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The effects of personal information management capabilities and social-psychological factors on accounting professionals' knowledge-sharing intentions: Pre and post COVID-19

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ABSTRACT

Given the increased emphasis on individual factors in knowledge management research, this study proposes a research model that examines the effects of personal information management capabilities and social-psychological factors on the knowledge-sharing intention of accounting professionals. The survey results from 136 accounting professionals reveal that both personal information management capabilities and perceived image can positively influence knowledge-sharing behavior. Conversely, reciprocity and loss of knowledge power do not exhibit a significant role in knowledge-sharing intentions. The comparison analyses between pre- and post-COVID-19 sample groups indicate similar results for the hypothesized relationships while there are notable mean differences in knowledge sharing intention, image and information processing capabilities. This study extends current research by incorporating personal information management capabilities to examine the power of the "individual" in knowledge sharing and offers timely evidence of accounting professionals' personal knowledge management practices during the period of COVID-19. This study raises implications for researchers and practitioners interested in knowledge management in the accounting profession.

1. Introduction

Knowledge management systems help organizations create and maintain competitive advantages by improving their ability to manage knowledge-related assets. An effective knowledge management system enables employees to share with each other what they know, encourages collaboration among employees to create new knowledge, and helps to generate innovative ideas. Previous research on knowledge management across disciplines has studied the various facets of knowledge management (e.g., Alavi, 2000; Mariano and Awazu, 2016), applying a wide array of methodologies and theoretical foundations (e.g., He and Wei, 2009; Lin and Hwang, 2014; Malone, 2002). In recent years, an increased emphasis has been placed on the importance of the "individual" on the research agenda of knowledge management (Hwang and Lin, 2018; Pauleen, 2009). In addition to technical and organizational factors, individual motivators and factors are not only pertinent, but also crucial to the success of knowledge management systems within organizations.

More recently, given the major disruptions in the workplace caused by COVID-19, organizations have had to make abrupt shifts to work environments to allow employees to work remotely. A recent survey by KMWorld indicates that remote workers now make up between 51 and 75% of the workforce throughout different companies. About 50% of organizations were somewhat agile when it came

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to transitioning remotely, according to the survey (Simone, 2020). In many organizations, some employees may struggle with these sudden changes in work patterns. They may not be able to readily access documents and information needed for tasks at hand. They may not find answers to their questions quickly when it's impossible to stop by a colleague's office for help. Some of them may even struggle to remain on task without the structure of in-person interactions and meetings. At the same time, the upheaval from a crisis like COVID-19 can also propel organizations to rethink their knowledge management strategies and applications to meet the sudden surges in document sharing, customer inquiries, and supply chain issues. Since working remotely has skyrocketed and the trend is likely to sustain even after the pandemic, it is even more important to focus on the "individual" side of knowledge management and examine the individual and personal factors that contribute to employees' use of knowledge management systems.

The objective of this research is two-fold. First, we examine the effects of personal information management capabilities (PIMC) and social-psychological factors in accounting professionals' knowledge-sharing intention. Second, we compare the effects of the factors between pre- and post-COVID-19 era to gain additional insight on how the pandemic has impacted accounting professionals' perceptions on knowledge sharing. Theoretically grounded in the social exchange theory and prior knowledge management research, we test and propose a model which posits that the personal information management capabilities are positively associated with users' knowledge-sharing intention. An individual's ability to effectively process information as well as their competency level in information management not only affects their job performance but also plays a role in their desire to share knowledge with others. Moreover, based on the social exchange theory, we believe that individuals consider social cost and benefit factors in their decision to share knowledge with others. Specifically, one's perceived image or reputation and the potential for reciprocity positively impacts knowledge-sharing intention, whereas concern for the loss of knowledge power negatively impacts the same decision. Survey results from accounting professionals confirm that information management capabilities and image are the two most significant factors in the research model, while loss of knowledge power and reciprocity play a marginal role. The comparison between pre- and post-COVID-19 era suggests the profession's stability and resilience as the results and hypothesized relationships remain largely consistent.

This study extends the current research on knowledge-sharing intentions by incorporating personal information management capabilities to examine the power of the "individual" in knowledge sharing. Building on other research that used the social exchange theory to study knowledge sharing (Kankanhalli et al., 2005; Yan et al., 2016), this study examines the effects of social benefit and cost factors in the context of the accounting profession. Accounting professionals constantly engage in information searching, document sharing, and knowledge exchange activities. Given the recent advances in technology and data analytics, accounting professionals have been challenged to be more data-driven and analytical in their daily tasks. Therefore, it's even more imperative for accounting professionals to possess effective information management capabilities to work well with others and meet client needs.

In addition, it's common for accounting professionals to perform their job functions in a team environment where they are regularly sharing information and knowledge with others. During a global pandemic, organizations that are knowledge-intensive and service-oriented rely on their employees to be key leaders and collaborators to continue sharing knowledge internally and solving client issues all while enduring the economic downturn. There has not been extensive research investigating user perceptions and perspectives in the accounting literature (e.g., Cockrell et al., 2018; Lin and Fan, 2011). Understanding how the individual social psychological factors affect employees' likelihood to continue sharing knowledge will shed light on how organizations can improve and benefit from knowledge management systems in the post-COVID-19 era. The comparison analyses between pre- and post-COVID-19 sample groups indicate similar results for the hypothesized relationships while there are notable mean differences in knowledge sharing intention, image and information processing capabilities. This helps shed light on the individual knowledge management practices of accounting professionals and conveys that the pandemic has not resulted in a major hindrance to the professionals' ability to conduct business.

The remainder of the paper is organized as follows: section two provides a review of related prior research as the basis for the development of the research model and four hypotheses, section three describes the research design and data collection procedures, followed by a discussion of results in Section 4, and section 5 presents a summary of main findings and discusses implications, limitations, and future research.

