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Knowledge-sharing attitude and behavior of civil servants: motivations behind rewards

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Abstract

Purpose – To a large extent, knowledge in government workplaces resides within the hierarchy as it provides unique services to the public. Governments should preserve and pass on valuable and irreplaceable knowledge in providing their services through learning by sharing. Yet, sharing requires time and effort. This study examines the motivations of civil servants to share knowledge and their knowledge-sharing behaviors.

Design/methodology/approach – The authors conducted an online survey to collect quantitative data from civil servants in the Hong Kong Government and obtained 104 useable responses to test the eight hypotheses comprising six constructs by structural equation modeling to explore the participants' knowledge-sharing behaviors.

Findings – Results indicated that (1) expected contribution was the primary source of motivation behind knowledge sharing; (2) participants engaged more frequently in informal than formal knowledge-sharing activities; and (3) there was a dire need for knowledge sharing focusing on explicit knowledge of work procedures.

Originality/value – The research focuses on motivational factors for knowledge sharing. Despite abundant literature about knowledge sharing in public or governmental organizations, scant studies focus on the motivations behind why expected rewards and expected associations have less significant impacts on the attitude toward knowledge sharing than expected contribution.

Keywords Knowledge sharing, Knowledge management, Motivational factors, Government, Hong Kong

Paper type Research paper

Introduction

Knowledge management (KM) can be a competitive advantage for any organization (Biloslavo and Prevodnik, 2012; Nakash and Bouhnik, 2022b). Regarding knowledge sharing (KS) as a KM process (Becerra-Fernandez *et al.*, 2004; Ganguly *et al.*, 2019), individuals are generally not obligated to share what they know, and they may not know others' knowledge need for effective sharing (Qin *et al.*, 2020). They may even pretend they do not know under a mandatory setting to avoid efforts and risks. In this sense, KS renders ineffective unless individuals are sincerely motivated.

KS can be an effective tool for staff development in large organizations such as the Hong Kong Special Administrative Region (SAR) Government ("the HK Government"), with over 170,000 civil servants as of the end of 2019 (Civil Service Bureau [CSB], 2020). Training courses can reach hundreds of employees during a designated period, but knowledge can be transferred anytime, anywhere, through formal and informal KS performed by the staff. Notably, managers in public service preferred direct and voluntary sharing between employees (Azarbayjani, 2007). Both explicit and tacit knowledge can be transferred through

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the processes of exchange and socialization, respectively (Becerra-Fernandez *et al.*, 2004), and socialization has been found to influence the perceived effectiveness of KM organizationally (Sabherwal and Becerra-Fernandez, 2003; Ahmad and Karim, 2019). Among other KM practices, KS enhances organizational learning in government organizations (Buheji *et al.*, 2014). Given the benefits and importance of KS to the HK Government, it is crucial to understand the drivers of KS and the KS behaviors of its employees.

Bock and Kim (2002) pointed out that fostering motivation to share knowledge should precede encouraging and mandating KS. The HK Government also strives to promote a culture of KM (Efficiency Office, 2020). Plenty of literature covers KS in public and governmental organizations (Azarbayjani, 2007; Bock and Kim, 2002; Butler *et al.*, 2004; Chen and Hsieh, 2015; Deverell and Burnett, 2012; Hendryadi *et al.*, 2019; Hur and Im, 2013; Tompang and Yunus, 2017), but scant studies focus on the context of Hong Kong and Asia. Although Yao *et al.*, 2007 investigated how culture, attitudes, and barriers affect KS in the Trade and Industry Department through interviews and surveys, they did not focus on the motivations. To fill the research gap, this research aims to answer the following research questions:

RQ1. What are the motivations for civil servants to share knowledge?

RQ2. What kinds of KS behavior do civil servants perform?

Literature review and research model development

Theoretical background

According to Becerra-Fernandez *et al.* (2004), KM can be classified into four processes: discovery, capture, sharing, and application. Different types of knowledge (e.g. procedural and specific, tacit and explicit, general and specific, etc.) have also been identified. In particular, explicit knowledge can be more easily understood by information, whereas tacit knowledge is accumulated through experience and practice, and people may not even realize that they possess it (Haapalainen and Pusa, 2012). The sharing process can be further divided into socialization (for sharing of tacit knowledge) and exchange (for sharing of explicit knowledge) (Becerra-Fernandez *et al.*, 2004), both now facilitated by social media and mobile communications in communities of practice (Lei *et al.*, 2021, Cheung *et al.*, 2023; Jiang *et al.*, 2023; Leung *et al.*, 2023; Xie *et al.*, 2023).

Bock and Kim (2002) introduced a research model to study employees' motivations of large public organizations in Korea to share knowledge based on the Theory of Reasoned Action by Fishbein and Ajzen (1975), social exchange theory, and self-efficacy of Bandura (1986) (see Figure 1). This model has incorporated: (1) "expected rewards" (i.e. extrinsic rewards such as monetary rewards and promotion), (2) "expected associations" (i.e. improved relationships with colleagues), and (3) "expected contribution" (i.e. individuals' belief that they can contribute to the organization) as factors affecting (4) "attitude toward KS," (5) "intention to share knowledge," and (6) "KS behavior." In particular, (7) "the level of IT usage" was added as a mediating factor to KS behavior due to its role as a key KM enabler, which Nakash and Bouhnik (2022a) have recently re-examined. Bock and Kim (2002) hypothesized that the six components at (1) to (6) above would have a positive effect on KS behavior.

This research extended the model by Bock and Kim (2002) to analyze the KS behavior in the HK Government, which summarizes several well-known human behavior theories. Further, it contributes to analyzing KS motivations in public organizations in Korea, a developed Asian country with a backdrop similar to the current study (Sahibzada *et al.*, 2021). Individual motivations and KS have also been shown to correlate strongly in empirical studies (Ali and Dominic, 2017; Azarbayjani, 2007). The first three components in the model, i.e. expected rewards, expected associations, and expected contribution, match the

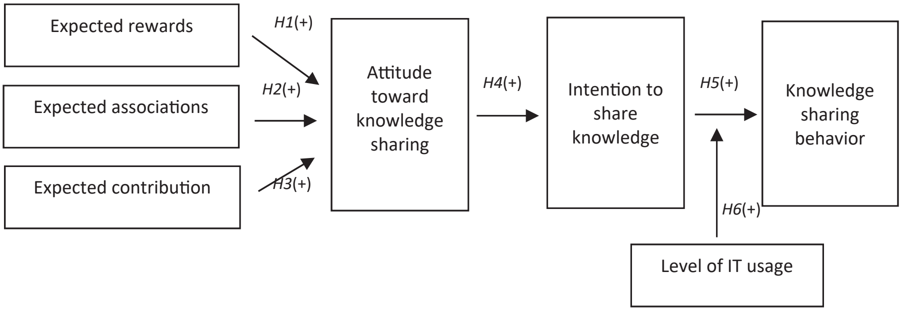

Figure 1.
Research model of Bock and Kim (2002)

expectancy theory by Vroom (1964), which discusses factors creating motivational force. Expectancy, instrumentality, and valence are reflected in those components, assuming that individuals will be able to receive both extrinsic and intrinsic rewards that they value if they share knowledge.

Our extensions to Bock and Kim's model include adding the following relationships: expected rewards, contributions, associations, and attitudes toward KS and KS behavior. As Bock and Kim (2002) found that IT usage did not significantly mediate KS behavior, we remove IT usage level as a factor. Unfortunately, IT usage in the HK Government in KS is not extensive, and the social media-based community of practice is inappropriate due to much confidential information (Lei *et al.*, 2021; Li *et al.*, 2023; Wong *et al.*, 2023). Most IT infrastructures do not allow socialization and exchange between employees but only perform top-down dissemination of guidelines and messages from the management to staff, such as the service-wide intranet "Central Cyber Government Office" or departmental intranets (Ho and Ho, 2006; Ho, 2007).

