2021). Such inconsistency in job performance between the promise and the delivery with respect to the use of digital technologies for knowledge sharing demonstrates the need for further exploring how digital technology driven knowledge sharing affect job performance.

There are many studies exploring the impact of knowledge sharing using individual digital technologies on job performance under various circumstances (Tseng and Huang, 2011; Kwahk and Park, 2016; Cui *et al.*, 2019). Tseng and Huang (2011), for example, examine the relationship between the use of Wikipedia, knowledge sharing and job performance showing that using Wikipedia has a significant impact on knowledge sharing and job performance. Kwahk and Park (2016) explore the use of social media for knowledge sharing and its impact on job performance revealing that the adoption of social media can lead to better job performance. Cui *et al.* (2019) investigate how social media use affects knowledge sharing and job performance finding out that social media use can positively affect job performance of individuals in a team environment. These studies above demonstrate the critical role that individual digital technologies play in knowledge sharing and its impact on job performance.

Digital technologies such as social media and digital platforms have their own characteristics and capabilities in creating, distributing and sharing knowledge (Yuan *et al.*, 2013; Ahmed *et al.*, 2019; Kwayu *et al.*, 2021). This leads to the increasing use of various digital technologies in a holistic manner for better knowledge sharing and effective decision-making in organizations (Lepore *et al.*, 2021). There are, however, no specific studies that can be found in the literature on how digital technologies are used as a whole in organizations for facilitating knowledge sharing and how digital technology driven knowledge sharing influences job performance with respect to enhanced coordination and communication and improved decision-making. This study therefore aims to address this issue with the development of the research questions as follows:

- RQ1.* How digital technologies are used for facilitating knowledge sharing and decision-making, and what impact such as facilitated knowledge sharing and decision-making have on job performance?

The purpose of this study is to investigate how digital technologies are used for facilitating knowledge sharing and decision-making and what impact such facilitated knowledge sharing and decision making have on job performance in organizations. A comprehensive review of the related literature has been conducted, leading to the development of a conceptual model within the background of the social capital theory in the study. This model is then tested and validated based on structural equation modeling (SEM) of the collected survey data in Australia. This study shows that digital technology enhanced coordination and communication has significant impact on knowledge sharing. It finds out that digital technology driven communication significantly influence decision-making and knowledge sharing significantly influences decision-making. Furthermore, the study reveals that enhanced decision-making and knowledge sharing can lead to better job performance. This study is the first attempt to explore the role of digital technologies in enhancing knowledge sharing and decision-making for better job performance in a distributed working environment. The validated model can be used to further investigate the changing role of digital technologies in driving knowledge sharing and improving decision-making in organizations for better job performance of individuals and enhanced competitive advantages for organizations.

The rest of the paper is organized as follows. Section 2 presents a comprehensive review of the relevant literature in knowledge sharing and job performance in organizations. This paves the way for the development of a conceptual model in Section 3 for answering the research question. Section 4 discusses the research methodology that this study adopts. Section 5 describes the data analysis result, followed by the discussion on the research findings in Section 6. Section 7 concludes the study with an elaboration of the limitation of the study and the future research in the area of digital technology driven knowledge sharing and job performance.

2. Related work

Job performance is a complex construct that can be approached from the perspective of in-role job performance and innovative job performance (Henttonen *et al.*, 2016; Duan *et al.*, 2020; Lin *et al.*, 2020). In-role job performance reflects on the task within the duty of individuals (Chen *et al.*, 2019). This requires individuals to demonstrate formal behaviors for achieving their performance objectives based on the job description. Innovative job performance focuses on activities beyond routine job requirements for achieving novel outcomes (Ali-Hassan *et al.*, 2015). It requires generating and adopting novel ideas and acquiring the power necessary to successfully implement such ideas for better organizational performance. Depending on the specific situation and its characteristics, both in-role job performance and innovative job performance can be used for assessing the contribution of individuals to the overall organizational objectives (Ahmed *et al.*, 2019; Swanson *et al.*, 2020).

This study focuses on exploring digital technology driven knowledge sharing and its impact on in-role job performance. In this context, job performance is about the contribution that individuals make to achieve organizational goals with respect to their special job description under specific situations (Kwahk and Park, 2016; Ahmed *et al.*, 2019). It is concerned with aligning organizational objectives with agreed measures, skills, competency requirements and development plans of individuals for achieving organizational goals and improving organizational competitiveness (Chen *et al.*, 2019; Duan *et al.*, 2020).

There are various studies that have been conducted on exploring how job performance is influenced in organizations from different perspectives (Jelinek *et al.*, 2006; Ghaffari *et al.*, 2017; Al Nahyan *et al.*, 2019; Chen *et al.*, 2019; Lin *et al.*, 2020). Jelinek *et al.* (2006), for example, find out that digital technologies play a critical role in determining job performance because of the change that digital technologies can make in reorganizing business processes and facilitating communication between individuals. Ghaffari *et al.* (2017) reveal

that motivation that individuals have has a positive impact on their job performance. [Al Nahyan et al. \(2019\)](#) show that organizational characteristics, work environment and individual characteristics influence job performance in organizations. [Chen et al. \(2019\)](#) point out that technology enabled communication, coordination and collaboration lead to effective decision-making and better job performance. [Lin et al. \(2020\)](#) state that employee satisfaction positively affects job performance. All these studies above have demonstrated that job performance is a multi-faced construct that is affected by various factors from different perspectives.

Knowledge sharing is about exchanging information and know-how between individuals and creating new knowledge in delivering products and services ([Henttonen et al., 2016](#); [An et al., 2017](#); [Al Nahyan et al., 2019](#)). It is related to the provision and receipt of task-specific information and know-how in implementing specific tasks. This involves in verbal communication about the task and the exchange of tangible artifacts and implicit coordination of expertise ([Hau et al., 2013](#)) and information about who knows what in organizations ([Lindsjorn et al., 2016](#); [Al Nahyan et al., 2019](#)). With the increasing competitive pressures that organizations face nowadays, various means have been actively pursued for facilitating knowledge sharing in seeking better job performance and improved organizational competitiveness ([Pangil and Chan, 2014](#); [Ahmed et al., 2019](#)).

The ability of an organization to facilitate sharing and using knowledge is critical for improving the job performance of individuals and increasing the competitiveness of organizations ([Pangil and Chan, 2014](#); [Tseng and Huang, 2011](#); [Cui et al., 2019](#)). This is in particular true with the increasing adoption of distributed working environments because of the surge of COVID-19 across the world ([Duan et al., 2020](#); [De et al., 2020](#)) in which digital technologies are widely used in shaping how knowledge is created, distributed and shared between individuals ([Ma and Chan, 2014](#); [De et al., 2020](#); [Stachová et al., 2020](#)). The use of digital technologies can facilitate communication and coordination between individuals based on what they know, when they know, what others need to know and what information should be shared ([Yuan et al., 2013](#); [Ahmed et al., 2019](#)). Such enhanced communication and coordination can lead to the timely knowledge sharing and effective decision-making. This can directly lead to better job performance for individuals in organizations.

There are numerous studies that have been conducted in exploring how knowledge sharing can influence job performance in organizations ([Tseng and Huang, 2011](#); [Ma and Chan, 2014](#); [Ahmed et al., 2019](#); [Wang et al., 2020](#); [Duan et al., 2021](#); [Lepore et al., 2021](#)). An examination of such studies reveals that three perspectives including technologies, organizations and individuals can be found in investigating the relationship between knowledge sharing and job performances under various situations. This leads to the identification of specific insights for better understanding the impact of knowledge sharing on job performance under various circumstances.

Technology-aligned studies concentrate on exploring the enabling role of digital technologies in facilitating knowledge sharing and its impact on job performance in organizations ([Tseng and Huang, 2011](#); [Kwahk and Park, 2016](#); [Cui et al., 2019](#)). Such studies recognize the characteristics and capabilities of individual digital technologies ([Yuan et al., 2013](#)) and investigate how the use of these technologies facilitates knowledge sharing and what impact such technology driven knowledge sharing has on job performance in organizations ([Kwayu et al., 2021](#)). This leads to the identification of the technology-related factors that influence knowledge sharing and its impact on job performance.