2. Literature review and hypotheses development

2.1. Personal information management capabilities (PIMC)

Personal information management capabilities (PIMC) refer to a person's perceived evaluation of his or her ability to manage information effectively over the information life cycle (Hwang, 2016; Marchand et al., 2002). Huber (1990) theorized and identified information acquisition, distribution, and interpretation as key elements which affect the quality and timeliness of decision making in an organization. Prior research found that information processing capabilities have a positive impact on perceived usability of organizational knowledge management activities (Chou et al., 2007). We apply previous research in PIMC and recognize it as a multifaceted construct with five dimensions: sensing, collecting, organizing, processing, and maintaining (Hwang, 2016; Hwang et al., 2015).

Information sensing refers to actively sensing and detecting the environment to be aware of information events, parameters, and conditions. In accounting, professionals are constantly required to be adaptive to changes in the business environment and readily make sense of them. The next dimension has to do with collecting information once an individual detects the need from information sensing. Information collection requires balancing the quantity and quality of information acquired. Organizing refers to an individual's ability to index, categorize, and arrange information using technology which requires technical expertise and effective work habits (Hwang et al., 2015). Processing information is defined as the ability to transform information into knowledge, which relies on logical and analytical reasoning and interpretation. Finally, information maintenance refers to an individual's ability to accurately

discern the future value of processed information (Hwang et al., 2015). In the accounting profession, this is especially important, as reusing existing documentation and procedures helps avoid redundancy and inefficiency.

Accounting professionals perform knowledge-intensive work and constantly engage in information search and processing tasks. Because of this, accounting professionals frequently draw upon existing knowledge, documentations, and standards to solve the issues at hand, such as tax codes, financial accounting standards, and auditing standards. They also constantly utilize the five dimensions of PIMC in their daily tasks. Given the crucial importance of information management in their jobs, one can expect that the more competent accounting professionals are at information management, the more effective they will be at their jobs, and therefore the higher the likelihood that they would be willing to share knowledge with others. Thus, we posit the following hypothesis:

H1: Personal information management capabilities will be positively associated with users' knowledge-sharing intentions.

2.2. Social-Psychological benefit and cost factors

The social-psychological cost and benefit factors investigated in this research are derived from the social exchange theory — which examines human behavior in social exchanges based on relatively long-term relationships of interest rather than one-off or inconsistent exchanges (Blau, 1964). The social exchange theory provides the perfect perspective to examine knowledge-sharing intentions within the context of accounting as the behavioral intentions are developed from relatively long-term and sustained usage rather than temporary or transient exchanges. Further, the social exchange theory posits that people behave in ways that maximize their benefits and minimize their costs (Molm, 1997), which validates its theoretical basis to examine cost and benefit factors. In this study, since we are focused on the personal perspective of knowledge sharing and individual beliefs, we are primarily interested in the individual-level social-psychological factors which may positively or negatively motivate users' behavioral intention. Specifically, we identified image, reciprocity, and loss of knowledge power as the individual factors to integrate with PIMC in the research model. Fig. 1 presents the research model and the hypothesized relationships.

2.2.1. Image

One of the most evidently perceived benefits in knowledge sharing is enhancing an individual's image or reputation within an organization (Kankanhalli et al., 2005; Lin, 2007). According to the social exchange theory, individuals expect to gain benefits such as approval, status, and respect through social interactions (Blau, 1964). In online community research, it has been shown to increase one's own reputation perception, acting as an important motivating factor for users to contribute and share knowledge (Wasko et al., 2004; Yan et al., 2016). In today's work environment where information exchange and knowledge sharing are constantly taking place, reputation can be a valuable asset for individuals to establish and maintain in the workplace. Individuals who are perceived as knowledgeable or possess expertise can benefit from showing others what they know (Ba et al., 2001). The self-perceived benefits of reputation gain and prestige can be a powerful social-psychological motivator, encouraging professionals to use knowledge systems to continue sharing best practices with others. In other words, when individuals perceive that knowledge sharing can enhance their reputation, they will be more likely to share their knowledge.

In the accounting profession, knowledge sharing is considered a standard practice and critical factor for firm success (Curtis and Taylor, 2018; Vera-Munoz et al., 2006). As knowledge workers, accountants maintain their professional status with their expertise and reputation. They can benefit from sharing with others to improve their image through recognition as a subject-matter expert, thereby building a reputation. Thus, the potential enhancement of reputation is an extrinsic motivation and crucial benefit in knowledge sharing as it helps professionals gain a higher status and recognition in the firm. This leads to the following hypothesis:

H2: Image will be positively associated with users' knowledge-sharing intentions.

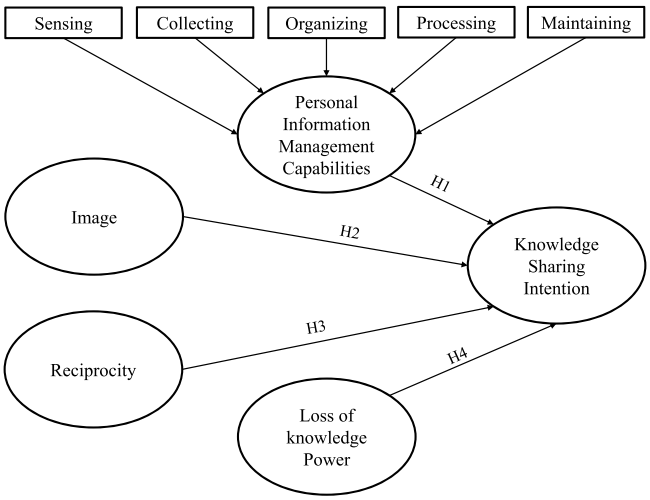

Fig. 1. Research Model.

2.2.2. Reciprocity

In addition to image, reciprocity is also regarded as a benefit that individuals gain from social exchange (Blau, 1964). In the context of knowledge systems, the underlying foundation of reciprocity lies in the mutual give and take of knowledge. A reciprocal relationship indicates that users can assume others will help them in the future by providing help to others in the present. Thus, reciprocal relationships not only can facilitate knowledge system usage, but also have been identified by researchers as being an important factor affecting knowledge contribution (Bock et al., 2009; He and Wei, 2009; Wasko and Faraj, 2000). In online community research, reciprocity has been shown as an important motivational factor for participation (Rheinghold, 2000; Wasko and Faraj, 2000). Thus, this suggests that if investing efforts in knowledge sharing can be reciprocal, users may be more motivated to communicate and yield the beneficial return from sharing.