Concerning the additional relationships, Al Dari *et al.* (2018) rejected their hypothesis of rewards being positively associated with the knowledge-sharing contribution in public organizations in the United Arab Emirates. Fischer (2022) recently revealed that incentives could not buy knowledge from public employees in German, though incentives may generally help (Veer Ramjeawon and Rowley, 2020). Cabrera and Cabrera (2002) posited that the increase in efficacy perceptions (i.e. employees' belief that information shared will be helpful to colleagues) and promotion of group identity, being the "pay-offs" for contribution, will foster KS. Teh and Sun (2012) found that job involvement and job satisfaction (i.e. job attitudes and intrinsic motivations) directly affect knowledge-sharing behavior. Their study also examines the frequency and types of KS behavior in both formal and informal channels. Participants were asked how frequently they shared different types of knowledge by referring to the research of Bock *et al.* (2005), who asked similar questions about how their research participants intend to share knowledge. The eight hypotheses below are thus formulated by referring to the previous research mentioned above, and Figure 2 depicts the research model incorporating these hypotheses.

Hypotheses development

Makki and Abid (2017) argued that intrinsic benefits such as self-satisfaction, social cognition, or power are important. On the other hand, individuals will also enjoy sharing knowledge if they believe they receive intrinsic benefits such as self-satisfaction, social recognition, or power (Kankanhalli *et al.*, 2005). However, Lin (2007) and Fischer (2022) found that expected organizational compensation does not significantly affect employees'

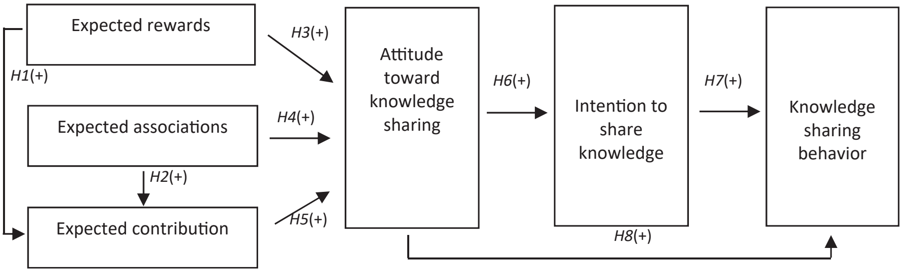

Figure 2.
Research model

intentions to share knowledge. This result was somewhat surprising, as previous research has suggested that organizational rewards are important in fostering a culture of KS. Bock *et al.* (2005) also found that expected extrinsic rewards adversely affected individual attitudes toward KS. Accordingly, the following hypothesis is tested:

H1. Expected rewards positively affect expected contribution (Al Dari *et al.*, 2018).

Fischer (2022) revealed individual behavior is primarily motivated by self-interest. Without incentives, people rarely waste time and effort contributing. Cuganesan *et al.* (2016) also believe that employees are more willing to share knowledge when they believe that providing knowledge improves their relationships with other employees. People who expected positive interactions were more likely to share knowledge. Therefore, the following hypothesis is proposed:

H2. Expected association positively affects expected contribution (Cabrera and Cabrera, 2002).

Outcome expectations also imply that members of an organization believe they will receive external benefits such as financial rewards, promotions, or learning opportunities. They become more positive about KS (Bock and Kim, 2002; Kankanhalli *et al.*, 2005). Thus, we propose the following hypothesis.

H3. Expected rewards positively affect the individual's attitude toward KS (Bock and Kim, 2002).

On the contrary, it is more important for organizations to develop relationships between employees actively. Anticipated reciprocity captures employees' desire to maintain lasting relationships with other employees, especially regarding the provision and receipt of knowledge (Bock *et al.*, 2005). Lin (2007)'s research results also showed that mutual interest (and expected reciprocity) significantly impacted employees' attitudes and intentions to share knowledge. Therefore, the following hypothesis is put forward.

H4. Expected associations positively affect the individual's attitude toward KS (Bock and Kim, 2002).

The contribution process is believed to be affected by a sense of competence and is closely related to effective performance (Gagné *et al.*, 2019). Therefore, employees who can receive feedback on previous instances of KS understand how such actions have contributed to the work of others and/or are more likely to improve organizational performance. With that understanding, employees can increase their expected contributions accordingly. Hence, this encourages employees to have a positive attitude toward KS. This leads to the fifth hypothesis.

H5. Expected contribution positively affects the individual's knowledge-sharing attitude.

According to King and Marks (2008) and Ergün and Avcı, 2018, attitude characteristics significantly predict organizational behavioral intentions. Further, Akhavan *et al.* (2015) examined that one's attitude toward moral action greatly influences behavioral intentions. Moreover, Bock *et al.* (2005) investigated how attitudes toward knowledge-sharing affect people's intentions. Thus, this study uses attitudes about KS to describe whether or not employees value sharing information. Based on the claims above about how employees feel about sharing information and their behavioral goals, the following hypothesis was formulated:

H6. Attitude toward KS positively affects the individual's intention to share knowledge (Bock and Kim, 2002).

Hwang *et al.* (2018) stated that the intention to engage in a behavior is determined by an individual's attitude toward the behavior. The degree to which one feels positively or negatively about sharing information is referred to as their attitude toward KS. Employees with high intentions are likelier than those with low intentions to perform related behaviors. Hence, the following hypothesis is proposed.

H7. Intention to share knowledge will positively affect the individual's sharing behavior (Bock and Kim, 2002; Bock *et al.*, 2005).

In behavioral psychology, the connection between attitude and intention is widely established (Teh and Sun, 2012; Armitage and Christian, 2017; Diab, 2021). How people feel about a particular behavior is referred to as their attitude toward that behavior. Consequently, it may be hypothesized that people's attitudes about sharing information have a beneficial impact on how they share. The final hypothesis follows from this.

H8. Attitude toward KS positively affects the individual's sharing behavior (Teh and Sun, 2012; Bock *et al.*, 2005).

Methodology

Sampling and data collection

Civil servants, except those not required to perform clerical duties, are the target of this study, as they need to understand the survey content. Clerical Assistants, the lowest in rank required to perform clerical duties, have attained a proficiency level in the English Language equivalent to Secondary 4 standard (i.e. 10th grade of the US System). We exclude other government employees, including contract staff, staff employed by human resources agencies and deployed to the HK Government, and staff engaged in the hire of service (e.g. street cleaners and security guards) because they do not have the same rewards as regular civil servants in Hong Kong. For example, they cannot receive a promotion based on their performance. Agency staff may have a lower sense of belonging to the HK Government as the referring agency is their employer, not the HK Government.

An online questionnaire was sent to civil servants via email, WhatsApp, and social media like Facebook. Participants completed the survey anonymously, with no personally identifiable information collected. Demographic information only included self-reported gender, age, highest academic qualification obtained, pay-scale point, and field of work. All 104 responses collected were useable.