Digital technologies have been widely used for facilitating knowledge sharing and decision-making in organizations ([Cui et al., 2019](#); [Stachová et al., 2020](#)). They are “products or services that are either embodied in information and communication technologies or enabled by them” ([Lyttinen et al., 2016](#), p. 49). They can become malleable, editable,

self-referential and interactive. Such characteristics of digital technologies provide individuals with a new mean for sharing knowledge (Cui *et al.*, 2019). The use of digital technologies can accelerate the sharing and transfer of information and tacit knowledge within the organization and improving knowledge sharing between and among individuals (Lin *et al.*, 2020). It can improve social interaction and enhance relationships between individuals, leading to the development of social capital (Lee *et al.*, 2021) in organizations. As a result, organizations of various kinds have been increasingly adopting digital technologies as an effective mean for improving knowledge sharing. This is, in particular, the case during the pandemic such as COVID-19 in which the use of digital technologies in a distributed working environment is becoming “the new normal” working model as digital work (De *et al.*, 2020; Duan *et al.*, 2021).

There are several technology-aligned studies on the exploration of the enabling role of digital technologies in driving knowledge sharing and its impact on job performance in organizations (Tseng and Huang, 2011; Kwahk and Park, 2016; Cui *et al.*, 2019). Chen *et al.* (2019) investigate the use of social media for improving communication and coordination in a team environment showing that the use of social media has a positive impact on job performance. Lin *et al.* (2020) state that the use of digital technologies accelerates the sharing and transfer of information and tacit knowledge within the organization and improves knowledge sharing among individuals, leading to the enhancement of job performance. Tønnessen *et al.* (2021) reveal that digital technology driven knowledge sharing has a positive impact on job performance in the COVID-19 pandemic with the theoretical background of the social capital theory (Lee *et al.*, 2016). Such studies above confirm the crucial role that digital technologies play through enhanced communication and coordination for facilitating knowledge sharing and decision-making that leads to better job performance.

Organization-oriented studies concentrate on the role that organizations can play in encouraging and facilitating knowledge sharing between individuals and its impact on job performance of individuals and the competitiveness of organizations (Lee *et al.*, 2016; Lin *et al.*, 2020). This leads to the identification of organizational factors including organization culture (Lee *et al.*, 2016; Abdelwhab *et al.*, 2019), leadership (Masa'deh *et al.*, 2016; Lin *et al.*, 2020) and organizational structure (Halisah *et al.*, 2021) that influence knowledge sharing and job performance under various circumstances.

Individual-based studies focus on exploring individual-related factors that influence knowledge sharing and its impact on job performance in organizations (Hau *et al.*, 2013; Ma and Chan, 2014; Cui *et al.*, 2019). Such studies recognize the complex nature of knowledge sharing and appreciate the role of the characteristics of individuals and their attitude and behavior in knowledge sharing and its impact on job performance in organizations (Holste and Fields, 2010; Ma and Chan, 2014; Cui *et al.*, 2019). This leads to the validation of the positive relationship between knowledge sharing and job performance using specific theories including the social capital theory, the rational action theory and the social embeddedness theory under various circumstances (Tseng and Huang, 2011; Cui *et al.*, 2019) with the identification of the critical factors for influencing knowledge sharing and job performance.

There are several individual-based studies that focus on the use of the social capital theory (Lee *et al.*, 2016) for exploring the relationship between knowledge sharing and job performance in organizations (Hu and Randel, 2014; Lee *et al.*, 2016; Singh *et al.*, 2021). Hu and Randel (2014), for example, use the social capital theory to investigate the critical factors for affecting knowledge sharing and its impact on job performance finding out that communication, coordination and incentives have the potential to enhance knowledge sharing for improving job performance. Lee *et al.* (2016) adopt the social capital theory to explore the impact of knowledge sharing on job performance of project teams revealing that communication, technology expertise and team social capital play an important role in

knowledge sharing for improving job performance. [Akhavan and Hosseini \(2016\)](#) use the social exchange theory to investigate the effect of knowledge sharing on job performance finding that improving communication, trust and team social capital can positively influence knowledge sharing, leading to better job performance. [Singh et al. \(2021\)](#) apply the social capital theory to examine the impact of knowledge sharing on job performance showing that organization practices and team social capital play a vital role in enhancing knowledge sharing for better job performance. These studies above reveal that communication, coordination and motivation are critical for knowledge sharing that has a positive impact on job performance.

Several studies have combined a few theories together for investigating knowledge sharing and its impact on job performance in organizations. [Hau et al. \(2013\)](#), for example, apply the social capital theory ([Lee et al., 2016](#)) and the rational action theory to examine the critical factors for enhancing knowledge sharing showing that providing effective communication and increasing motivation help improve knowledge sharing, leading to better job performance. [Nguyen et al. \(2018\)](#) apply the social capital theory and the social embeddedness theory to study the effect of coordination on knowledge sharing and job performance revealing that coordination and communication significantly influence knowledge sharing, leading to better job performance. [Lee et al. \(2021\)](#) adopt the work design theory and the social capital theory to investigate how knowledge sharing affects job performance revealing that communication, social capital and task interdependence have a positive impact on knowledge sharing, leading to better job performance. Overall, these studies have further stressed the importance of communication and coordination in enhancing knowledge sharing and their positive impact on job performance. [Table 1](#) presents the summary of individual-based studies above.

The discussion above has demonstrated the positive relationship between knowledge sharing and job performance from different perspectives. There is, however, a lack of studies that comprehensively explore how digital technologies as a whole can be used for facilitating knowledge sharing and decision-making through enhanced coordination and communication and what impact such digital technology driven knowledge sharing and decision-making have on job performance of individuals in a digitalized environment in which digital technologies are playing an increasingly critical role in connecting individuals

Table 1 Individual-based studies on knowledge sharing for job performance

<i>Theories</i>	<i>References</i>	<i>Approaches</i>	<i>Critical factors</i>
Social capital theory	Hu and Randel (2014)	Survey of 219 employees in organizations	Communication, coordination and incentives
	Lee et al. (2016)	Survey of 145 information systems development teams	Communication, technology expertise and social capital
	Akhavan and Hosseini (2016)	Survey of 230 employees in organizations	Communication, trust and team social capital
	Singh et al. (2021)	Survey of 352 employees in services organizations	Organization practices and team social capital
Hybrid theories	Hau et al. (2013)	Survey of 2,100 employees in multiple industries	Communication, motivation and social capital
	Nguyen et al. (2018)	Online survey of 224 managers	Communication, coordination and innovativeness
	Lee et al. (2021)	Survey of 205 project managers	Communication, social capital and task interdependence

together in organizations (De *et al.*, 2020; Wang *et al.*, 2020; Frost and Duan, 2020; Lepore *et al.*, 2021; Tønnessen *et al.*, 2021). To address this issue, this study investigates how digital technologies facilitate knowledge sharing and decision-making and how digital technology driven knowledge sharing and decision-making affect job performance in organizations.

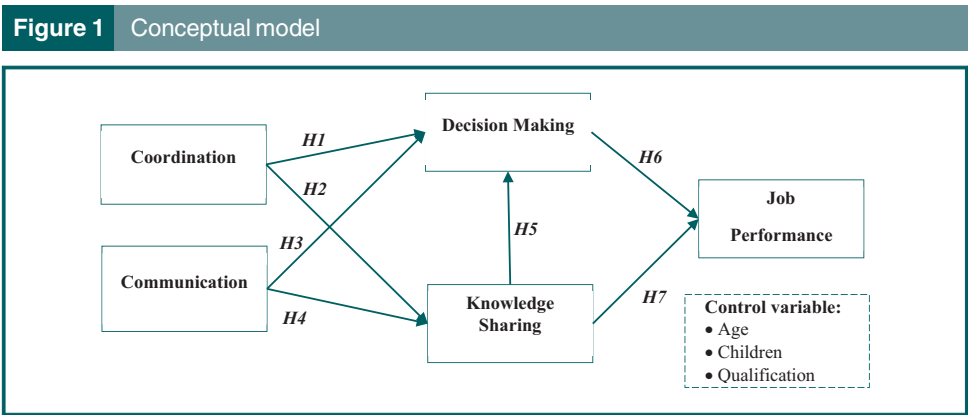
3. Conceptual model

This study aims to explore the use of digital technologies for knowledge sharing and its impact on job performance in a digitalized working environment. It is conducted within the context of individual-based knowledge sharing through the use of digital technologies and its impact on job performance discussed as above. Because of the unique characteristics and capabilities of digital technologies in today's distributed digitalized working environment for knowledge sharing (Tseng and Huang, 2011; Kwahk and Park, 2016; Cui *et al.*, 2019), this study focuses on investigating the enhanced communication and coordination through the use of digital technologies on knowledge sharing and decision-making and their impact on job performance.