In the accounting profession, working in teams is essential for the success of the engagement. Individuals expect reciprocity from other team members to share their ideas and expertise. People share knowledge with their colleagues in order to gain the knowledge necessary to complete the task, build relationships, and receive knowledge in the future (Bock et al., 2005). Furthermore, prior research has shown that reciprocal benefits from knowledge sharing are effective at motivating and facilitating knowledge sharing to achieve long-term mutual cooperation (Bock et al., 2005; Kankanhalli et al., 2005). Thus, if one can expect to obtain reciprocal benefits from colleagues through sharing knowledge, they are more likely to have positive knowledge-sharing intentions.

H3: Reciprocity will be positively associated with users' knowledge-sharing intentions.

2.2.3. Loss of knowledge power

One of the core assumptions of the social exchange theory is that individuals incline to calculate the profit and cost of an interaction before engaging in certain behaviors (Blau, 1964). Apart from the benefit factors, an important, intangible cost factor is the concern for loss of knowledge power when sharing knowledge with others. Loss of knowledge power has been identified as an intangible hindrance to knowledge sharing in the knowledge management literature (Gray, 2001; Kankanhalli et al., 2005). Since knowledge has long been recognized as a source of power, individuals sharing knowledge may fear a loss of power or control if others know what they know. When sharing valuable knowledge with others, individuals thereby give up possession to that knowledge and may risk losing their power or status in the organization, making them disposable (Davenport and Prusak, 1998). This suggests a negative relationship between loss of organizational power and knowledge-sharing behavior.

Knowledge-intensive organizations such as accounting firms rely mainly on the knowledge of people to create and maintain a competitive advantage. Intellectual capital is considered one of the most valuable assets possessed by employees. As the workplace becomes increasingly competitive and individuals worry about the loss of their position or value within the organization, they may be less willing to share knowledge with others.

H4: Loss of knowledge power will be negatively associated with users' knowledge-sharing intentions.

Table 1
Survey Items and Descriptive Statistics.

Construct	Survey Items	Mean	SD	Source
Personal Information Management Capabilities (PIMC)	Sensing: I am good at recognizing potential problems and sensing information to address them.	5.86	1.09	(Hwang, 2016)
	Collecting: I am good at gathering the right information to prevent information overload.	5.64	1.12	
	Organizing: I frequently take time during my working day to classify new information for easy future retrieval.	5.58	1.31	
	Processing: I know how to translate information into specific knowledge that can be used by others.	5.24	1.27	
	Maintaining: I am good at determining the future value of information for later use.	5.68	1.02	
Image(CR = 0.89)	Sharing my knowledge with others improves my image within the organization.	5.93	0.84	(Chang and Chuang, 2011)
	Sharing my knowledge with others improves others' recognition of me.	5.89	0.93	
	When I share my knowledge with others, the people I work with respect me.	6.12	0.87	
Reciprocity(CR = 0.84)	When I share my knowledge with others, I believe that I will get an answer for giving an answer.	4.99	1.15	(Kankanhalli et al., 2005)
	When I share my knowledge with others, I expect somebody to respond when I'm in need.	5.12	1.24	
	When I share my knowledge with others, I believe that my queries for knowledge will be answered in future.	5.31	1.04	
Loss of Knowledge Power(CR = 0.97)	Sharing my knowledge makes me lose my unique value in the organization.	2.13	1.37	(Kankanhalli et al., 2005)
	Sharing my knowledge makes me lose my power base in the organization.	2.12	1.32	
	Sharing my knowledge makes me lose my knowledge that makes me stand out with respect to others.	2.16	1.35	
	Sharing my knowledge makes me lose my knowledge that no one else has.	2.27	1.41	
Intention to Share Knowledge(CR = 0.86)	I intend to share my experience or know-how from work with other organizational members more frequently in the future.	5.87	0.99	(Venkatesh et al., 2003)
	I will try to share my expertise from my education or training with other organizational members in a more effective way.	5.94	0.85	

3. Research methodology

3.1. Instrument development

We developed a survey instrument to test the research model. We also made sure to use previously developed and tested measures wherever possible to enhance the validity of our research. All items were rated on a seven-point Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). PIMC is conceptualized as a formative construct because it is determined by the combination of its indicators (Borsboom et al., 2003). Furthermore, the five dimensions of PIMC are not interchangeable with each other and do not share a common theme. In other words, adding or dropping a dimension will change the conceptualization of PIMC (Jarvis et al., 2003). All the other constructs in the research model are measured with reflective indicators. Table 1 provides the survey items and their sources, along with the means, standard deviations, and composite reliability (CR).Table 2.

3.2. Sample and data collection

Data were collected from the accounting alumni of a large Midwestern university in the US over two time periods. In the first round of data collection — which took place prior to the emergence of COVID-19 in the US — board members of the accounting alumni organization distributed the survey to accounting employees at their respective firms over a three-week period, generating 78 responses. To obtain a larger and more diversified sample for robust data analysis and gain insight on how COVID-19 may impact user perceptions, we undertook a second round of data collection in December 2020 by emailing survey invitations to approximately 300 accounting alumni from the university. After excluding non-accounting professionals and partial responses, the survey resulted in 58 viable responses. Thus, a combined sample of 136 responses was used in the data analysis.

Of those 136 responses, 46% of the participants were male and 54% were female. Additionally, over 63% of participants had at least six years of work experience. The majority of participants worked in corporate accounting positions (64%) and about 30% worked in public accounting. Over 78% of those surveyed indicated that they frequently used the knowledge management systems at work. About 62% stated that they would spend at least 40 min using the knowledge management system during a visit. When asked to rank the order of their most to least preferred knowledge source on a work-related task, “discussion with colleagues” was ranked as the most preferred knowledge source. “Online search engines” were ranked as the second most preferred, followed by “resources on firm’s knowledge systems”. Online communities were ranked as the least preferred knowledge source.