Key measures

The distributions of male and female participants were 34.6 and 65.4%, respectively. A summary of the demographics of the participants is in Table 1. For age, 42.3% were 25–39,

Category	Sub-category	No. of participants	Percentage (%)
Gender	Male	36	34.6
	Female	68	65.4
Age	18 to 25	3	2.9
	25 to 39	44	42.3
	40 to 49	35	33.7
	50 or above	22	21.2
Academic qualification	High school qualification to associate degree	19	18.3
	Bachelor's degree	63	60.6
	Master's degree or above	22	21.2
Current pay point	Below MPS Point 10 or equivalent	6	5.8
	MPS Point 10 to Point 33 or equivalent	69	66.3
	Above MPS Point 34 or equivalent	29	27.9
Field of work	Professional services (e.g. policy formulation, law, engineering, etc.)	34	32.7
	General office administration	16	15.4
	Human resources	14	13.5
	Finance and accounting	3	2.9
	Information technology management and support	2	1.9
	Event management	1	1
	Direct services to the public	27	26
	Support to boards and councils	5	4.8
	Infrastructure management	1	1
	Social work	1	1

Source(s): Created by author

Table 1.
Demographic table of participants

33.7% were 40–49, 21.2% were 50 or above, and just 2.9% were 18–25 (Note: The mandatory retirement age in HK Government is from 55 to 60, depending on the job requirement). Most participants held a bachelor's degree (60.6%), and the remainder either obtained sub-degree (i.e. equivalent to an associate degree) qualifications (18.3%) or a graduate degree or above (i.e. equivalent to post-graduate certificate/diploma, Master' and above) (21.2%). Most participants (66.3%) were in the middle salary band, i.e. Master Pay Scale (MPS) Point 10 to 33 or equivalent, meaning that most were junior or middle managers. The others are mainly in the upper salary band, i.e. MPS Point 34 or above (27.9%, who were senior managers), with only 5.8% in the lower salary band, i.e. below MPS Point 10 or equivalent, who were primarily frontline staff. Participants performed different fields of work, mainly professional services (32.7%), direct services to the public (26%), general office administration (15.4%), and human resources (13.5%).

Questionnaire construction

All questions other than demographics used 5-point Likert scales to measure participants' motivations to share knowledge, attitude toward KS, intention to share knowledge, and their KS behavior (i.e. from 1 = not willing at all to 5 = very willing; from 1 = do not agree at all to 5 = strongly agree; or from 1 = never to 5 = always). As there are two approaches to KS, i.e. voluntary and involuntary (Allameh *et al.*, 2011), the questions comprised those about formal KS channels (i.e. involuntary) and informal ones (i.e. voluntary).

The questions represented the six constructs in the model: expected rewards ("ER"), expected associations ("EA"), expected contribution ("EC"), attitude toward KS ("AT"), intention to share knowledge ("IN'), and KS behavior ("BE"). Appendix 1 lists the corresponding questions to the constructs. The correlations between the constructs were examined by structural equation modeling to test the eight hypotheses. Table 2 shows the description of constructs, the number of items included in each construct, and the key references from which they were derived.

Data analysis

Analyses of reliability and validity

To ensure the internal consistency of the data collected, Cronbach's alpha and composite reliability values of the constructs were examined (see Table 3). The average of the former was 0.788 (ranging from 0.696 to 0.922), and the average for the latter was 0.869 (ranging from 0.797 to 0.930), indicating acceptable internal consistency as they were above 0.7 (Nunnally and Bernstein, 1994). The results of the reliability test in Table 2 show that all constructs have met the required reliability and that Cronbach's alpha values are greater than 0.7. Thus, all constructs have sufficient reliability.

Results of hypothesis testing

The data received from the questionnaires were analyzed using SmartPLS 3.0 (Ringle *et al.*, 2015). Our result indicated that six of the eight hypotheses were supported. The $R^2_{adj.}$ of AT, IN, and BE were 0.513, 0.070, and 0.127, respectively. Both expected rewards and expected associations had a positive and significant effect on the expected contribution (βER→EC = 0.196, t = 2.492, $p < 0.05$; βEA→EC = 0.596, t = 7.259, $p < 0.001$),

Constructs	Description	Key references	Items
Expected rewards (ER)	The degree to which one believes that one will receive rewards for KS	Al Dari *et al.* (2018), Bock and Kim (2002)	4
Expected associations (EA)	The perception of togetherness	Bock and Kim (2002), Cabrera and Cabrera (2002)	4
Expected contribution (EC)	The degree of one's positive or negative cognition based on personal contribution through knowledge-sharing behavior	Bock and Kim (2002)	4
Attitude toward KS (AT)	The degree of one's positive or negative feelings about KS	Bock and Kim (2002), Bock *et al.* (2005), Teh and Sun (2012)	2
Intention to share knowledge (IN)	The degree to which one believes that one will adopt knowledge-sharing actions	Bock and Kim (2002), Bock *et al.* (2005)	3
Knowledge-sharing behavior (BE)	The degree to which one believes that one will engage in knowledge-sharing actions	Bock and Kim (2002), Bock *et al.* (2005), Teh and Sun (2012)	23

Source(s): Created by author

Table 2. Study constructs and their description

Construct	Cronbach's alpha	Composite reliability
ER	0.698	0.797
EA	0.827	0.884
EC	0.808	0.871
AT	0.696	0.868
IN	0.776	0.862
BE	0.922	0.930

Source(s): Created by author

Table 3. Internal consistency of the model

supporting H1 and H2. The expected contribution also positively and significantly affected the attitude toward KS (βEC→AT = 0.581, $t = 4.838$, $p < 0.001$), meaning that H5 is supported. The attitude toward KS, in turn, had a positive effect on the intention to share knowledge (βAT→IN = 0.280, $t = 2.551$, $p < 0.05$) and the same applied to the intention to share knowledge on KS behavior (βIN→BE = 0.307, $t = 3.288$, $p < 0.01$). Attitude toward KS itself had a direct and positive impact, though marginal, on KS behavior (βAT→BE = 0.214, $t = 1.793$, $p = 0.073$). These are evidence supporting H6, H7, and H8.

The two hypotheses rejected were H3 and H4, as both expected rewards and expected associations did not have a significant direct impact on attitude toward KS (βER→AT = 0.025, $t = 0.322$, $p > 0.100$; βEA→AT = 0.175, $t = 1.498$, $p > 0.100$). Yet, both constructs had an indirect effect on attitude toward KS through EC (βER→EC→AT = 0.114, $t = 2.171$, $p < 0.05$; βEA→EC→AT = 0.347, $t = 3.598$, $p < 0.001$). Another unexpected discovery was that expected contribution had an indirect impact on the intention to share knowledge through attitude toward KS (βEC→AT→IN = 0.163, $t = 2.012$, $p < 0.05$).

In sum, the expected contribution is the most important motivation, which significantly brought a positive attitude toward KS. The other two factors, i.e. expected rewards and expected associations, only affect attitude toward KS indirectly through expected contribution. Moreover, results indicated that a positive attitude toward KS leads to a positive intention to share knowledge and positive KS behavior. The final model illustrating the relationships between the constructs is in Figure 3. Table 4 shows a summary of the hypotheses testing and Table 5 shows the hypotheses testing results.

To address the second research question, Appendix 2 tabulates the mean of the KS behavior performed by the participants. In formal channels, participants most often share knowledge by teaching new colleagues about work procedures as instructed by their supervisors (mean = 2.721). The least preferred formal channels of KS were giving a talk or sharing your knowledge with an audience on stage (mean = 1.827), joining mentorship or partnership schemes (mean = 1.779), and others (mean = 1.75). Face-to-face discussion at the office was the most popular informal channel of KS (mean = 4.048). Fewer participants voluntarily prepared work manuals, guidelines, or brief notes for colleagues (mean = 2.433) and others (mean = 2.058). Work procedures were the most shared through formal and informal channels (formal: mean = 2.875; informal: mean = 3.279).

The scores for domain knowledge required by jobs (e.g. information technology, accounting, law, etc.) (formal: mean = 2.606; informal: mean = 3.106) and soft skills, norms, etc. (e.g. customer service skills, managing the relationship with supervisors, etc.) (formal: mean = 2.596; informal: mean = 3.115) were comparable in the respective channel. The most crucial issue was that informal KS behavior was always more frequent than formal behavior.