The social capital theory contends that interpersonal relations create value for individuals, as they provide individuals with valuable resources for achieving better job performance (Lee *et al.*, 2016; Singh *et al.*, 2021; Tønnessen *et al.*, 2021). It is a systematic way of looking at communities of knowledge (An *et al.*, 2014) in exploring knowledge sharing and its impact on job performance (Hu and Randel, 2014; Lee *et al.*, 2016; Singh *et al.*, 2021). There are many studies discussed as above that have demonstrated the applicability of such a theory in exploring how knowledge sharing is adopted for influencing job performance in various contexts (Hu and Randel, 2014; Lee *et al.*, 2016; Singh *et al.*, 2021).

Because of the characteristics of digital technologies (Lyytinen *et al.*, 2016, p. 49) and their capabilities in effectively connecting individuals together no matter where they are (Cui *et al.*, 2019; Lin *et al.*, 2020; Lepore *et al.*, 2021), this study adopts the social capital theory to explore digital technology driven knowledge sharing and its impact on job performance. The application of the social capital theory in this study is appropriate, as social capitals such as network relationships between and among individuals are actualized through improved communication and coordination with the use of digital technologies (Kwahk and Park, 2016; Chen *et al.*, 2019). This facilitates knowledge sharing and decision-making in a digitalized working environment, leading to better job performance.

Drawing upon the social capital theory, a conceptual framework for investigating how technology enhanced communication and coordination influence knowledge sharing and decision-making and their impact on job performance is developed as shown in Figure 1.



Coordination is the process of interacting between and among individuals in organizations for completing a collective set of tasks (Al Nahyan *et al.*, 2019; Lepore *et al.*, 2021). Digital technologies can facilitate coordination by improving the ability of individuals and groups to coordinate their efforts for completing work activities in a digitalized working environment (Duan *et al.*, 2020). Such digital technology enhanced coordination has positive impact on decision-making (Ahmed *et al.*, 2019; Chen *et al.*, 2019). Chen *et al.* (2019) show that digital technologies have the capacity to support coordination and collaboration among individuals, leading to effective decision-making. Ahmed *et al.* (2019) find that the use of enterprise social technologies can facilitate coordination between individuals. This results in improved decision-making. Along this line, the following hypothesis is proposed:

H1. Digital technology enabled coordination positively influences decision-making.

Digital technology facilitated coordination enables knowledge sharing for facilitating the implementation of specific working activities (Kwahk and Park, 2016; Lindsjorn *et al.*, 2016; Waizenegger *et al.*, 2020). Knowledge sharing is related to transferring information and expertise from one person to another to help others better carry out their work. The use of digital technologies provides individuals with new channels of sharing knowledge (Ahmed *et al.*, 2019) to allow timely coordination and collaboration between and among individuals in a digitalized working environment for better job performance. Kwahk and Park (2016) suggest that enterprise social media supports coordination, which significantly fosters knowledge sharing. Lindsjorn *et al.* (2016) find that digital technologies facilitate coordination and harmonization of work activities, leading to effective knowledge sharing. Waizenegger *et al.* (2020) show that coordination positively influences knowledge sharing in a digitalized working environment within organizations. The discussion above leads to the hypothesis as follows:

H2. Digital technology enabled coordination positively influences knowledge sharing.

Digital technology enabled communication is about the use of digital technologies for processing and communicating information in organizations (Lindsjorn *et al.*, 2016). Such enabled communication has a positive influence on decision-making in organizations (Pangil and Chan, 2014; Chen *et al.*, 2019; Waizenegger *et al.*, 2020). Pangil and Chan (2014) show that digital technologies facilitate communication in virtual teams, leading to effective and timely team decision-making. Chen *et al.* (2019) indicate that enterprise social media enabled communication facilitates the dissemination of relevant information for making informed decisions. Waizenegger *et al.* (2020) believe that better communication between employees using digital technologies results in better decision-making in organizations for conducting essential work duties. This leads to the development of the following hypothesis:

H3. Digital technology enabled communication positively influences decision-making.

Digital technology enhanced communication has a positive influence on knowledge sharing in organizations (Ahmed *et al.*, 2019; Duan *et al.*, 2020; Yang *et al.*, 2021). Ahmed *et al.* (2019) show that enterprise social media is an important communication channel for knowledge sharing. Duan *et al.* (2020) suggest that technology enabled communication is an enabler of knowledge sharing in the digitized working environment. Yang *et al.* (2021) find that digital technologies improve network translucence and message transparency in communication, which paves the way for effective knowledge sharing. Digital technologies such as discussion boards and collaborative tools like Microsoft Teams, Skype and Zoom often include many features that support dialogic practices for facilitating knowledge sharing (Cordes, 2016; Lepore *et al.*, 2021). Along this line, the following hypothesis is proposed:

H4. Digital technology enabled communication positively influences knowledge sharing.

Knowledge sharing is about exchanging personal information and know-how with others within organizations (Yang *et al.*, 2021). Digital technologies can facilitate knowledge sharing by removing temporal and spatial barriers among employees, providing information access, enhancing the knowledge sharing process and locating various elements relevant to the process of knowledge sharing. The enhanced knowledge sharing plays a positive role in enhancing decision-making (Ahmed *et al.*, 2019; Chen *et al.*, 2019). Ahmed *et al.* (2019) show that digital technologies facilitate knowledge transfer and sharing between and among individuals. This enables decision-makers to access the required knowledge for making decisions, leading to improved decision-making. Chen *et al.* (2019) find that digital technologies enable employees to better share insights and know-how with each other, resulting in better-informed decisions. This leads to the development of the following hypothesis:

H5. Digital technology enhanced knowledge sharing positively influences decision-making.

Digital technologies have created unprecedented opportunities for organizations to make fast and comprehensive decisions by providing relevant, timely, accurate information (Turban *et al.*, 2011; Cordes, 2016; Duan *et al.*, 2020). Such enhanced decision-making is critical for improving job performance (Turban *et al.*, 2011; Cordes, 2016; Wang *et al.*, 2020). Turban *et al.* (2011) find that digital technologies facilitate the decision-making process, leading to improved job performance. Cordes (2016) shows that digital technologies enable efficient group decision-making via instant team interaction, contributing to improved job performance. Wang *et al.* (2020) demonstrate that digital technologies enhance decision-making based on business analytics, which relies more on rational insights driven by data and less on intuitions, resulting in better job performance. Along this line, the following hypothesis is proposed:

H6. Digital technology enhanced decision-making positively influences job performance.

Digital technology enhanced knowledge sharing has a positive impact on job performance (Kwahk and Park, 2016; Chen *et al.*, 2019; Yang *et al.*, 2021). The digitalized working environment is characterized by the process in which individuals are engaged in the exchange of knowledge using digital technologies for better job outcomes (Duan *et al.*, 2020). Kwahk and Park (2016) show that enterprise social technologies facilitate knowledge sharing among individuals, which in turn improves job performance. Chen *et al.* (2019) reveal that digital technologies can leverage knowledge resources in organizations for better job performance. Yang *et al.* (2021) show that enterprise social technologies facilitate knowledge sharing by increasing network translucence and message transparency, leading to improved job performance. The discussion leads to the formulation of the hypothesis as follows:

H7. Digital technology enhanced knowledge sharing positively influences job performance.

The control variables used in this study are age, number of children and qualification. The relationship between age and job performance has been well researched in the literature. Bertolino *et al.* (2013) believe that age is positively related to perceived job performance. Chen *et al.* (2019), however, point out that age does not have any influence on job performance. With respect to the qualification that individuals have, Subramanian *et al.* (2016) show that qualification is a predictor of job performance, whereby individuals with higher education levels are found to have higher learning ability, leading to increased job performance. However, Chen *et al.* (2019) demonstrate that qualification does not have any significant influence on job performance. On a different note, Ollo-López *et al.* (2021) find that individuals who have children at home show a more positive attitude toward work and an increase in job performance. Nguyen (2021), however, believe that children at home cause distraction on individuals, leading to a decreased level of job performance.

The mixed results in existing research show the need for exploring the relationship between age, number of children and qualification and job performance in a digitalized working environment.

4. Research method

This study aims to investigate how digital technologies can be used for facilitating knowledge sharing and decision-making, leading to better job performance. To achieve this objective, a quantitative survey-based approach is used. Survey is a technique for studying the causes of phenomena and the attitudes and behaviors of individuals with empirical evidences (Duan *et al.*, 2012; Deng *et al.*, 2019). Such an approach is adopted because of the confirmatory nature of this study, in which data collected in real situations are needed to test and validate specific relationships in the research model identified through the literature review (Creswell and Creswell, 2017).