4. Results

Structural equation modeling (SEM) was used to test the research model and hypotheses. Smart PLS was used for data analysis (Ringle et al., 2015). PLS is a structural equation modeling technique that simultaneously assesses the reliability and validity of the measures of theoretical constructs, estimating the relationships among these constructs. Given our relatively small sample size, PLS provides the best fit compared to other structural equation modeling techniques because it better accommodates for reduced sample sizes (Chin, 1998). The PLS method performs a two-stage enquiry using confirmatory factor analysis to evaluate the measurement and structural models, estimate the path coefficients, and indicate the strength of the relationships between the dependent and independent variables, and the R^2 values.

Table 2
Demographic Summary of Respondents.

	Categories	Frequency	Percent
Gender	Male	60	46%
	Female	70	54%
Age Group	25 or younger	8	6%
	26–30	42	33%
	31–40	40	32%
	41–50	23	18%
	51–60	12	10%
	61 or older	1	1%
Years of Experience	<1 year	1	1%
	1–2 years	10	7%
	3–5 years	39	29%
	6–10 years	26	19%
	Over 10 years	60	44%
Work Setting(Prior to COVID-19)	I usually work at my office location alone.	19	14%
	I usually work at my office location with other team members.	106	78%
	I usually work at a client location with other team members.	7	5%
	I primarily work from home.	4	3%

4.1. Measurement model

Before testing the hypotheses, it is important to evaluate the accuracy of the measurement model. Using confirmatory factor analysis, convergent and discriminant validity were assessed. This was done by checking item loadings to examine if items within the same construct were highly correlated and whether questions were loaded higher on their intended constructs than on others. Furthermore, to test for convergent validity, we calculated the average variance extracted (AVE). We found that each AVE value was well above the recommended level of 0.50 (Fornell and Larcker, 1981).

For satisfactory discriminant validity, the AVE from a construct should be greater than the variance shared between the construct and the other constructs in the model (Chin, 1998). Table 3 shows the latent construct correlations. In all cases, the square root of AVE for each construct is larger than the correlation of that construct with all the other constructs in the model. Since information management capabilities has formative factors, AVE calculation was not applicable. In addition, the variance inflation factors (VIF) for all measures are between 1.1 and 6.1 —which are below the commonly accepted threshold of 10 — thus indicating that multicollinearity is not a significant concern (Diamantopoulos and Winklhofer, 2001).

We also used the cross-loading method suggested by Chin (1998) to assess discriminant validity. The item loadings in their corresponding columns are all higher than the loadings of the items for other constructs. Table 4 displays the cross-loadings for all the constructs and items except for personal information management capabilities since it contains formative factors. The weight loadings for personal information management capabilities are shown in Fig. 2. The cross-loading results indicate satisfactory discriminant validity. In addition, the heterotrait-monotrait ratio of correlations (HTMT) range from 0.11 to 0.62 and are well below the 0.85 cutoff (Henseler et al., 2015) which further confirms satisfactory discriminant validity.

To test for common method bias, we ran an exploratory factor analysis and applied Harman's one-factor test (Harman, 1967). The results show no single factor could explain most of the covariance among the measures. To further alleviate concern for common-method bias, we used the unmeasured latent method factor technique (Podsakoff et al., 2012). Similar to Peters et al. (2018), we added a general latent method factor which is measured by the indicators of all five constructs in the research model. The results from the new model with the added unmeasured factor showed that the four path estimates were all very similar to those in the baseline model. Additionally, the R^2 value with the addition of the unmeasured latent method factor is only 0.02 different from the baseline research model which indicates evidence against common method bias.

4.2. Structural model

With a satisfactory measurement model and no concern for significant measurement errors, we tested the structural model. These tests included estimates of the path coefficients, indicating the strength of the relationships between the dependent and independent variables, and estimates of the R^2 values. Fig. 2 depicts the result of the hypothesis testing. As shown in Fig. 2, the model accounted for 26% of the variance in users' knowledge-sharing intentions and exceeded 10% which is considered substantive explanatory power (Falk and Miller, 1992). Out of the four hypothesized relationships, H1 is supported with a path coefficient of 0.19 ($p < 0.1$). H2 is also supported with a path coefficient of 0.39 ($p < 0.01$). H3 and H4 are not supported.

4.2.1. Control variables

We conducted further testing to make sure the significant results were not due to covariation with control variables (i.e., gender, age, and work experience). We included these control variables in the model testing, and results demonstrated that the significant effects remained the same as in Fig. 2. None of the control variables had a significant impact on users' knowledge-sharing intention. In addition, the inclusion of the control variables didn't significantly impact the R^2 value for the dependent variable. Thus, the results are considered to be stable and unbiased by control variables.

4.2.2. Pre- and Post-COVID-19 comparisons

The survey data provided us with a unique opportunity to explore possible differences between the pre- and post-COVID-19 data. We carried out the multi-group analysis in SmartPLS to compare pre- and post-COVID-19 data groups. Table 5 provides a summary of the comparison results. We didn't find significant differences between the two groups for hypothesis testing. The most salient difference is the association between image and knowledge-sharing intentions with a p-value of 0.13. The path coefficients of the two groups are noticeably similar for the other hypotheses. Additionally, we tested group mean differences for the variables in the research model. The results indicated that the means for three variables are significantly different between the two groups: knowledge-sharing intentions at the 0.05 level, information-processing capabilities and image at the 0.1 level. Interestingly, the post-COVID-19 responses

Table 3
Construct Correlations (Diagonal Elements are Square Roots of the AVE).

	AVE	PIMC	Image	Reciprocity	Loss of Knowledge Power	Intention to Share
PIMC	N/A	N/A	0.38	0.25	−0.04	0.34
Image	0.74		**0.86**	0.30	−0.20	0.47
Reciprocity	0.71			**0.84**	0.08	0.17
Loss of Knowledge Power	0.89				**0.95**	−0.09
Intention to Share	0.76					**0.87**

Table 4
Item Cross-Loadings.