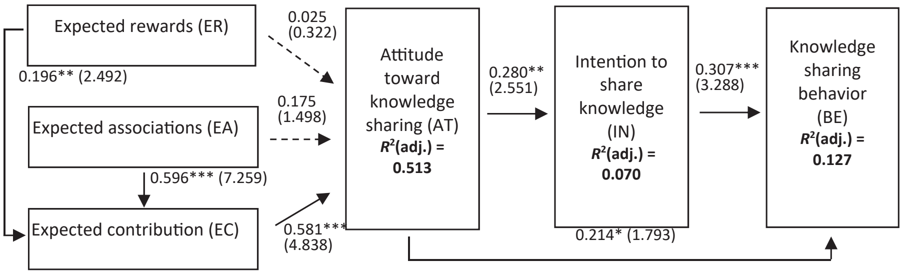

Figure 3.
Results

Note(s): Values not in parentheses are path coefficients; values in parentheses are t values

Source(s): Created by author

Hypothesis		Result	Remarks
H1	Expected rewards will have a positive effect on expected contribution	Supported	–
H2	Expected association will have a positive effect on expected contribution	Supported	–
H3	Expected rewards will positively affect the individual's attitude toward KS	Not supported	Expected rewards only indirectly positively affected the individual's attitude toward knowledge sharing through expected contribution
H4	Expected associations will positively affect the individual's attitude toward KS	Not supported	Expected associations only indirectly positively affected the individual's attitude toward knowledge sharing through expected contribution
H5	Expected contribution will positively affect the individual's attitude toward KS	Supported	–
H6	Attitude toward KS will positively affect the individual's intention to share knowledge	Supported	–
H7	Intention to share knowledge will positively affect the individual's sharing behavior	Supported	–
H8	Attitude toward KS will positively affect the individual's sharing behavior	Supported	The level of significance was marginal

Source(s): Created by author

Table 4.
Result of hypotheses testing

Hypothesis	Structural path (direct effect)	Estimate (β)	t-statistics	p-value	Support
H1	βER→EC	0.196	2.492	<0.05	Yes
H2	βEA→EC	0.596	7.259	<0.001	Yes
H3	βER→AT	0.025	0.322	>0.100	No
H4	βEA→AT	0.175	1.498	>0.100	No
H5	βEC→AT	0.581	4.838	<0.001	Yes
H6	βAT→IN	0.280	2.551	<0.05	Yes
H7	βIN→BE	0.307	3.288	<0.01	Yes
H8	βAT→BE	0.214	1.793	0.073	Yes
Hypothesis	**Structural path (indirect effect)**	**Estimate (β)**	**t-statistics**	**p-value**	**Support**
H1, H5	βER→EC→AT	0.114	2.171	<0.05	Yes
H2, H5	βEA→EC→AT	0.347	3.598	<0.001	Yes
H5, H6	βEC→AT→IN	0.163	2.012	<0.05	Yes

Source(s): Created by author

Table 5.
Hypotheses testing results

Discussion and limitations

Motivations for civil servants to share knowledge (RQ1)

The results revealed that the expected contribution was imperative in driving KS in the HK Government. Bock and Kim stated that the expected contribution was "a purely self-motivational source" (2002, p. 16), meaning intrinsic motivation. This finding echoes with Chen *et al.* (2018) that being aware of the benefits of KS is, in fact, the core intrinsic motivation for KS. The results implied that participants considered KS beneficial to the HK Government and their colleagues. With this awareness, they demonstrated a positive attitude toward KS and thus were willing to participate in KS.

Expected rewards and expected associations were only secondary drivers of KS, as indicated by their indirect instead of direct effects on the attitude toward KS through expected contribution, aligning with Fischer's (2022) recent findings. In civil services, one might even doubt whether actively participating in KS could help gain rewards. Intrinsic rewards, such as praise from the supervisors, would be possible but unlikely to lead to monetary gain or significant advantage for promotion. This is mainly due to the existing policies on remuneration and perceptions of advancement (e.g. salary determined by the pay scale, a common perception that seniority is a major attribute to consider in promotion exercises, etc.). Thus, the expectancy theory can explain the lack of a direct relationship between rewards and attitude because one of the three factors of the theory, the performance-reward linkage or the belief in such rewards, is missing in this research context (Haque *et al.*, 2014). Scholars have warned that rewards should be carefully used to encourage KS due to different conclusions about their effects (De Almeida *et al.*, 2016). Some research even showed that external rewards might undermine intrinsic motivation (De Almeida *et al.*, 2016).

Relationship needs are intrinsic motivations like expected contribution (De Almeida *et al.*, 2016). Kamatula (2016) suggested governments use social networks like Facebook to promote KS, as a sharer would want to appear competent before others. Reputation from knowledge achievement is also found to be one of the drivers of knowledge exchange (Schumann and Tittmann, 2010). Yet, it did not directly impact the attitude toward KS in this study. In other words, the participants did not feel a strong urge to enhance associations. One possible explanation of the associations may be the individual or institutional variables adopted by Azarbayjani (2007) in their research on KS in government-owned public service organizations: clique, friend group, and workplace longevity. Their research showed that about three-quarters of the respondents considered KS more likely among those with the same clique, friend group, or workplace longevity.

With six of the eight hypotheses supported and the indirect effect of expected rewards and associations discovered, this research confirms that to enhance KS, the HK Government should consider increasing the motivations for civil servants to share knowledge. Furthermore, the fact that informal KS behavior was more frequent than formal KS behavior and that work procedures were the most popular type of knowledge being shared could be a reference for the HK Government to design future KM policies. Regarding rewards, Saussois (2003) advocated KS and the reappraisal of human resource management methods to promote KM. For instance, if participation in KS activities is included as one of the performance indicators in performance appraisals of civil servants, the relationship between expected rewards and attitude toward KS may become stronger (Larsson *et al.*, 2022).

Another suggestion is to emphasize managers' responsibility to facilitate KS in the service because in-role behavior positively affects attitudes toward KS (Luturmas and Indarti, 2016), as our participants were mainly middle managers. On the other hand, robust demand for sharing work procedures is understandable given the numerous and tedious legislation, regulations, guidelines, and practices to follow. This research reflects that both formal and informal KS activities focusing on work procedures are much needed.

KS behavior do civil servants perform (RQ2)

Previous to a British colony, the civil service culture in Hong Kong would probably be inherent in the conservative culture of British civil service (Reeder, 2020) and strengthened by its bureaucratic structure (Huque and Jongruck, 2020). With this background, it is understandable that our participants were more willing to share the office procedures formally and informally. Also, our participants would share their knowledge with new colleagues as per the requests of their seniors, in formal reporting (such as preparing handover reports), or sharing with their peers in a formal training environment instead of making public talks on stage or voluntarily joining official mentorship programs (Chan *et al.*, 2022).

Another possible reason is that Hong Kong has a collectivist culture with high power distance (Hofstede Insights, n.d.). People are more likely to accept authority instructions (and will share knowledge with new colleagues if asked by seniors and to write handover reports as instructed) and yet unwilling to share information with newcomers (as they are not yet within their social group). Yet, when the group eventually accepted the new colleagues, people would be more ready to share knowledge informally through face-to-face discussions. Therefore, based on these observations, we suggest the HK Government use the culture in Hong Kong and encourage their staff to share their knowledge more authoritatively, as it will be more effective at the initial stage of KS.