To ensure that a valid set of measurement items is used for data analysis, this study adopts a two-stage research paradigm, including the theoretical construction of the research model and the statistical refinement of the model (Deng *et al.*, 2019). The theoretical construct and its associated measurement items are developed through a comprehensive review of relevant research in knowledge sharing and digital work, followed by pilot tests to ensure content validity (Duan and Deng, 2021). The model is then tested and refined using confirmatory factor analysis (CFA).

The survey contains the demographics of the respondents and the measurement items of constructs. Such a survey is pre-tested by five academic staff with expertise in knowledge management and digital technology adoption, followed by a pilot test to assess its clarity, readability and comprehensibility. Minor revisions are made to rephrase certain statements in the survey. The tests confirm the content validity of the survey instrument (Creswell and Creswell, 2017). Table 2 shows the constructs, items and their sources used in the survey. All constructs are measured using a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5).

Australia is selected as the sample population in this study. This is because of the wide use of digital technologies for work in the country and the growing adoption of digital work in the increasingly digitalized working environment resulted from the longest lockdown in the world from the surge of COVID-19 pandemic (Duan and Deng, 2021). A purposeful survey method (Deng *et al.*, 2019) is used with the Web-based survey distributed online for collecting data from various respondents. This leads to the collection of 237 responses from the respondents 18 years of age and older who are working on a full- or part-time basis in Australia.

The collected data set is examined for data screening checks with respect to missing values, outliers, normality and multicollinearity (Hair *et al.*, 2010). This leads to the removal of 38 cases from the data set. As a result, there are 199 valid responses remained for statistical analysis in the study.

The data set is further examined for the common method bias (CMB). CMB is caused by the variance attributed to the measurement method rather than to the constructs that the measures are used to represent (Podsakoff *et al.*, 2003). It can occur when both independent and dependent variables are measured in the survey using the same measurement scales (Duan and Deng, 2021). High CMB can affect the reliability and validity of the empirical results (Podsakoff *et al.*, 2003). Harman's one-factor test is used for testing the CMB in this study. The results show that the variance of the common method is 37.07%. This value is less than the recommended threshold of 50% (Podsakoff *et al.*, 2003). It means that the bias of the common method does not affect the validity of the research findings in this study.

Table 2 Measurement items and sources

<i>Construct</i>	<i>Item</i>	<i>Source</i>
Coordination (CR)	CR1. work activities are harmonized by digital technologies CR2. work activities are coordinated by digital technologies CR3. work activities are supported by digital technologies CR4. help express concerns and issues using digital technologies	Lindsjorn <i>et al.</i> (2016)
Communication (CM)	CM1. frequent communication through digital technologies CM2. communicate in spontaneous meetings, phone conversations CM3. communicate directly and personally using digital technologies CM4. ideas and information shared openly using digital technologies CM5. little concern with the openness of the information flow	Lindsjorn <i>et al.</i> (2016)
Knowledge sharing (KS)	KS1. routinely share knowledge using digital technologies KS2. routinely seek out knowledge using digital technologies KS3. routinely share ideas openly using digital technologies KS4. the team is good at using team members' knowledge KS5. colleagues are willing to help others through digital technologies KS6. colleagues keep their best ideas	Pangil and Chan (2014); Alsharo <i>et al.</i> (2017)
Decision-making (DM)	DM1. provide relevant information using digital technologies DM2. provide timely information using digital technologies DM3. provide accurate information using digital technologies DM4. improve communication using digital technologies DM5. provide better interactions between stakeholders using digital technologies DM6. deal with the complexity using digital technologies	Turban <i>et al.</i> (2011)
Job performance (JP)	JP1 complete the specified duties JP2. meet formal performance requirements JP3. fulfill all required responsibilities JP4. never neglect the obligated aspects of the job JP5. always perform essential duties	Chen <i>et al.</i> (2019)

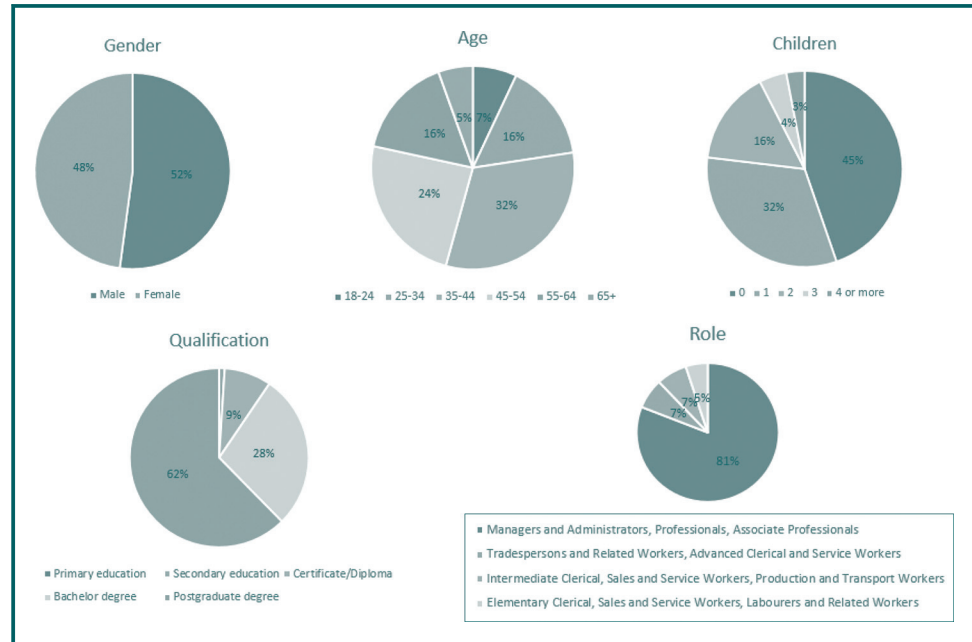
The profile of the respondents is explored. Figure 2 shows the demographics of respondents. There is not much difference in the gender distribution with 52% male and 48% female respondents. About 32% of respondents are from the 35–44 age group, followed by 24% from the 45–54 age group, 16% from the 65–64 age group and 16% from the 25–34 age group. Regarding the number of children at home, 45% of respondents do not have any child, followed by 32% with one child and 23% with two or more children. Most participants (62%) hold a postgraduate degree. About 81% of participants hold the role of Managers and Administrators, Professionals and Associate Professionals. Such characteristics of the respondents show that the sample is representative of the population in Australia with respect to the use of digital technologies for work.

5. Data analysis

SEM is used in this study for validating the measurement model as well as testing individual hypotheses. The adoption of SEM is because of its benefits of using latent variables for expressing unobserved constructs while considering measurement errors and multiple correlations of constructs simultaneously (Byrne, 2016).

To examine the validity and reliability of the theoretical constructs in Figure 1, a CFA analysis is conducted in three steps using AMOS version 26 based on the survey data. The first step is the model specification to assess the multivariate normality of the data set for facilitating the use of the maximum likelihood method in the estimation. The second step is an iterative model modification process for developing the best set of items to represent a construct through refinement and retesting. The last step is to estimate the goodness-of-fit

Figure 2 Demographics of the respondents



of the overall measurement model to test the extent to which the data support the model. Table 3 shows the results of testing the measurement model.

The convergent validity is assessed in an iterative model modification process (Byrne, 2016; Duan and Deng, 2021). The modification index is used to refine the construct if any χ^2 values reject a construct at $p < 0.05$. Factor loading (FL) value and the composite reliability (CR) value are used to measure the convergent validity. A rule of thumb is that the FL value and the CR value should be at least 0.50 and ideally 0.70 or higher with all FLs statistically significant. This process leads to the drop of six items from 26 items in the original conceptual model. Other items with FLs ranged from 0.71 to 0.91, and constructs with CRs above 0.85 as shown in Table 3 indicate a high convergent validity.

The construct reliability test includes the assessment of item reliability and construct reliability (Hair et al., 2010). The item reliability (IR) indicates the amount of variance in an item because of the underlying construct rather than errors. It is assessed using the squared multiple correlation value. An item is reliable if IR is greater than 0.50 (Hair et al., 2010). IR values for all the items ranging from 0.50 to 0.83 are higher than the threshold. These items are therefore deemed to be sufficient in measuring the construct. The construct reliability is examined by calculating the Cronbach's α coefficient with an acceptable value of 0.70. All five constructs with high Cronbach's α coefficients above 0.84 demonstrate high construct reliability.