	Image	Reciprocity	Loss of Knowledge Power	Intention to Share
IMAGE_1	0.860	0.273	−0.090	0.348
IMAGE_2	0.887	0.271	−0.175	0.421
IMAGE_3	0.831	0.240	−0.237	0.420
RECIPROCITY_1	0.181	0.789	0.118	0.084
RECIPROCITY_2	0.395	0.880	0.111	0.172
RECIPROCITY_3	0.137	0.845	−0.011	0.144
LOSSKP_1	−0.232	0.081	0.938	−0.057
LOSSKP_2	−0.181	0.064	0.953	−0.089
LOSSKP_3	−0.200	0.070	0.962	−0.113
LOSSKP_4	−0.147	0.099	0.926	−0.068
INTENTION_SHARE_1	0.416	0.151	0.003	0.877
INTENTION_SHARE_2	0.391	0.143	−0.168	0.861

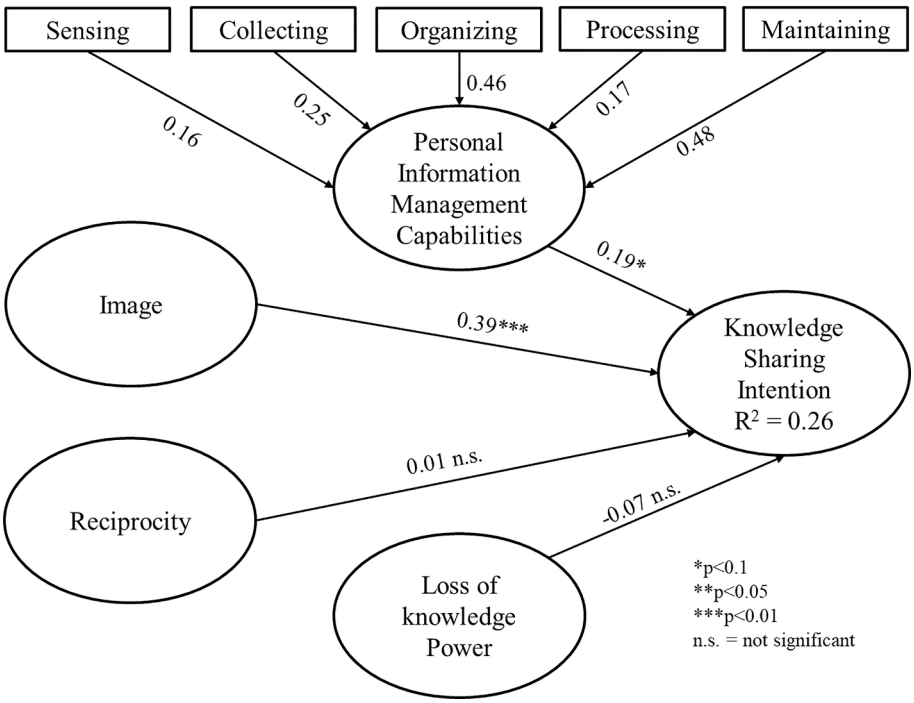

Fig. 2. Results of PLS Analysis.

Table 5
Pre and Post COVID Group Analysis.

Pre-COVID Group n = 78Post-COVID Group n = 58	Path CoefficientsPre-COVID Group	Path CoefficientsPost-COVID Group	Path Coefficients Difference	t-Value	p-Value
H1: PIMC -> Intention to Share	0.23	0.24	−0.04	0.23	0.82
H2: Image -> Intention to Share	0.50	0.21	0.29	1.54	0.13
H3: Reciprocity -> Intention to Share	0.01	0.05	0.00	0.02	0.99
H4: Loss of KP -> Intention to Share	0.02	−0.08	0.10	0.65	0.52

showed a statistically higher mean than the pre-COVID-19 group responses in all three variables.

Like other industries, the accounting profession has endured the turmoil caused by the pandemic and will likely sustain changes that transform the profession permanently. Accounting professionals will even be more adapted to digital processes than the ongoing trend before COVID-19. As a knowledge-intensive industry, accountancy will continue to rely on employees' expertise and knowledge exchange to overcome uncertainty and challenges. The similar hypothesis results between pre- and post-COVID-19 responses suggest that the individual knowledge management behavior is mostly stable despite the distruptions triggered by the pandemic. The significantly higher mean for knowledge sharing intention in the post-COVID-19 sample group indicates accounting professionals are

more willing to share knowledge and collaborate remotely to overcome the challenges posed by the pandemic.

4.2.3. The mediating effect of image

Prior research has shown that image can be an important mediating variable on customer satisfaction and loyalty in marketing research (Bontis et al., 2007; Chaudhuri, 2002). Given the strong impact of image on knowledge-sharing intention, we tested for possible mediating effect of image between PIMC and knowledge-sharing intention. Specifically, we followed the Baron-Kenny procedure (Baron and Kenny, 1986; Zhao et al., 2010) and tested mediation in Smart PLS (Hair et al., 2017). We examined the direct, indirect and total effects of mediator model. The results showed a significant indirect meditating effect of image between PIMC and knowledge-sharing intention (p value = 0.005). Further, with image as a mediator between PIMC and knowledge-sharing intention, the direct effect between PIMC and knowledge-sharing intention is insignificant (p value = 0.14). This demonstrates that image has a full indirect mediation effect in the research model. Fig. 3 shows the results of the mediation analysis.

5. Discussion

5.1. Implications

The objective of this research is to investigate how personal information management capabilities and individual social-psychological factors influence the knowledge-sharing intention of accounting professionals. The results indicate that the more capable an individual's perception in information management is, the more likely they are to share knowledge with others. In addition, when considering social-psychological factors, it appears image shows the strongest relationship with knowledge-sharing intention, whereas reciprocity and loss of knowledge power do not exhibit a significant association. The insignificance of reciprocity and loss of knowledge power indicate that users are not overly concerned about personal benefit or loss of status while sharing with others. This altruistic tendency and intrinsic motivation has been validated in previous research in online communities (Ma and Chan, 2014; Wasko and Faraj, 2000).