Limitations

This study contributes to academic literature in the public sector and has both theoretical and practical implications. However, it also has certain limitations. First, due to the cross-sectional design, we could not examine the causal relationships between the variables. A longitudinal study would provide more insights into the dynamic nature of knowledge generation and various organizational levels. Future research may use a longitudinal design to infer causal relationships from this model. Second, this study investigates a potential mediator in the association between several personal variables and knowledge-sharing behavior in greater detail than other studies. However, this study does not consider the roles performed by organizational practices, cultures, and other potential KM processes like knowledge acquisition and knowledge integration. Finally, the study relies on self-reported data, which raises concerns about common method bias. However, no significant issue was identified by the tests of common method variance in this study. In addition, this study used multiple evaluations, such as Cronbach's Alpha and composite reliability, to verify the data's accuracy and findings. Objective measures of knowledge-sharing behavior can help improve the research design in subsequent studies.

Given these limitations, we strongly encourage others to examine our findings through more rigorous research designs and across different national cultures. We also recognize the value of expanding research models to (1) gain additional insights by exploring organizational factors or other KM processes; (2) examine the individuals' sharing behavior and satisfaction in organizations; (3) divided knowledge into two categories, explicit knowledge, and implied knowledge; (4) examine KS behavior through the lens of cultural background; and (5) follow up on the survey results, such as in-depth interviews, to understand the complexity through qualitative methods.

In addition to KS, other organizational behaviors may be measured by using variables such as adhocracy culture, remuneration, and performance. Moreover, several organizational phenomena relevant to KS, including job satisfaction and innovative behavior, are strongly influenced by the organizational trust.

Conclusion

By analyzing the motivational factors of KS, this study serves as a reference for the governments to cultivate the appropriate environment to foster KS. Our findings indicate that the expected contribution was the major source of KS motivation to the participating civil servants. Expected rewards and expected associations only indirectly affected their attitude toward KS through expected contribution. A positive attitude would lead to a positive intention to share knowledge, positively impacting KS behaviors. Informal KS behaviors were more frequent than formal behavior, and work procedures were the most shared among different types of knowledge. Findings suggested that KS motivations should be enhanced, especially in terms of expected rewards and associations, and KS activities on work procedures should be promoted. While staff from different grades and departments would require specific explicit and tacit knowledge, it must be a joint effort supported by service-wide and departmental management for KS to flourish.

Regarding the indirect effect of expected rewards and expected associations on attitude toward KS, further research should determine why these constructs were not as significant as expected contributions (Nakash and Bouhnik, 2022b). Hendryadi *et al.* (2019) found an insignificant direct relationship between bureaucratic culture and KS in the Indonesian Government. Given the different degrees of bureaucracy in different governments and interpretations of "bureaucratic culture," similar research in the context of the HK Government may provide some insight into the motivations for KS. In addition, as shown above, the local culture can explain knowledge-sharing behaviors, which echoes prior research findings (Pepple *et al.*, 2022). Therefore, we suggest that future research should examine knowledge-sharing behavior through the lens of cultural background.

Contrary to motivations, barriers to KS in governments are similar to those for open e-learning in public administrations (Stoffregen *et al.*, 2015) and universities (Veer Ramjeawon and Rowley, 2020; Maleksadati *et al.*, 2023), providing more ideas on KS promotion. Lastly, the analysis of the motivations behind KS focuses solely on internal factors. Environmental factors such as civil servants' capacity to actively engage in KS processes according to their workload and leadership impact need more investigations, especially due to the COVID-19 pandemic (Ho *et al.*, 2022; Ho and Chiu, 2023; Huang *et al.*, 2021, 2022, 2023; Yi and Chiu, 2023; Yu *et al.*, 2023). We are also interested in whether emerging technologies, leadership motivations, and gender affect KS in public administration (Fjendbo, 2021; Veer Ramjeawon and Rowley, 2020; Nakash and Bouhnik, 2022a; Palsdottir, 2021; Kee and Chiu, 2023; Lo *et al.*, 2020a, b), as well as the roles play by social media in KS (Naeem, 2019) in public administration context.

References

Ahmad, F. and Karim, M. (2019), "Impacts of knowledge sharing: a review and directions for future research", *Journal of Workplace Learning*, Vol. 31 No. 3, pp. 207-230, doi: 10.1108/JWL-07-2018-0096.

Akhavan, P., Hosseini, S.M., Abbasi, M. and Manteghi, M. (2015), "Knowledge-sharing determinants, behaviors, and innovative work behaviors: an integrated theoretical view and empirical examination", *Aslib Journal of Information Management*, Vol. 67 No. 5, pp. 562-591, doi: 10.1108/AJIM-02-2015-0018.

Al Dari, T., Jabeen, F. and Papastathopoulos, A. (2018), "Examining the role of leadership inspiration, rewards and its relationship with contribution to knowledge sharing", *Journal of Workplace Learning*, Vol. 30 No. 6, pp. 488-512.

Ali, A. and Dominic, P. (2017), "The relationship between management support and individual motivation for knowledge sharing practice", *International Conference on Research and Innovation in Information Systems, ICRIIS*, pp. 1-6.

Allameh, S., Zare and Davoodi (2011), "Examining the impact of KM enablers on knowledge management processes", *Procedia Computer Science*, Vol. 3, pp. 1211-1223.

Armitage, C.J. and Christian, J. (2017), "From attitudes to behavior: basic and applied research on the theory of planned behavior", in *Planned Behavior*, Routledge, pp. 1-12.

Azarbayjani, M. (2007), *Variables that affect Employee Knowledge Sharing in a Government-Owned Public Service Organization [Electronic Resource]*, Pepperdine University.

Bandura, A. (1986), *Social Foundations of Thought and Action: A Social Cognitive Theory (Prentice-Hall Series in Social Learning Theory)*, Prentice-Hall, Englewood Cliffs, NJ.

Becerra-Fernandez, I., Gonzalez, A. and Sabherwal, R. (2004), *Knowledge Management: Challenges, Solutions, and Technologies*, Pearson/Prentice Hall, Upper Saddle River, NJ.

Biloslavo, R. and Prevodnik, M. (2012), “Impact of organizational culture on knowledge management in higher education”, *Cultural Implications of Knowledge Sharing, Management and Transfer: Identifying Competitive Advantage*, Information Science Reference (Isr), pp. 1721-1748.

Bock, G. and Kim, Y. (2002), “Breaking the myths of rewards: an exploratory study of attitudes about knowledge sharing”, *Information Resources Management Journal*, Vol. 15 No. 2, pp. 14-21.

Bock, G.-W., Zmud, R.W., Kim, Y.-G. and Lee, J.-N. (2005), “Behavioral intention formation in knowledge sharing: examining the roles of extrinsic motivators, social-psychological forces, and organizational climate”, *MIS Quarterly*, Vol. 29 No. 1, pp. 87-111.

Buheji, M., Al-Hasan, S., Thomas, B. and Melle, D. (2014), “The influence of knowledge management on learning in government organisations”, *American Journal of Industrial and Business Management*, Vol. 4 No. 11, pp. 657-670.

Butler, T., Feller, J., Pope, A., Barry, P. and Murphy, C. (2004), “Promoting knowledge sharing in government and non-government organizations using open source software: the pKADS story”, *Electronic Journal of E-Government*, Vol. 2 No. 2, pp. 81-94.

Cabrera, A. and Cabrera, E.F. (2002), “Knowledge-sharing dilemmas”, *Organization Studies*, Vol. 23 No. 5, pp. 687-710.

Chen, C. and Hsieh, C. (2015), “Knowledge sharing motivation in the public sector: the role of public service motivation”, *International Review of Administrative Sciences*, Vol. 81 No. 4, pp. 812-832.

Chan, A.W.Y., Chiu, D.K.W. and Ho, K.K.W. (2022), “Workforce information needs for vocational guidance system design”, *International Journal of Systems and Service-Oriented Engineering*, Vol. 12 No. 1, pp. 1-16.