The discriminant validity of the construct is examined by comparing the squared root of average variance extracted (AVE) for each construct with the correlation of this construct to other constructs (Byrne, 2016). Table 4 shows the construct validity results. The squared root of AVEs in five constructs with a range of 0.77–0.85 are higher than the correlation of the construct with other constructs ranged from 0.50 to 0.72. This shows high discriminant validity in all five constructs.

The final measurement model is estimated using the goodness-of-fit statistics (Byrne, 2016). The fitness statistics used are the likelihood ratio chi-square (χ^2), the ratio of χ^2 to degrees of freedom (χ^2/df), the root mean square error of approximation (RMSEA) and comparative

Table 3 Measurement model statistics

<i>Construct</i>	<i>Item</i>	<i>FL</i>	<i>IR</i>	χ^2/df	<i>p</i>	<i>CFI</i>	<i>RMSEA</i>	<i>CR</i>	α
CR	CR1	0.74***	0.55	1.78	0.10	0.96	0.06	0.88	0.87
	CR2	0.86***	0.74						
	CR3	0.86***	0.74						
	CR4	0.74***	0.55						
CM	CM2	0.83***	0.69					0.85	0.84
	CM3	0.78***	0.61						
	CM4	0.80***	0.64						
KS	KS1	0.90***	0.81					0.88	0.87
	KS2	0.85***	0.72						
	KS3	0.77***	0.59						
DM	DM1	0.76***	0.58					0.89	0.90
	DM2	0.81***	0.66						
	DM3	0.77***	0.59						
	DM4	0.82***	0.67						
	DM5	0.72***	0.52						
	DM6	0.71***	0.50						
JP	JP1	0.85***	0.72					0.91	0.91
	JP2	0.91***	0.83						
	JP3	0.90***	0.81						
	JP5	0.74***	0.55						
Recommended value		≥0.70	≥0.50	≤3.00	≥0.05	≥0.90	≤0.08	≥0.50	≥0.70

Notes: *** $p \leq 0.001$; ** $p \leq 0.01$; * $p \leq 0.05$

fit index (CFI). The insignificance of χ^2/df with the value of (1.78) within the cut-off value 3.00 as shown in Table 3 demonstrates a good match between the data and the model. This means that the final measurement model is sufficient to proceed with further analysis.

To test the hypothesis in the proposed conceptual model as shown in Figure 1, the overall fitness of the structure model is examined using various goodness-of-fit statistics, including χ^2/df , RMSEA, goodness of fit index (GFI), relative fit index (RFI), Tucker–Lewis index (TLI) and CFI. Table 5 presents a summary of the overall fitness assessment results. The χ^2 value normalized by the degree of freedom (χ^2/df) is 2.076, less than the recommended threshold of 3. The GFI (0.85) and the RFI (0.87) exceed the cut-off value of 0.8. The TLI (0.93) and the CFI (0.94) are greater than the recommended threshold of 0.90. The RMSEA (0.08) is less than the cut-off value of 0.08. A combination of the above results suggests that the measurement model fits well with the data.

Table 6 presents the results of the hypothesis testing in the structural model. The path coefficients (β) along with their significant levels (p -value) confirm the statistical support of six hypotheses.

Table 7 shows the results of the impact of control variables on job performance. Age and qualification are found to have significant impacts on job performance. The number of school-age children, however, is found to be not sensitive for job performance

Table 4 Construct validity and correlations

<i>Construct</i>	<i>AVE</i>	<i>CR</i>	<i>CM</i>	<i>KS</i>	<i>DM</i>	<i>JP</i>
CR	0.64	0.80				
CM	0.65	0.72	0.81			
KS	0.71	0.50	0.55	0.84		
DM	0.59	0.69	0.62	0.67	0.77	
JP	0.73	0.52	0.50	0.51	0.52	0.85

Notes: *The square roots of AVEs are on the diagonal

Table 5 Fit statistics of the research model

Model fit indices	Recommended value	Actual value
χ^2/df	1 < NC < 3	2.076 ($p \leq 0.001$)
RMSEA	<0.08	0.07
GFI	>0.80	0.85
RFI	>0.80	0.87
TLI	>0.90	0.93
CFI	>0.90	0.94

Table 6 Hypothesis testing results

Hypothesis	Path	Coefficient (β)	S.E.	p-value	Support for model
H1	CR \rightarrow DM	0.43	0.078	0.000	Supported
H2	CR \rightarrow KS	0.21	0.130	0.059	Supported
H3	CM \rightarrow DM	0.08	0.061	0.409	Rejected
H4	CM \rightarrow KS	0.41	0.105	0.000	Supported
H5	KS \rightarrow DM	0.40	0.053	0.000	Supported
H6	DM \rightarrow JP	0.29	0.120	0.004	Supported
H7	KS \rightarrow JP	0.33	0.081	0.000	Supported

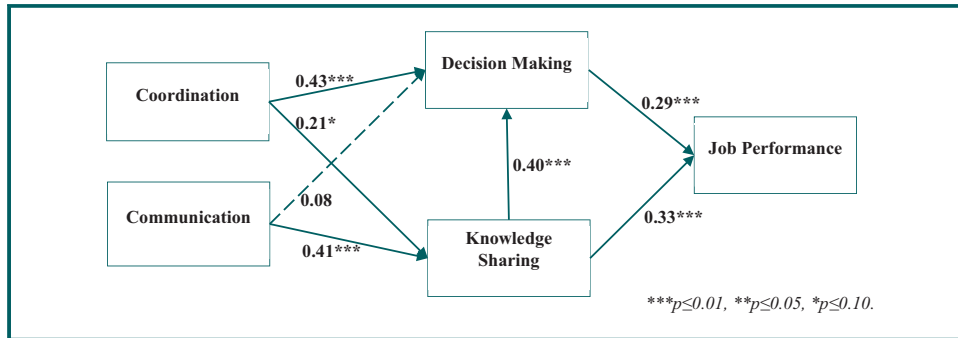
Figure 3 presents the structural model results. Coordination has significant impact on both decision-making ($\beta = 0.43$, $p < 0.001$) and knowledge sharing ($\beta = 0.21$, $p < 0.10$). Communication significantly influence knowledge sharing ($\beta = 0.41$, $p < 0.001$) but not decision-making ($\beta = 0.08$, $p > 0.10$). Knowledge sharing is a significant predictor of decision-making ($\beta = 0.40$, $p < 0.001$). Both decision-making ($\beta = 0.29$, $p < 0.001$) and knowledge sharing ($\beta = 0.33$, $p < 0.001$) have significant influences on job performance.

The mediation effects of knowledge sharing and decision-making have been explored with the use of bias-corrected bootstrapping in AMOS with the 95% confidence interval (Byrne, 2016). Such mediation effects can be divided into partial and full mediation effects (Cheung and Lau, 2008). Partial mediation is existent when both direct and indirect effects are significant. When indirect effect is significant and direct effect is not significant, full mediation is therefore present (Cheung and Lau, 2008).

Table 8 shows the results of the mediation effect analysis. Coordination ($\beta = 0.22$, $p < 0.05$), communication ($\beta = 0.20$, $p < 0.01$) and knowledge sharing ($\beta = 0.11$, $p < 0.05$) have significant indirect effects on job performance. These findings along with findings from

Table 7 Control variable testing results

Control variable	Measure	S.E.	p-value	Significance
Age	Six categories of 18–24, 25–34, 35–44, 45–54, 55–64, 65 or older	0.030	0.018	Yes
Children	Five categories of 0, 1, 2, 3, 4 or more	0.038	0.435	No
Qualification	Five categories of primary education, secondary education, diploma, undergraduate degree, postgraduate degree	0.055	0.041	Yes

Figure 3 Structural model results**Table 8** Mediation effect testing results

Path	Direct effect		Indirect effect		Result
	Coefficient (β)	p-value	Coefficient (β)	Two-tailed p-value	
CR \rightarrow JP	—	—	0.22	0.014	Partial mediation
CM \rightarrow JP	—	—	0.20	0.009	Partial mediation
KS \rightarrow JP	0.33	0.000	0.11	0.014	Partial mediation

Table 6 support the presence of partial mediation effects of both knowledge sharing and decision-making in the structure model.

