

Knowledge-sharing Behaviour Through Leadership and Culture: The Moderating Role of Job Autonomy and Gender

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Abstract

This study examines how participative leadership, digital leadership and digital organizational culture influence employees' knowledge-sharing behaviour and how these are moderated by job autonomy and gender in Malaysia. Responses from 412 employees were collected from various organizations in the tourism sector. The data analysis was conducted through PLS-SEM to test hypotheses. Participative leadership, digital leadership and digital organizational culture were found to have a significant influence on the knowledge-sharing behaviour of employees. Our results also showed that job autonomy significantly moderates the relationship between digital organizational culture and knowledge-sharing behaviour. The research revealed that gender does not moderate the influence of participative leadership, digital leadership and digital organizational culture on knowledge-sharing behaviour. The study significantly contributes to strategically deploying technology in an increasingly digital business world. The study has important theoretical and practical implications, which are presented together with suggestions for further research.

Keywords

Digital leadership, participative leadership, digital organizational culture, knowledge-sharing behaviour

Introduction

The demand for more participative leadership (PL) has increased in both academia and practice because leaders who use this style are more attentive to employee needs and concerns (Toufighi et al., 2024; Wang et al., 2022). PL is when all followers or employees in an organization work together, providing feedback, sharing influence and making joint decisions (Arnold et al., 2000). This leadership style aims to provide employees or followers with greater opportunities for involvement, extra attention, increased discretion and inclusion in making decisions and solving problems together (Nystrom, 1990). Hence, many other leadership styles might be effective or have mixed impacts in various cultural contexts (Elsetouhi et al., 2022). Nonetheless, leadership that takes a participative approach shows effectiveness everywhere (Elbaz & Haddoud, 2017). According to Bhatti et al. (2019), such leadership enhances employee attitudes and work performance. A similar finding was reported in a study by Kim (2002) on leadership in the public sector. The author believes that in complex

work environments, every organization requires cooperative actions among team members or employees and leaders in managing diverse problems. In this regard, the PL style plays an important role, as such a leadership style shares major theoretical foundations with empowering leadership theory (Srivastava et al., 2006). Participative leaders meet subordinates to create room for their involvement in decision-making within the team (Huang et al., 2021). Thus, a PL style is seen as a catalyst for developing collaboration and communication between employees and helping them solve problems. In this regard, the participatory leader creates an environment in which discussions are managed efficiently and effectively, ensuring they are practical, helpful and directed towards addressing difficulties to meet organizational goals. Given the significance of this leadership style in various work settings, it is a critical endeavour to investigate its role in emerging markets, where work and employment relations are becoming increasingly complex due to various crises

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(Elsetouhi et al., 2022). In doing so, this study examines the impacts of PL on employees' knowledge-sharing behaviour (KSB) in Malaysia, one of Southeast Asia's most attractive emerging countries (Ghavifekr & Wong, 2022; Patwary et al., 2023).

Furthermore, the study investigates the effect of digital leadership (DL) on KSB in emerging economy contexts, as many studies on DL confirm its importance on organizational performance and employee job satisfaction, retention and so on (Amelda et al., 2021; Benitez et al., 2022; Kuknor et al., 2023; Malik et al., 2024; Shin et al., 2023; Vaska et al., 2021). Several authors contend that DL emerges through the integration of digital abilities (Gyamerah et al., 2025) and transformational leadership capabilities to optimize the benefits of digital technologies in achieving organizational performance (Amelda et al., 2021; Kim & Park, 2020; Le & Nguyen, 2023; Mihardjo et al., 2019). This finding is further supported by the study of Salamzadeh et al. (2023), who found that DL positively influences organizational capabilities in Malaysia. Moreover, DL also positively impacts the job motivation and innovative work behaviour of employees (Erhan et al., 2022). However, limited research has examined the role that DL plays in the development of KSB among employees. The paucity of literature in this field is also a reality in the context of Malaysia, which is an interesting example due to its rapidly expanding economy, which now represents a significant economic pillar in Southeast Asia. Malaysia, as a context for the study, is also interesting due to its demographic diversity and embeddedness of religion in socio-economic life. As DL is taking a crucial role in an increasing number of workplaces, it is imperative to study its impact on the KSB of employees, where employees' knowledge-sharing attitudes may be a significant factor in heightening customer satisfaction and, eventually, organizational profit.