Chen, H., Baptista Nunes, M., Ragsdell, G. and An, X. (2018), “Extrinsic and intrinsic motivation for experience grounded tacit knowledge sharing in Chinese software organisations”, *Journal of Knowledge Management*, Vol. 22 No. 2, pp. 478-498.

Cheung, K.-Y., Lam, A.H.C. and Chiu, D.K.W. (2023), “Using YouTube and Facebook as German language learning aids: a pilot study in Hong Kong. German as a foreign”, *Language*, Vol. 2023 No. 1, pp. 146-168.

Civil Service Bureau (CSB) (2020), *Establishment and Strength*, available at: https://www.csb.gov.hk/english/stat/quarterly/540.html (accessed 30 May 2020).

Cuganesan, S., Hart, A. and Steele, C. (2016), “Managing information sharing and stewardship for public-sector collaboration. A management control approach”, *Public Management Review*, Vol. 19 No. 6, pp. 862-879.

De Almeida, F., Lesca, H. and Canton, A. (2016), “Intrinsic motivation for knowledge sharing – competitive intelligence process in a telecom company”, *Journal of Knowledge Management*, Vol. 20 No. 6, pp. 1282-1301.

Deverell, A. and Burnett, S. (2012), “Need-to-know cultures: an investigation into intra-organisational and extra-organisational knowledge sharing cultures in local government in the UK”, *Knowledge and Process Management*, Vol. 19 No. 3, pp. 131-141.

Diab, Y. (2021), “The concept of knowledge sharing in organizations (studying the personal and organizational factors and their effect on knowledge management)”, *Management Studies and Economic Systems*, Vol. 6 Nos 1/2, pp. 91-100.

Efficiency Office (2020), *Knowledge Management*, available at: https://www.effo.gov.hk/en/our-work/management-consultancy/knowledge-management.html (accessed 30 May 2020).

Ergün, E. and Avcı, Ü. (2018), “Knowledge sharing self-efficacy, motivation and sense of community as predictors of knowledge receiving and giving behaviors”, *Journal of Educational Technology and Society*, Vol. 21 No. 3, pp. 60-73.

Fischer, C. (2022), “Incentives can’t buy me knowledge: the missing effects of appreciation and aligned performance appraisals on knowledge sharing of public employees”, *Review of Public Personnel Administration*, Vol. 42 No. 2, pp. 368-389.

Fishbein, M. and Ajzen, I. (1975), *Beliefs, Attitude, Intention and Behavior: an Introduction to Theory and Research*, Addison-Wesley Publishing Company, Reading, MA.

Fjendbo, T.H. (2021), “Leading employees of different genders: the importance of gender for the leadership–motivation relationship”, *Review of Public Personnel Administration*, Vol. 41 No. 4, pp. 651-673.

Gagné, M., Tian, A.W., Soo, C., Zhang, B., Ho, K.S.B. and Hosszu, K. (2019), “Different motivations for knowledge sharing and hiding: the role of motivating work design”, *Journal of Organizational Behavior*, Vol. 40 No. 7, pp. 783-799.

Ganguly, A., Talukdar, A. and Chatterjee, D. (2019), “Evaluating the role of social capital, tacit knowledge sharing, knowledge quality and reciprocity in determining innovation capability of an organization”, *Journal of Knowledge Management*, Vol. 23 No. 6, pp. 1105-1135.

Haapalainen, P. and Pusa, K. (2012), “Knowledge management processes: storing, searching and sharing knowledge in practice”, *International Journal of Information Systems in the Service Sector*, Vol. 4 No. 3, pp. 29-39.

Haque, M.F., Haque, M.A. and Islam, M. (2014), “Motivational theories - a critical analysis”, *ASA University Review*, Vol. 8 No. 1, pp. 61-68.

Hendryadi, Suratna, Suryani and Purwanto, B. (2019), “Bureaucratic culture, empowering leadership, affective commitment, and knowledge sharing behavior in Indonesian government public services”, *Cogent Business and Management*, Vol. 6 No. 1, 1680099.

Ho, K.K.W. (2007), “The e-government development, IT strategies, and portals of Hong Kong SAR Government”, *International Journal of Cases on Electronic Commerce*, Vol. 3 No. 2, pp. 71-89.

Ho, K.K.W., Chan, J.Y. and Chiu, D.K.W. (2022), “Fake news and misinformation during the pandemic: what we know, and what we don’t know”, *IT Professional*, Vol. 24 No. 2, pp. 19-24.

Ho, K.K.W., Chiu, D.K.W. Sayama, K.L.C. (2023), “When privacy, distrust, and misinformation cause worry about using COVID-19 contact-tracing apps”, *IEEE Internet Computing*, Vol. 27 No. 2, pp. 7-12.

Ho, S.Y. and Ho, K.K.W. (2006), “Success of electronic government information portal”, *Journal of E-Government*, Vol. 3 No. 2, pp. 53-74.

Hofstede Insights (n.d.), “What about Hong Kong?”, available at: https://www.hofstede-insights.com/country/hong-kong/

Huang, P.S., Paulino, Y., So, S., Chiu, D.K.W. and Ho, K.K.W. (2021), “Editorial - COVID-19 pandemic and health informatics (Part 1)”, *Library Hi Tech*, Vol. 39 No. 3, pp. 693-695.

Huang, P.-S., Paulino, Y.C., So, S., Chiu, D.K.W. and Ho, K.K.W. (2022), “Guest editorial: COVID-19 pandemic and health informatics part 2”, *Library Hi Tech*, Vol. 40 No. 2, pp. 281-285.

Huang, P.-S., Paulino, Y.C., So, S., Chiu, D.K.W. and Ho, K.K.W. (2023), “Guest editorial: COVID-19 pandemic and health informatics part 3”, *Library Hi Tech*, Vol. 41 No. 1, pp. 1-6.

Huque, A.S. and Jongruck, P. (2020), “Civil service reforms in Hong Kong and Thailand: similar goals, different paths”, *Public Administration and Policy: An Asia-Pacific Journal*, Vol. 23 No. 2, pp. 111-123, doi: 10.1108/PAP-03-2020-0015.

Hur, M.H. and Im, Y. (2013), “The influence of e-learning on individual and collective empowerment in the public sector: an empirical study of Korean government employees”, *The International Review of Research in Open and Distributed Learning*, Vol. 14 No. 4, pp. 191-213.

Hwang, Y., Lin, H. and Shin, D. (2018), “Knowledge system commitment and knowledge sharing intention: the role of personal information management motivation”, *International Journal of Information Management*, Vol. 39, pp. 220-227.

Jiang, M., Lam, A.H.C., Chiu, D.K.W. and Ho, K.K.W. (2023), “Social media aids for business learning: a quantitative evaluation with the 5E instructional model”, *Education and Information Technology*, Vol. ahead-of-print, doi: 10.1007/s10639-023-11690-z.

Kamatula, G.A. (2016), “Social media: a potential technological tool in fostering knowledge sharing in government agencies”, in Jain, P. and Mnjama, N. (Eds), *Managing Knowledge Resources and Records in Modern Organizations*, IGI Global, pp. 29-43.

Kankanhalli, A., Tan, B.C.Y. and Kwok-Kee, W. (2005), “Contributing knowledge to electronic knowledge repositories: an empirical investigation”, *MIS Quarterly*, Vol. 29 No. 1, pp. 113-143.

Kee, H.C.L. and Chiu, D.K.W. (2023), “Building social capital in major U.S. public libraries”, in Chiu, D.KW. and Ho, K.K.W. (Eds), *Emerging Technology-Based Services and Systems in Libraries, Educational Institutions, and Non-Profit Organizations*, IGI Global, Hersley, PA, pp. 239-269.