6. Discussion

This study investigates how digital technologies can be used for facilitating knowledge sharing and decision-making through enhanced coordination and communication that leads to better job performance. The results show that digital technology facilitated coordination and communication has significant and positive impact on knowledge sharing. It finds out that digital technology driven coordination significantly influence decision-making and knowledge sharing significantly influences decision-making. Furthermore, the study reveals that enhanced decision-making and knowledge sharing can lead to better job performance. It further reveals that age and qualification as control variables have significant impacts on job performance.

Digital technology enhanced coordination is found to have a significant impact on knowledge sharing and decision-making. This finding is in line with the existing studies (Ellison *et al.*, 2015; Lindsjorn *et al.*, 2016). Digital technologies like enterprise social media have been found to be capable of facilitating knowledge sharing by supporting the coordination of work activities and the sharing of content between individuals (Ellison *et al.*, 2015; Ahmed *et al.*, 2019; Tønnessen *et al.*, 2021). This study echoes such studies by showing that digital technologies facilitate knowledge sharing and decision-making through enhanced coordination.

The significant influence of digital technology facilitated communication on knowledge sharing is supported by previous research (Wong *et al.*, 2016; Chen *et al.*, 2019). Wong *et al.* (2016) show that the use of Web 2.0 at work improves vertical and horizontal communication among individuals, which facilitates the exchange of information and knowledge at work. Chen *et al.* (2019) find that enterprise social media enhances knowledge sharing through the improved external and internal communication in digital work. Digital technologies such as email, instant messaging, enterprise social network technology and collaboration tools facilitate communication among employees and enable

message transparency (Pangil and Chan, 2014; Lepore *et al.*, 2021). The improved communication could therefore lead to better knowledge sharing, resulting in improved job performance.

Technology facilitated knowledge sharing is found to have significant influence on decision-making. This is because decision-making is a knowledge-intensive activity in which knowledge is a required input (Ghasemaghaei, 2019). The ability of the decision-maker to have access to the required knowledge for making decisions is therefore critical in facilitating decision-making. Digital technologies enable individuals to better share insights and know-how with each other (Chen *et al.*, 2019; Duan *et al.*, 2020). As a result, enhanced knowledge sharing in digital work improves the capabilities of decision-makers to make better informed decisions, leading to better job performance for individuals.

The significant impact of digital technology enhanced decision-making and knowledge sharing on job performance is in line with the findings of previous studies (Chen *et al.*, 2019; Wang *et al.*, 2020). Digital technologies have created unprecedented opportunities for organizations to make fast and comprehensive decisions by providing relevant, timely, accurate information for decision-making (Duan *et al.*, 2020; Wang *et al.*, 2020). Such a process facilitates timely data-driven decision-making in digital work, which contributes to enhanced job performance. Digital technologies such as discussion boards and collaborative tools often include many of the features that support dialogic practices for facilitating knowledge sharing (Pangil and Chan, 2014). The enhanced knowledge sharing helps to produce better job performance.

Knowledge sharing and decision-making are found to have mediation effects on the relationship between coordination and communication and job performance in the study. Such findings are in line with the existing studies (Akhavan and Hosseini, 2016; Nguyen *et al.*, 2018), which show that coordination and communication significantly influence knowledge sharing and decision-making, leading to better job performance. Such mediation effects can also be explained by the social capital theory in which social capitals such as network relationships between and among individuals (Kwahk and Park, 2016; Chen *et al.*, 2019) are actualized through improved communication and coordination with the use of digital technologies (Tønnessen *et al.*, 2021). This facilitates knowledge sharing and decision-making in a digitalized working environment, leading to better job performance.

Age and qualification have a significant impact on job performance in the study. The increase in age among the respondents is positively associated with the increased job performance in digital work. One possible explanation is that compared with younger employees, older employees are more likely to have caring responsibilities at home (Ollolópez *et al.*, 2021). Digital work facilitates the balance between work and family commitments. As a result, individuals respond to autonomy and control with a more positive attitude toward work, leading to improved job performance. As for qualification, employees with higher educational levels are found to have higher cross-functional learning ability because of the level of formal training and the knowledge they have obtained. This increases the chance for better utilization of knowledge, leading to enhanced job performance (Subramanian *et al.*, 2016).

This study contributes to existing research from both theoretical and practical perspectives. Theoretically, this study provides a validated research model for exploring the changing role of digital technologies in driving knowledge sharing in organizations for better job performance. While the critical role that digital technologies play in facilitating knowledge sharing for improving job performance is well recognized in the literature (Tseng and Huang, 2011; Cui *et al.*, 2019; Lepore *et al.*, 2021), there are few studies that have investigated technology-led knowledge sharing and decision-making in digitalized working environments and its impact on job performance. This study addresses this issue in a timely

manner with the development of a validated research model for better understanding the use of digital technologies for knowledge sharing and decision-making through enhanced coordination and communication and their impact on job performance. The validated model and the corresponding research findings can be used as a foundation for further investigating technology-led knowledge sharing and decision-making and job performance in organizations under various contexts.

This study also contributes to the ongoing debate of technology advancement and employee engagement in organizations (Welch, 2011; Trabucchi *et al.*, 2020). Much research has been done for understanding the development of digital technologies and their use in organizations from different perspectives (Ahmed *et al.*, 2019; Trabucchi *et al.*, 2020; Tønnessen *et al.*, 2021). Such studies, however, have neglected the critical role that individuals play as members of a social system who can bring in their capabilities, skills, values and perspectives to advance the use of digital technologies (Welch, 2011; Trabucchi *et al.*, 2020). This study adds empirical evidence on individual engagement (Welch, 2011) through the use of digital technologies in an increasingly digitalized working environment. The findings of this study provide insights on how individuals can be engaged in knowledge sharing and decision-making through the use of digital technologies in digital work to enhance their job performance. This paves the way for future research to further investigate the relationship between the engagement of individuals and technology advancement in organizations.

Furthermore, this study extends existing research through exploring how various digital technologies can be used together for facilitating knowledge sharing and decision-making and their impact on job performance of individuals. It recognizes the unique characteristics and capabilities of individual digital technologies in facilitating knowledge sharing and argue for the use of various digital technologies in a holistic manner for better sharing knowledge in organizations. The study advances existing knowledge by investigating how digital technologies as a whole are used for facilitating knowledge sharing and decision-making and their impact on job performance with respect to enhanced coordination and communication. It also paves the way for further exploring how digital technology driven knowledge sharing affects decision-making and job performances from various theoretical and practical perspectives.

Practically, this research provides a timely study of the impact of digital technology driven knowledge sharing on job performance of individuals in organizations. The COVID-19 pandemic has created a unique context in which many employees are involuntarily required to work in a distributed working environment in which digital technologies are widely adopted (Tønnessen *et al.*, 2021). This no doubt raises the urgent issue of understanding how the use of digital technologies facilitates knowledge sharing and what impact such technology-driven knowledge sharing has on job performance (De *et al.*, 2020; Wang *et al.*, 2020). This shows that better understanding digital technology driven knowledge sharing and its impact on job performance is therefore timely needed. Such understanding is significant for organizations in their active pursuit of better organizational performance using the latest digital technologies, in particular in the period of post-COVID-19 in which the use of digital technologies in a distributed working environment becomes a “new normal” form of work (Richter, 2020).

Furthermore, this study would be of practical significance for the development of appropriate strategies and policies toward engaging individuals (Trabucchi *et al.*, 2020) in the adoption of digital technologies for knowledge sharing in organizations. Specifically, various digital technologies ranging from social media, including Facebook, LinkedIn and Instagram, to digital platforms, such as weblogs, Zoom, Microsoft Teams or Skype, big data and online resources (Duan *et al.*, 2020; De *et al.*, 2020; Waizenegger *et al.*, 2020) should be used together to engage employees in organizations for facilitating better coordination and communication in digital work. This can lead to improved knowledge sharing and

enhanced decision-making, resulting in better job performance for individuals and improved competitiveness for organizations.

7. Conclusion

This study investigates how digital technologies can be used for facilitating knowledge sharing and decision-making through enhanced coordination and communication that leads to better job performance. A research model is developed based on a comprehensive review of the related literature. This model is then tested and validated based on SEM of the collected survey data in Australia. The study shows that digital technology enhanced coordination and communication has significant impact on knowledge sharing. It finds out that digital technology driven coordination significantly influence decision-making and knowledge sharing significantly influences decision-making. Furthermore, the study reveals that enhanced decision-making and knowledge sharing can lead to better job performance of individuals in organizations.