This study has several research and practical implications. First, the study is among the first to examine the effects of individual factors including PIMC and social-psychological cost and benefit factors in the context of knowledge management in the accounting profession. Knowledge management has been recognized as a strategic priority for accounting firms in recent years. Knowledge sharing among team members in an accounting firm can facilitate and foster idea generation, innovation, and competitiveness while cultivating individual competencies. Understanding the factors that positively or negatively impact knowledge sharing can help accounting organizations better position their knowledge management strategies to increase efficiency and productivity. Over the last decade the accounting profession has experienced significant leadership transitions — and many firms may face a significant loss without successful knowledge transfer and sharing practices. Without formal knowledge-sharing practices in place, much of the tacit knowledge at these firms is at risk of being lost.

Second, the results indicate a collective emphasis that accountants place on one's image or reputation in knowledge sharing. The

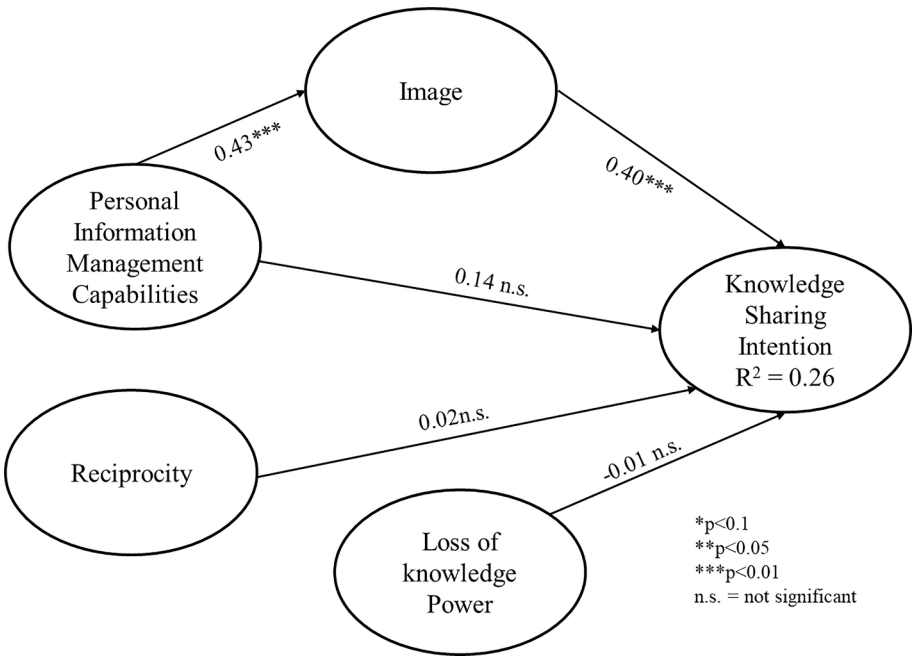

Fig. 3. Results of Mediation Analysis.

significant mediating effect of image further contributes to the importance of this construct in understanding the antecedents to knowledge-sharing intention. Image as a strong mediator suggests a virtuous cycle that can potentially lead to more knowledge sharing and a positive impact on the firm and its culture. This can in turn keep employees feel empowered and engaged to the organization. More knowledge sharing can enable employees to feel connected and confident, thus boosting their image and ultimately become more committed to the organization that believe in them. This finding sheds light on how firms can leverage image and extrinsic motivation to promote pro knowledge sharing behavior among employees.

Effective knowledge sharing and high personal information management capabilities are more likely to succeed when people are motivated. As knowledge sharing among employees is typically voluntary and not associated with monetary incentives or rewards, a perceived increase in image can be an important extrinsic motivator for knowledge sharing. The accounting profession is a knowledge-intensive industry and much of one's credibility in the profession is directly linked to their reputation and expertise. Organizations interested in developing and sustaining knowledge sharing should implement substantial mechanisms that can motivate employees to participate collectively and treat knowledge as a community good instead of an individual property. Accounting firms must recognize the importance of this extrinsic motivation and have systems in place to foster an open and inclusive culture for knowledge exchange.

Third, our survey results suggest insignificant relationships between reciprocity and loss of knowledge power on knowledge-sharing intentions. This is interesting as previous research has shown them to be contributing factors for knowledge-sharing behavior in other contexts (Chang and Chuang, 2011; Kankanhalli et al., 2005; Wasko and Faraj, 2005). An important aspect of the accounting profession is the prevalence of teamwork and collaboration in the workplace; individual achievement is often inseparable from team success. In such contexts, the results indicate that users are not overly concerned about loss of status when they share knowledge with each other. It appears that they are more concerned for the good of others over promoting personal gain. In other words, they choose to share knowledge without expecting future return and mainly do so to benefit others and the organization. This suggests that when it comes to knowledge sharing, accountants are not driven by a reciprocal expectation or concern for loss of power. Accounting firms can leverage this empirical evidence and continue to develop pro-sharing norms in the organization to support knowledge exchange.

Fourth, our research offers some initial and timely evidence of accounting professionals' personal knowledge management practices during the period of COVID-19. The pandemic has significantly disrupted revenue streams of industries that require face-to-face interactions with customer such as restaurants, travel, and hotels. Although the pandemic has forced accounting professionals to adapt to a virtual workspace as the new normal and adjust quickly to different ways of working, our results indicate there are not significant differences between the pre- and post-COVID-19 data sample which shed light on the stability, resilience and adaptability of accounting professionals. A recent survey conducted by CAPA (Confederation of Asian and Pacific Accountants) reveals a general consensus of the positive outlook on the profession and professional accounting firms given the accounting industry's general resilience and financial sustainability (CAPA, 2020). Interestingly, knowledge sharing intentions are significantly higher in the post-COVID-19 data sample in our study. It appears the altered work environment triggered by the COVID-19 pandemic has potentially increased individuals' propensity to share knowledge using different modalities. The significantly higher means of image and information processing capabilities in the post-COVID-19 data sample also suggest accounting professionals continue to navigate industry changes and adapt to a more distributed and remote work environment.