King, W.R. and Marks, P.V. (2008), “Motivating knowledge sharing through a knowledge management system”, *Omega*, Vol. 36 No. 1, pp. 131-146, doi: 10.1016/j.omega.2005.10.006.

Larsson, B., Ulfsdotter Eriksson, Y. and Adolfsson, P. (2022), “Motivating and demotivating effects of performance-related pay in Swedish public sector organizations”, *Review of Public Personnel Administration*, Vol. 42 No. 3, pp. 444-463.

Lei, S.Y., Chiu, D.K.W., Lung, M. M.-W. and Chan, C.T. (2021), “Exploring the aids of social media for musical instrument education”, *International Journal of Music Education*, Vol. 39 No. 2, pp. 187-201.

Leung, T.N., Hui, Y.M., Luk, C.K.L., Chiu, D.K.W., Kevin, K.K.W. (2023) "Evaluating Facebook as aids for learning Japanese: learners’ perspectives", Library Hi Tech, Vol. ahead-of-print, doi: 10.1108/LHT-11-2021-0400.

Li, S., Xie, Z., Chiu, D.K.W. and Ho, K.K.W. (2023), “Sentiment analysis and topic modeling regarding online classes on the Reddit platform: educators versus learners”, *Applied Science*, Vol. 13 No. 4, doi: 10.3390/app13042250.

Lin, H.F. (2007), “Effects of extrinsic and intrinsic motivation on employee knowledge sharing intentions”, *Journal of Information Science*, Vol. 33, pp. 135-149.

Lo, P., Allard, B., Anghelescu, H.G.B., Xin, Y. and Chiu, D.K.W. (2020a), “Transformational leadership and library management in world’s leading academic libraries”, *Journal of Librarianship and Information Science*, Vol. 52 No. 4, pp. 972-999.

Lo, P., Allard, B., Wang, N. and Chiu, D.K.W. (2020b), “Servant leadership theory in practice: North America’s leading public libraries”, *Journal of Librarianship and Information Science*, Vol. 52 No. 1, pp. 249-270.

Luturmas, J.R. and Indarti, N. (2016), “Underlying factors of attitude and intention towards knowledge sharing among employees: the case of the hotel business in Ambon, Indonesia”, *Journal of Indonesian Economy and Business*, Vol. 31 No. 3, pp. 292-306.

Makki, A. and Abid, M. (2017), “Influence of intrinsic and extrinsic motivation on employee’s task performance”, *Studies in Asian Social Science*, Vol. 4 No. 1, pp. 38-43.

Maleksadati, I., Ziaei, S. and Kaffashan Kakhki, M. (2023), “What do experts say about the conditions affecting customer knowledge management in academic libraries? An integrated perspective”, *Aslib Journal of Information Management*, Vol. 75 No. 2, pp. 342-363.

Naeem, M. (2019), “Uncovering the role of social media and cross-platform applications as tools for knowledge sharing”, *VINE Journal of Information and Knowledge Management Systems*, Vol. 49 No. 3, pp. 257-276, doi: 10.1108/VJIKMS-01-2019-0001.

Nakash, M. and Bouhnik, D. (2022a), “‘A system that will do magic’: organizational perspective on the technological layer in knowledge management”, *Aslib Journal of Information Management*, Vol. 74 No. 6, pp. 1089-1102, doi: 10.1108/AJIM-11-2021-0341.

Nakash, M. and Bouhnik, D. (2022b), “Can return on investment in knowledge management initiatives in organizations be measured?”, *Aslib Journal of Information Management*, Vol. 74 No. 3, pp. 417-431, doi: 10.1108/AJIM-09-2021-0268.

Nunnally, J.C. and Bernstein, I.H. (1994), *Psychometric Theory*, 3rd ed., McGraw-Hill, New York.

Palsdottir, A. (2021), “Data literacy and management of research data – a prerequisite for the sharing of research data”, *Aslib Journal of Information Management*, Vol. 73 No. 2, pp. 322-341, doi: 10.1108/AJIM-04-2020-0110.

Pepple, D., Makama, C. and Okeke, J.-P. (2022), “Knowledge management practices: a public sector perspective”, *Journal of Business Research*, Vol. 153, pp. 509-516.

Qin, H., Wang, H. and Johnson, A. (2020), “Understanding the information needs and information-seeking behaviours of new-generation engineering designers for effective knowledge management”, *Aslib Journal of Information Management*, Vol. 72 No. 6, pp. 853-868, doi: 10.1108/AJIM-04-2020-0097.

Reeder, N. (2020), “Organizational culture and career development in the British civil service”, *Public Money and Management*, Vol. 40 No. 8, pp. 559-568.

Ringle, C.M., Wende, S. and Becker, J.M. (2015), *SmartPLS 3*, SmartPLS GmbH, Boenningstedt, available at: http://www.smartpls.com

Sabherwal, R. and Becerra-Fernandez, I. (2003), “An empirical study of the effect of knowledge management processes at individual, group, and organizational levels”, *Decision Sciences*, Vol. 34 No. 2, pp. 225-260.

Sahibzada, H.F., Jianfeng, C., Sahibzada, U.F., Khalid, R. and Afshan, G. (2021), “Unpacking knowledge management and organizational performance: a comparison between emerging and developing countries”, *Aslib Journal of Information Management*, Vol. 73 No. 6, pp. 793-813, doi: 10.1108/AJIM-11-2020-0358.

Saussois, J. (2003), “Knowledge management in government: an idea whose time has come”, *OECD Journal on Budgeting*, Vol. 3 No. 3, pp. 105-120.

Schumann, C. and Tittmann, C. (2010), “Potentials for externalizing and measuring of tacit knowledge within knowledge nodes in the context of knowledge networks”, in Harorimana, D. (Ed.), *Cultural Implications of Knowledge Sharing, Management and Transfer: Identifying Competitive Advantage*, pp. 84-107.

Stoffregen, J., Pawlowski, J. and Pirkkalainen, H. (2015), “A barrier framework for open E-Learning in public administrations”, *Computers in Human Behavior*, Vol. 51, PB, pp. 674-684.

Teh, P. and Sun, H. (2012), “Knowledge sharing, job attitudes and organisational citizenship behaviour”, *Industrial Management and Data Systems*, Vol. 112 No. 1, pp. 64-82.

Tompang, N. and Yunus, A. (2017), “The effectiveness of knowledge sharing practices in government agency”, *International Journal of Academic Research in Business and Social Sciences*, Vol. 7 No. 12, pp. 1172-1188.

Veer Ramjeawon, P. and Rowley, J. (2020), “Enablers and barriers to knowledge management in universities: perspectives from South Africa and Mauritius”, *Aslib Journal of Information Management*, Vol. 72 No. 5, pp. 745-764, doi: 10.1108/AJIM-12-2019-0362.

Vroom, V.H. (1964), *Work and Motivation*, Wiley, Oxford.

Wong, I.H.S., Fan, E.C.H., Chiu, D.K.W., Ho, K.K.W. (2023) "Internet celebrities’ influence on youths’ diet behaviors: a gender study on social media", *Aslib Journal of Information Management* (In press), doi: 10.1108/AJIM-11-2022-0495.

Xie, Z., Chiu, D.K.W. and Ho, K.K.W. (2023), “The role of social media as aids for accounting education and knowledge sharing: learning effectiveness and knowledge management Perspectives in Mainland China”, *Journal of Knowledge Economy*, Vol. ahead-of-print, doi: 10.1007/s13132-023-01262-4.