This study is the first attempt to explore the role of digital technologies in enhancing knowledge sharing and decision-making for better job performance in a digitalized working environment in organizations. The validated model can be used as the foundation to further investigate the changing role of digital technologies in driving knowledge sharing and decision-making in organizations for better performance and competitive advantages.

There are certain limitations for this study that suggest future research. First, this study collects the data in Australia. The findings of this study may be highly relevant to countries with a similar culture. Considering national culture as one of the main factors that affect the digital work environment (Lowry *et al.*, 2010), empirical evidence in other countries or cross-culture comparisons are necessary to generalize the research findings. Further, this study has not considered the impact of personality traits when investigating the role of digital technology in knowledge sharing for enhancing job performance. Different personality traits have unique characteristics, which may influence the extent of knowledge sharing in digital work. It is therefore important to explore the effects of individual personality traits in knowledge sharing on job performance in digital work in future studies.

References

- Abdelwhab, A.A., Panneer, S.D.D.D., Paris, L. and Gunasekaran, A. (2019), "Key factors influencing knowledge sharing practices and its relationship with organizational performance within the oil and gas industry", *Journal of Knowledge Management*, Vol. 23 No. 9, pp. 1806-1837.
- Ahmed, Y.A., Ahmad, M.N., Ahmad, N. and Zakaria, N.H. (2019), "Social media for knowledge-sharing: a systematic literature review", *Telematics and Informatics*, Vol. 37, pp. 72-112.
- Akhavan, P. and Hosseini, S. (2016), "Social capital, knowledge sharing and innovation capability: an empirical study of R&D teams in Iran", *Technology Analysis & Strategic Management*, Vol. 28 No. 1, pp. 96-113.
- Ali-Hassan, H., Nevo, D. and Wade, M. (2015), "Linking dimensions of social media use to job performance: the role of social capital", *Journal of Strategic Information Systems*, Vol. 24 No. 2, pp. 65-89.
- Al Nahyan, M.T., Sohal, A., Hawas, Y. and Fildes, B. (2019), "Communication, coordination, decision-making and knowledge-sharing: a case study in construction management", *Journal of Knowledge Management*, Vol. 23 No. 9, pp. 1764-1781.
- Alsharo, M., Gregg, D. and Ramirez, R. (2017), "Virtual team effectiveness: the role of knowledge sharing and trust", *Information & Management*, Vol. 54 No. 4, pp. 479-490.
- An, X., Deng, H., Chao, L. and Bai, W. (2014), "Knowledge management in support of collaborative innovation community capacity building", *Journal of Knowledge Management*, Vol. 18 No. 3, pp. 574-590.

- An, X., Bai, W., Deng, H., Sun, S., Zhong, W. and Dong, Y. (2017), "A knowledge management framework for effective integration of national archives resources in China", *Journal of Documentation*, Vol. 73 No. 1, pp. 18-34.
- Argyris, Y.A. and Monu, K. (2015), "Corporate use of social media: technology affordance and external stakeholder relations", *Journal of Organizational Computing and Electronic Commerce*, Vol. 25 No. 2, pp. 140-168.
- Bertolino, M., Truxillo, D.M. and Fraccaroli, F. (2013), "Age effects on perceived personality and job performance", *Journal of Managerial Psychology*, Vol. 28 Nos 7/8, pp. 867-885.
- Byrne, B.M. (2016), *Structural Equation Modeling with AMOS: Basic Concepts, Applications and Programming*, Routledge, New York.
- Chen, X., Wei, S., Davison, R.M. and Rice, R.E. (2019), "How do enterprise social media affordances affect social network ties and job performance?", *Information Technology & People*, Vol. 33 No. 1, pp. 361-388.
- Cheung, G.W. and Lau, R.S. (2008), "Testing mediation and suppression effects of latent variables: bootstrapping with structural equation models", *Organizational Research Methods*, Vol. 11 No. 2, pp. 296-325.
- Cordes, S. (2016), "Virtual team learning: the role of collaboration process and technology affordance in team decision making", *Knowledge Management and E-Learning*, Vol. 8 No. 4, pp. 602-627.
- Creswell, J.W. and Creswell, J.D. (2017), *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*, Sage Publications, Los Angeles, CA.
- Cui, X., Huo, B., Lei, Y. and Zhou, Q. (2019), "The influence of team social media usage on individual knowledge sharing and job performance from a cross-level perspective", *International Journal of Operations & Production Management*, Vol. 40 No. 5, pp. 553-573.
- De, R., Pandey, N. and Palc, A. (2020), "Impact of digital surge during covid-19 pandemic: a viewpoint on research and practice", *International Journal of Information Management*, Vol. 55, p. 102171.
- Deng, H., Duan, S. and Luo, F. (2019), "Critical determinants for electronic market adoption: evidences from Australian small and medium-sized enterprises", *Journal of Enterprise Information Management*, Vol. 33 No. 2, pp. 335-352.
- Duan, S. and Deng, H. (2021), "Hybrid analysis for understanding contact tracing apps adoption", *Industrial Management & Data Systems*, Vol. 121 No. 7, pp. 1599-1616.
- Duan, S., Wibowo, S. and Deng, H. (2020), "An integrated framework for understanding digital work in organizations", *ACIS 2020 Proceedings*, Wellington.
- Duan, S., Wibowo, S. and Deng, H. (2021), ""Affordances of digital technology for enhancing job performance in digital work", *Proceedings of the 25th Pacific Asia Conference on Information Systems: Information Systems for the Future (PACIS 2021)*.
- Duan, X., Deng, H. and Corbitt, B. (2012), "Evaluating the critical determinants for adopting e-market in Australian small-and-medium sized enterprises", *Management Research Review*, Vol. 35 Nos 3/4, pp. 289-308.
- Ellison, N.B., Gibbs, J.L. and Weber, M.S. (2015), "The use of enterprise social network sites for knowledge sharing in distributed organizations: the role of organizational affordances", *American Behavioral Scientist*, Vol. 59 No. 1, pp. 103-123.
- Farivar, F. and Richardson, J. (2021), "Workplace digitalisation and work-nonwork satisfaction: the role of spillover social media", *Behaviour and Information Technology*, Vol. 40 No. 8, pp. 747-758.
- Frost, M. and Duan, S.X. (2020), "Rethinking the role of technology in virtual teams in light of COVID-19", *ACIS2020: Navigating Our Digital Future*, Victoria University of Wellington.
- Ghaffari, S., Shah, I., Burgoyne, J., Nazri, M. and Salleh, J.R. (2017), "The influence of motivation on job performance: a case study at universiti teknologi Malaysia", *Australian Journal of Basics and Applied Science*, Vol. 11 No. 4, pp. 92-99.
- Ghasemaghaei, M. (2019), "Does data analytics use improve firm decision making quality? The role of knowledge sharing and data analytics competency", *Decision Support Systems*, Vol. 120, pp. 14-24.
- Hair, J.F., Anderson, R.E., Babin, B.J. and Black, W.C. (2010), *Multivariate Data Analysis: A Global Perspective*, Pearson Education, New York, NY.