More importantly, in a post-COVID-19 era, it is imperative for accounting firms and organizations to streamline the knowledge sharing process to enable real-time virtual team and client interactions. There has never been a more crucial time for accountants to actively engage in effective personal knowledge management practices and be more cognizant of knowledge sharing related activities to improve information and knowledge flow in the firm. As the profession undergoes digital transformation, firm culture will also need to adapt to a digital modality that encourages collaboration and building digital relationships. A culture of knowledge-sharing is critical for generating intellectual capital and organizational knowledge retention. While we continue to explore what permanent changes to the work environment have been caused by the pandemic, it is undeniable that knowledge sharing plays a critical role in making remote work successful within the accounting profession. As one of the first studies to examine knowledge sharing in the COVID-19 era, our findings reveal that improving personal information management capabilities and understanding the social-psychological factors can lead to more knowledge sharing during the pandemic when people are apart.

5.2. Limitations and suggestions for future research

Findings from this study should be interpreted in the context of its limitations. First, the sample size should be taken into consideration when interpreting the survey results. Future studies with larger samples would allow for greater statistical power and a more sophisticated analysis. Further, future studies with a larger and more balanced sample can also perform some group comparisons based on big four vs. non big four firms as well as novice vs. expert professionals to test if there are any significant differences based on group characteristics. Second, our research model did not include an exhaustive list of social exchange factors. We were mainly interested in social-psychological factors at the individual level. Future studies can incorporate tangible factors such as organizational incentives and codification efforts in the research model to explain the remaining unaccounted variance in knowledge-sharing intentions. Third, this study employed a survey approach to collect self-reported, cross-sectional data. Although our analysis showed no serious concern for the validity of the measures and common method bias, future research can employ objective measures for knowledge sharing and apply a longitudinal approach to triangulate the results. Fourth, based on the insignificant results on reciprocity and loss of knowledge power, future research can include altruism in the research model and investigate its association with knowledge-sharing behavior in the accounting profession. Finally, our study focused primarily on the factors at the individual level. Future research can incorporate organizational level factors such as firm culture and technical aspects such as digital readiness and

virtual collaboration to study knowledge sharing.

6. Conclusion

Organizations rely on employees to effectively utilize the information in knowledge management systems to gain a competitive advantage. Given the increased emphasis on the individual side of knowledge management and the need for more research in the accounting context to better understand user perceptions, this research is among the first to demonstrate the importance of personal information management capabilities and perceived image in knowledge sharing. Since effective knowledge sharing cannot be forced but should be promoted and fostered in organizations, this study establishes a framework to evaluate how individual-level factors affect users' knowledge-sharing intention in the accounting context. As accounting professionals continue to face rapid changes within their profession and are forced to navigate the remote challenges presented by the pandemic, we hope our findings can not only advance the current literature on knowledge-sharing intentions but also directly help firms develop strategies to promote knowledge exchange and increase resilience in the accounting profession in the post-COVID-19 era.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