Yao, L., Kam, T. and Chan, S. (2007), “Knowledge sharing in Asian public administration sector: the case of Hong Kong”, *Journal of Enterprise Information Management*, Vol. 20 No. 1, pp. 51-69.

Yi, Y. and Chiu, D.K.W. (2023), “Public information needs during the COVID-19 outbreak: a qualitative study in mainland China”, *Library Hi Tech*, Vol. 41 No. 1, pp. 248-274.

Yu, P.Y., Lam, E.T.H. and Chiu, D.K.W. (2023), “Operation management of academic libraries in Hong Kong under COVID-19”, *Library Hi Tech*, Vol. 41 No. 1, pp. 108-129.

Appendix 1
Survey items

Expected Rewards (ER):

To what extent do you agree that sharing knowledge with your colleagues in *formal* channels (e.g. preparing handover notes for your successor, sharing your experience during training courses, etc.) (5-point Likert scale: 1 = Do not agree at all; 5 = Strongly agree):

(1) ER1: brings good impression on you from your supervisor

(2) ER2: helps you in promotion

To what extent do you agree that sharing knowledge with your colleagues in *informal* channels (e.g. sharing of work experience in pantries, helping a friendly colleague about work procedures over the phone, etc.) (5-point Likert scale: 1 = Do not agree at all; 5 = Strongly agree):

(1) ER3: brings good impression on you from your supervisor

(2) ER4: helps you in promotion

Expected Associations (EA):

To what extent do you agree that sharing knowledge with your colleagues in *formal* channels (e.g. preparing handover notes for your successor, sharing your experience during training courses, etc.) (5-point Likert scale: 1 = Do not agree at all; 5 = Strongly agree):

(1) EA1: improves your relationship with colleagues

(2) EA2: helps you in gaining respect from your colleagues

To what extent do you agree that sharing knowledge with your colleagues in *informal* channels (e.g. sharing of work experience in pantries, helping a friendly colleague about work procedures over the phone, etc.) (5-point Likert scale: 1 = Do not agree at all; 5 = Strongly agree):

(1) EA3: improves your relationship with colleagues

(2) EA4: helps you in gaining respect from your colleagues

Expected Contribution: (EC):

To what extent do you agree that sharing knowledge with your colleagues in *formal* channels (e.g. preparing handover notes for your successor, sharing your experience during training courses, etc.) (5-point Likert scale: 1 = Do not agree at all; 5 = Strongly agree):

(1) EC1: helps your colleagues

(2) EC2: helps your bureau/department at an organizational level

To what extent do you agree that sharing knowledge with your colleagues in *informal* channels (e.g. sharing of work experience in pantries, helping a friendly colleague about work procedures over the phone, etc.) (5-point Likert scale: 1 = Do not agree at all; 5 = Strongly agree):

(1) EC3: helps your colleagues

(2) EC4: helps your bureau/department at an organizational level

Attitude toward knowledge sharing (AT):

To what extent do you agree that sharing knowledge with your colleagues in *formal* channels (e.g. preparing handover notes for your successor, sharing your experience during training courses, etc.) (5-point Likert Scale: 1 = Do not agree at all; 5 = Strongly agree):

(1) AT1: is a good learning method

To what extent do you agree that sharing knowledge with your colleagues in *informal* channels (e.g. sharing of work experience in pantries, helping a friendly colleague about work procedures over the phone, etc.) (5-point Likert scale: 1 = Do not agree at all; 5 = Strongly agree):

(2) AT2: is a good learning method

Intention to share knowledge (IN) (5-point Likert scale: 1 = Not willing at all; 5 = Very willing):

IN1: To what extent are you willing to share knowledge with your colleagues in formal channels (e.g. preparing handover notes for your successor, sharing your experience during training courses, etc.) if your supervisor asks you to do so?

IN2: To what extent are you willing to volunteer to share knowledge with your colleagues in formal channels (e.g. preparing handover notes for your successor, sharing your experience during training courses, etc.)?

IN3: To what extent are you willing to share knowledge with your colleagues in informal channels (e.g. sharing of work experience in pantries, helping a friendly colleague about work procedures over the phone, etc.)?

Knowledge sharing behavior (BE) (5-point Likert scale: 1 = Never; 2 = Sometimes (once or twice in a year); 3 = Occasionally (once or twice in a few month); 4 = Often (once or twice in a month); 5 = Always (more than once in a week))

How often do you share knowledge with your colleagues in the following formal channels?

1. BE1: Giving a talk or sharing your knowledge to an audience on stage
2. BE2: Group discussion during training course or sharing session
3. BE3: Teaching a new colleague about work procedures as instructed by your supervisor
4. BE4: Preparing work manuals/guidelines/brief notes for colleagues as instructed by your supervisor
5. BE5: Joining mentorship/partnership scheme
6. BE6: Others
7. BE7: Overall (counting all formal channels of knowledge sharing)

How often do you share knowledge with your colleagues in the following *informal* channels?

1. BE8: Face-to-face discussion at office
2. BE9: Preparing work manuals/guidelines/brief notes for colleagues voluntarily
3. BE10: Face-to-face discussion out of office
4. BE11: On social media (e.g. WhatsApp, Facebook, etc.)
5. BE12: Over the phone
6. BE13: Via email
7. BE14: Others
8. BE15: Overall (counting all informal channels of knowledge sharing)

How often do you share the following types of knowledge in formal channels?

1. BE16: Work procedures
2. BE17: Domain knowledge required by jobs (e.g. information technology, accounting, law, etc.)

(3) BE18: Soft skills, norms, etc. (e.g. customer service skills, managing relationship with supervisors, etc.)

(4) BE19: Others

How often do you share the following types of knowledge in *informal* channels?

(1) BE20: Work procedures

(2) BE21: Domain knowledge required by jobs (e.g. information technology, accounting, law, etc.)

(3) BE22: Soft skills, norms, etc. (e.g. customer service skills, managing relationship with supervisors, etc.)

(4) BE23: Others

Appendix 2

Survey items	Mean
How often do you share knowledge with your colleagues in the following *formal* channels?	
☐ Giving a talk or sharing your knowledge with an audience on stage	1.827
☐ Group discussion during training courses or sharing sessions	2.269
☐ Teaching a new colleague about work procedures as instructed by your supervisor	2.721
☐ Preparing work manuals/guidelines/brief notes for colleagues as instructed by your supervisor	2.269
☐ Joining mentorship/partnership scheme	1.779
☐ Others	1.750
☐ Overall (counting all formal channels of knowledge sharing)	2.404
How often do you share knowledge with your colleagues in the following *informal* channels?	
☐ Face-to-face discussion at the office	4.048
☐ Preparing work manuals/guidelines/brief notes for colleagues voluntarily	2.433
☐ Face-to-face discussion out of the office	3.077
☐ On social media (e.g. WhatsApp, Facebook, etc.)	2.981
☐ Over the phone	3.202
☐ Via email	2.692
☐ Others	2.058
☐ Overall (counting all informal channels of knowledge sharing)	3.163
How often do you share the following types of knowledge in *formal* channels?	
☐ Work procedures	2.875
☐ Domain knowledge required by jobs (e.g. information technology, accounting, law, etc.)	2.606
☐ Soft skills, norms, etc. (e.g. customer service skills, managing relationships with supervisors, etc.)	2.596
☐ Others	2.106
How often do you share the following types of knowledge in *informal* channels?	
☐ Work procedures	3.279
☐ Domain knowledge required by jobs (e.g. information technology, accounting, law, etc.)	3.106
☐ Soft skills, norms, etc. (e.g. customer service skills, managing relationships with supervisors, etc.)	3.115
☐ Others	2.558

Table A1. Mean value of response to questions on knowledge-sharing behavior

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