- Halisah, A., Jayasingam, S., Ramayah, T. and Popa, S. (2021), "Social dilemmas in knowledge sharing: an examination of the interplay between knowledge sharing culture and performance climate", *Journal of Knowledge Management*, Vol. 25 No. 7, pp. 1708-1725.
- Hau, Y.S., Kim, B., Lee, H. and Kim, Y.G. (2013), "The effects of individual motivations and social capital on employees' tacit and explicit knowledge sharing intentions", *International Journal of Information Management*, Vol. 33 No. 2, pp. 356-366.
- Henttonen, K., Kianto, A. and Ritala, P. (2016), "Knowledge sharing and individual work performance: an empirical study of a public sector organisation", *Journal of Knowledge Management*, Vol. 20 No. 4, pp. 749-768.
- Holste, J.S. and Fields, D. (2010), "Trust and tacit knowledge sharing and use", *Journal of Knowledge Management*, Vol. 14 No. 1, pp. 128-140.
- Hu, L. and Randel, A. (2014), "Knowledge sharing in teams: social capital, extrinsic incentives and team innovation", *Group & Organization Management*, Vol. 39 No. 2, pp. 213-243.
- Jelinek, R., Ahearne, M., Mathieu, J. and Schillewaert, N. (2006), "A longitudinal examination of individual, organizational and contextual factors on sales technology adoption and job performance", *Journal of Marketing Theory and Practice*, Vol. 14 No. 1, pp. 7-23.
- Kossek, E.E., Lautsch, B.A. and Eaton, S.C. (2006), "Telecommuting, control, and boundary management: correlates of policy use and practice, job control, and work-family effectiveness", *Journal of Vocational Behavior*, Vol. 68 No. 2, pp. 347-367.
- Kwahk, K.Y. and Park, D.H. (2016), "The effects of network sharing on knowledge-sharing activities and job performance in enterprise social media environments", *Computers in Human Behavior*, Vol. 55, pp. 826-839.
- Kwayu, S., Abubakre, M. and Lal, B. (2021), "The influence of informal social media practices on knowledge sharing and work processes within organizations", *International Journal of Information Management*, Vol. 58, p. 102280.
- Lee, D.J. and Sirgy, M.J. (2019), "Work-life balance in the digital workplace: the impact of schedule flexibility and telecommuting on work-life balance and overall life satisfaction", *Thriving in Digital Workspaces*, Springer, Cham, pp. 355-384.
- Lee, S., Park, J.G. and Lee, J. (2016), "Explaining knowledge sharing with social capital theory in information systems development projects", *Industrial Management & Data Systems*, Vol. 115 No. 5, pp. 883-900.
- Lee, H., Park, J.G. and Lee, J. (2021), "Knowledge sharing in ISD projects: role of task interdependence and social capital", *International Journal of Managing Projects in Business*, Vol. 14 No. 3, pp. 580-599.
- Lepore, D., Dubbini, S., Micozzi, A. and Spigarelli, F. (2021), "Knowledge sharing opportunities for industry 4.0 firms", *Journal of the Knowledge Economy*, pp. 1-20.
- Lin, C.P., Huang, H.T. and Huang, T.Y. (2020), "The effects of responsible leadership and knowledge sharing on job performance among knowledge workers", *Personnel Review*, Vol. 49 No. 9, pp. 1879-1896.
- Lindsjorn, Y., Sjöberg, D.I., Dingsoyr, T., Bergersen, G.R. and Dyba, T. (2016), "Teamwork quality and project success in software development: a survey of agile development teams", *Journal of Systems and Software*, Vol. 122, pp. 274-286.
- Lowry, P.B., Zhang, D., Zhou, L. and Fu, X. (2010), "Effects of culture, social presence and group composition on trust in technology-supported decision-making groups", *Information Systems Journal*, Vol. 20 No. 3, pp. 297-315.
- Lyytinen, K., Yoo, Y. and Boland, R.J. (2016), "Digital product innovation within four classes of innovation networks", *Information Systems Journal*, Vol. 26 No. 1, pp. 47-75.
- Ma, W.K.W. and Chan, A. (2014), "Knowledge sharing and social media: altruism, perceived online attachment motivation and perceived online relationship commitment", *Computers in Human Behavior*, Vol. 39, pp. 51-58.
- Majchrzak, A. and Markus, M.L. (2012), "Technology affordances and constraints in management information systems (MIS)", in Kessler, E. (Ed.), *Encyclopedia of Management Theory*, Sage Publications, pp. 832-836.
- Malik, A., Froese, F.J. and Sharma, P. (2020), "Role of HRM in knowledge integration: towards a conceptual framework", *Journal of Business Research*, Vol. 109, pp. 524-535.

Masa'deh, R., Obeidat, B.Y. and Tarhini, A. (2016), "A Jordanian empirical study of the associations among transformational leadership, transactional leadership, knowledge sharing, job performance and firm performance: a structural equation modeling approach", *Journal of Management Development*, Vol. 35 No. 5, pp. 681-705.

Nguyen, M., Malik, A. and Sharma, P. (2021), "How to motivate employees to engage in online knowledge sharing? Differences between posters and lurkers", *Journal of Knowledge Management*, Vol. 25 No. 7, pp. 1811-1831.

Nguyen, P., Ngo, L., Bucic, T. and Phong, N. (2018), "Cross-functional knowledge sharing, coordination and firm performance: the role of cross-functional competition", *Industrial Marketing Management*, Vol. 71, pp. 123-134.

Olo-López, A., Goñi-Legaz, S. and Erro-Garcés, A. (2021), "Home-based telework: usefulness and facilitators", *International Journal of Manpower*, Vol. 42 No. 4, pp. 644-660.

Pangil, F. and Chan, J.M. (2014), "The mediating effect of knowledge sharing on the relationship between trust and virtual team effectiveness", *Journal of Knowledge Management*, Vol. 18 No. 1, pp. 92-106.

Podsakoff, P.M., MacKenzie, S.B., Lee, J.Y. and Podsakoff, N.P. (2003), "Common method biases in behavioral research: a critical review of the literature and recommended remedies", *Journal of Applied Psychology*, Vol. 88 No. 5, pp. 879-887.

Razmerita, L., Kirchner, K. and Nielsen, P. (2016), "What factors influence knowledge sharing in organizations? A social dilemma perspective of social media communication", *Journal of Knowledge Management*, Vol. 20 No. 6, pp. 1225-1246.

Richter, A. (2020), "Locked-down digital work", *International Journal of Information Management*, Vol. 55, p. 102157.

Singh, S.K., Mazzucchelli, A., Vessal, S.R. and Solidoro, A. (2021), "Knowledge-based HRM practices and innovation performance: role of social capital and knowledge sharing", *Journal of International Management*, Vol. 27 No. 1, p. 100830.

Stachová, K., Stacho, Z., Cagánčová, D. and Stareček, A. (2020), "Use of digital technologies for intensifying knowledge sharing", *Applied Sciences*, Vol. 10 No. 12, p. 4281.

Subramanian, A.M., Choi, Y.R., Lee, S.H. and Hang, C.C. (2016), "Linking technological and educational level diversities to innovation performance", *The Journal of Technology Transfer*, Vol. 41 No. 2, pp. 182-204.

Swanson, E., Kim, S., Lee, S.M., Yang, J.J. and Lee, Y.K. (2020), "The effect of leader competencies on knowledge sharing and job performance: social capital theory", *Journal of Hospitality and Tourism Management*, Vol. 42, pp. 88-96.

Tønnessen, Ø., Dhir, A. and Flåten, B.T. (2021), "Digital knowledge sharing and creative performance: work from home during the COVID-19 pandemic", *Technological Forecasting and Social Change*, Vol. 170, p. 120866.

Trabucchi, D., Bellis, P., Di Marco, D., Buganza, T. and Verganti, R. (2020), "Attitude vs involvement: a systematic literature review at the intersection between engagement and innovation", *European Journal of Innovation Management*, Vol. 24 No. 5, pp. 1730-1762.

Treem, J.W. and Leonardi, P.M. (2013), "Social media use in organizations: exploring the affordances of visibility, editability, persistence, and association", *Annals of the International Communication Association*, Vol. 36 No. 1, pp. 143-189.

Tseng, S.M. and Huang, J.S. (2011), "The correlation between Wikipedia and knowledge sharing on job performance", *Expert Systems with Applications*, Vol. 38 No. 5, pp. 6118-6124.

Turban, E., Liang, T.P. and Wu, S.P. (2011), "A framework for adopting collaboration 2.0 tools for virtual group decision-making", *Group Decision and Negotiation*, Vol. 20 No. 2, pp. 137-154.

Waizenegger, L., McKenna, B., Cai, W. and Bendz, T. (2020), "An affordance perspective of team collaboration and enforced working from home during COVID-19", *European Journal of Information Systems*, Vol. 29 No. 4, pp. 429-442.

Wang, B., Schlagwein, D., Cecez-Kecmanovic, D. and Cahalane, M.C. (2020), "Beyond the factory paradigm: digital nomadism and the digital future (s) of knowledge work post-COVID-19", *Journal of the Association for Information Systems*, Vol. 21 No. 6, p. 10.

Welch, M. (2011), "The evolution of the employee engagement concept: communication implications", *Corporate Communications: An International Journal*, Vol. 16 No. 4, pp. 328-346.

Yang, X., Ye, H.J. and Wang, X. (2021), "Social media use and work efficiency: insights from the theory of communication visibility", *Information & Management*, Vol. 58 No. 4, p. 103462.

Yuan, Y.C., Zhao, X., Liao, Q. and Chi, C. (2013), "The use of different information and communication technologies to support knowledge sharing in organizations: from e-mail to micro-blogging", *Journal of the American Society for Information Science and Technology*, Vol. 64 No. 8, pp. 1659-1670.

Further reading

Ng, T.W. and Feldman, D.C. (2008), "The relationship of age to ten dimensions of job performance", *Journal of Applied Psychology*, Vol. 93 No. 2, p. 392.

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