References

Alavi, M., 2000. Managing organizational knowledge. In: Zmud, R.W. (Ed.), Framing the Domains of IT Management: Projecting the Future through the Past. Pinnaflex Education Resources, Cincinnati, OH, pp. 15–28.
Ba, S., Stallaert, J., Whinston, A.B., 2001. Research commentary: Introducing a third dimension in information systems design - the case for incentive alignment. Informat. Syst. Res. 12 (3), 225–239.
Baron, R.M., Kenny, D.A., 1986. The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. J. Pers. Soc. Psychol. 51 (6), 1173–1182.
Blau, P.M., 1964. Exchange and Power in Social Life. John Wiley, NewYork.
Bock, G.-W., Shin, K.-S., Suh, A., Hu, A., 2009. The factors affecting success of knowledge-based systems at the organization level. J. Compute. Informat. Syst. 50 (2), 95–105.
Bock, G.-W., Zmud, R.W., Kim, Y.-G., 2005. Behavioral intention formation in knowledge sharing: Examining the roles of extrinsic motivators, social-psychological forces, and organizational climate. MIS Quarterly 29 (1), 87–111.
Bontis, N., Bontis, N., Booker, L.D., Serenko, A., 2007. The mediating effect of organizational reputation on customer loyalty and service recommendation in the banking industry. Manag. Decis. 45 (9), 1426–1445.
CAPA, 2020. COVID-19 impacts Challenges facing the profession and professional accountancy organisations. pp. http://www.capa.com.my/wp-content/uploads/2020/2006/COVID-2019_Impact_Challenges_for_ProfessionPAOs_Final.pdf.
Chang, H.H., Chuang, S.-S., 2011. Social capital and individual motivations on knowledge sharing: Participant involvement as a moderator. Informat. Managem. 48 (1), 9–18.
Chaudhuri, A., 2002. How Brand Reputation Affects the Advertising-Brand Equity Link. J. Advertis. Res. 42 (3), 33–43.
Chin, W.W., 1998. The partial least squares approach to structural equation modeling. In: Marcoulides, G.A. (Ed.), Modern Methods for Business Research. Lawrence Erlbaum, Mahway, New Jersey, pp. 295–336.
Chou, T.-C., Chang, P.-L., Cheng, Y.-P., Tsai, C.-T., 2007. A path model linking organizational knowledge attributes, information processing capabilities, and perceived usability. Informat. Manage. 44 (4), 408–417.
Cockrell, R.C., Stone, D., Wier, B., 2018. Accounting for professional accountants' dysfunctional knowledge sharing: A self-determination theory perspective. J. Informat. Syst. 32 (1), 45–65.
Curtis, M.B., Taylor, E.Z., 2018. Developmental mentoring, affective organizational commitment, and knowledge sharing in public accounting firms. J. Knowled. Manage. 22 (1), 142–161.
Davenport, T.H., Prusak, L., 1998. Working knowledge: How organizations manage what they know. Harvard Business School Press, Boston.
Diamantopoulos, A., Winklhofer, H.M., 2001. Index construction with formative indicators: An alternative to scale development. J. Mark. Res. 38 (2), 269–277.
Falk, R.F., Miller, N.B., 1992. A Primer for Soft Modeling. University of Akron Press, Akron, OH.
Fornell, C., Larcker, D.F., 1981. Evaluating structural equation models with unobservable variables and measurement error. J. Mark. Res. 18 (1), 39–50.
Gray, P.H., 2001. The Impact of Knowledge Repositories on Power and Control in the Workplace. Informat. Technol. People 14 (4), 368–384.
Hair, J.F., Hult, G.T.M., Ringle, C.M., Sarstedt, M., 2017. A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM), 2nd ed. Sage, Thousand Oaks.
Harman, H.H., 1967. Modern Factor Analysis. University of Chicago1389 Press, Chicago, IL.
He, W., Wei, K.-K., 2009. What drives continued knowledge sharing? An investigation of knowledge-contribution and -seeking beliefs. Decis. Support Syst. 46 (4), 826–838.
Henseler, J., Ringle, C.M., Sarstedt, M., 2015. A New Criterion for Assessing Discriminant Validity in Variance-based Structural Equation Modeling. J. Acad. Mark. Sci. 43 (1), 115–135.
Huber, G.P., 1990. A theory of the effects of advanced information technologies on organizational design, intelligence, and decision making. Acad. Manag. Rev. 15 (1), 47–71.
Hwang, Y., 2016. A study on the multidimensional information management capability of knowledge workers Aslib. J. Informat. Manage. 68 (2), 138–154.
Hwang, Y., Kettinger, W.J., Mun, Y.Y., 2015. Presonal information management effectiveness of knowledge workers: Conceptual development and empirical validation European Journal of Information Systems 24.
Hwang, Y., Lin, H., 2018. The Effect of personal information management motivation on knowledge system commitment. Int. J. Inf. Manage. 39, 220–227.
Kankanhalli, A., Tan, B.C.Y., Wei, K.-K., 2005. Contributing knowledge to electronic knowledge repositories: An empirical investigation. MIS Quarterly 29 (1), 113–143.
Lin, H., Fan, W., 2011. Leveraging organizational knowledge through electronic knowledge repositories in public accounting firms: An empirical investigation. Behavioral Research in Accounting 23 (2), 147–167.
Lin, H., Hwang, Y., 2014. Do feelings matter? The effects of intrinsic benefits on individuals' commitment toward knowledge systems. Comput. Hum. Behav. 30, 191–198.
Lin, H.-F., 2007. Effects of Extrinsic and Intrinsic Motivation on Employee Knowledge sharing Intentions. Journal of Information Science 33 (2), 135–149.
Ma, W.W.K., Chan, A., 2014. Knowledge sharing and social media: Altruism, perceived online attachment motivation, and perceived online relationship commitment. Comput. Hum. Behav. 39, 51–58.

Malone, D., 2002. Knowledge management: A model for organizational learning. Int. J. Account. Informat. Syst. 3 (2), 111–123.
Marchand, D.A., Kettinger, W.J., Rollins, J.D., 2002. Information Orientation: The Link to Busines Performance Oxford University Press Oxford, UK.
Mariano, S., Awazu, Y., 2016. Artifacts in knowledge management research: a systematic literature review and future research directions. J. Knowled. Manage. 20 (6), 1333–1352.
Molm, L.D. (Ed.), 1997. Coercive Power in Social Exchange. Cambridge University Press.
Pauleen, D., 2009. Personal Knoweledge Management: Putting the "Person" Back Into the Knowledge Equation. Online Information Rev. 33 (2), 221–224.
Peters, M.D., Wieder, B., Sutton, S.G., 2018. Organizational improvisation and the reduced usefulness of performance measurement BI functionalities. Int. J. Account. Informat. Syst. 29, 1–15.
Podsakoff, P.M., MacKenzie, S.B., Podsakoff, N.P., 2012. Sources of method Bias in social science research and recommendations on how to control it. Annu. Rev. Psychol. 63 (1), 539–569.
Rheinghold, H., 2000. A slice of life in my virtual community. In: Harasim, L.M. (Ed.), Global networks: Computers and international communication. MIT Press, Cambridge, MA, pp. 57–80.
Ringle, C.M., Wende, S., Becker, J.-M., 2015. SmartPLS 3. SmartPLS GmbH, Boenningstedt.
Simone, S., 2020. Knowledge management in a COVID-19 world. https://www.kmworld.com/Articles/News/News/Knowledge-management-in-a-COVID-19-world-142172.aspx.
Venkatesh, V., Morris, M., Davis, G.B., Davis, F.D., 2003. User acceptance of Information technology: Toward a unified view. MIS Quart. 27 (3), 425–478.
Vera-Munoz, S.C., Ho, J.L., Chow, C.W., 2006. Enhancing knowledge sharing in public accounting firms. Account. Horizons 20 (2), 133–155.
Wasko, M., Faraj, S., 2000. It is what one does: Why people participate and help others in electronic communities of practice. J. Strat. Informat. Syst. 9 (2-3), 155–173.
Wasko, M., Faraj, S., 2005. Why should I share? Examining social capital and knowledge contribution in electronic network of practice. MIS Quarterly 29 (1), 35–57.
Wasko, M., Faraj, S., Teigland, R., 2004. Collective action and knowledge contribution in electronic networks of practice. J. Associat. Informat. Syst. 5 (11), 493–513.
Yan, Z., Wang, T., Chen, Y.i., Zhang, H., 2016. Knowledge sharing in online health communities: A social exchange theory perspective. Informat. Manage. 53 (5), 643–653.
Zhao, X., Lynch, J.G., Chen, Q., 2010. Reconsidering Baron and Kenny: Myths and Truths About Mediation Analysis. J. Consum. Res. 37 (2), 197–206.

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