Moreover, organizations in most industries are increasingly bound to be digital, owing to essential advances in technology over the past two decades. In this regard, some organizations cannot operate without digitalization (Seppänen et al., 2025; Vaska et al., 2021). Therefore, a digital culture exists in organizations where communication is primarily conducted via digital platforms, and digitalization also positively impacts employee innovation (Bethapudi, 2021; Labanauskaite et al., 2020; Pencarelli, 2020; Sam et al., 2022; Soliman et al., 2022). However, the effectiveness of digital organizational culture (DOC) has been questioned in recent studies, as digitalization has some negative impacts on employee-related outcomes (Lumi, 2020; Ngereja & Hussein, 2022). For example, digital meetings and communications, such as email, phone calls and virtual meetings, are not always effective in developing employees' knowledge, skills and attitudes (Rahmani et al., 2023). However, it is essential to note that digitalization cannot be ignored in the current world, especially in tourism organizations, as customers in this industry widely use digital platforms such as websites, emails, phones, virtual

modes, etc. to communicate for different purposes. Thus, there is a pressing need to examine the impact of DOC on employees' KSB (Dinu, 2025) since limited previous research has considered this relation (Natu & Aparicio, 2022).

Considering the previous contradictory findings of prior studies and the recommendations of Baron and Kenny (1986) and Jaworski (1988), we incorporated job autonomy and gender as moderators in the relationship between PL, DL and DOC and KSB in this study. This is corroborated by the suggestions of Jaworski (1988) that adequacy of different control mechanisms may depend on internal and external contingency variables. Likewise, Baron and Kenny (1986) argued that when there is a lack of consistent results regarding the relationship between independent and dependent variables or inconsistent results, one or more moderating variables are recommended to be examined, as cited by Bibi et al. (2018). Hence, to better understand the influence of PL, DL, DOC and KSB, this study posits that gender and job autonomy may moderate relationships. In this regard, gender has been an effective moderator in the relationship between (a) knowledge sharing and psychological capital, (b) knowledge sharing and emotional intelligence, (c) trust and psychological capital and (d) trust and emotional intelligence as reported by Usman et al. (2021). However, gender was found to have a statistically insignificant influence on the relationship between autocratic leadership and employee performance (Dastane, 2020). Moreover, job autonomy is defined as the degree to which employers provide employees with substantial independence, discretion and freedom in determining the work procedures and scheduling their work to be executed (Elsetouhi et al., 2022; Hackman & Oldham, 1975). Hence, job autonomy ignites freedom among employees from both internal and external regulations and constraints (Gao & Jiang, 2019) that can lead to more energetic and enthusiastic leading to better employee-related outcomes, that is, greater work engagement (Malinowska et al., 2018). Moreover, job autonomy was found to have a positive influence on the relationship between decent work and job satisfaction (Wan & Duffy, 2022). Thus, examining the moderating roles of both gender and job autonomy in the said relationships of this study is a rich line of study that can provide interesting findings to enrich the current literature.

Regarding employee KSB, it can be accepted that such actions need to be approached with care within work environments in different contexts (Sergeeva & Andreeva, 2015). According to Jamshed and Majeed (2019), the KSB of employees could develop their team performance (Alsharo et al., 2017; Massaro et al., 2019; Rechberg & Essig, 2025; Trequattrini et al., 2018). Moreover, KSB among employees in current workplaces (Utomo et al., 2025) is also crucial for the successful survival of organizations (Ali & Dominic, 2016; Asrar-ul-Haq & Anwar, 2016; Cobia et al., 2021; Kim et al., 2020). Therefore, it is urgent to investigate the influence of prerequisites for employee KSB, such as PL, DL and DOC

(Mathuki & Zhang, 2024; Mustafa et al., 2021; Nguyen et al., 2021). This is because no known previous works have examined such associations considering the perceptions of employees in Malaysian tourism organizations, specially travel and tour (TT) agencies (Gordon & Adler, 2017). The tourism industry has a significant contribution to the GDP of Malaysia (4.5% in 2023), while the industry employs more than 3.4 million people in 2023 (Statista, 2024). There were 20,141,846 tourist arrivals in 2023, an increase of (100%), and received RM 71,308.5 million in tourist receipts, an increase of 152.6% compared to the same period in 2022 (Tourism Malaysia, 2024). Thus, research on the employees working in Malaysian tourism organizations, specifically on the travel and tourism organizations is practically worthy.

The study addresses two primary questions: (a) What constitutes the leading strategic effects of PL style, DL and DOC on KSB in Malaysia? (b) Can gender and job autonomy have a moderating effect on the links between those variables, and do they present any significance for strategic management and change?

Background Literature and Hypotheses

Social Exchange Theory

Social exchange theory (SET) sees employees as social beings (Ahn et al., 2025) who have a reciprocated and social relationship with the organization based on interchanged benefits (Cropanzano & Mitchell, 2005; Kim & Qu, 2023). According to the background of the study, it is clear that if there is PL, DL and DOC, the employees' KSB can be expected, as all the proposed independent variables have been effective in employee-related outcomes in previous literature (Elsetouhi et al., 2022). Elsetouhi et al. (2022) contended that PL was effective in developing innovative behaviour in employees. Moreover, DL has been a significant catalyst in developing employees' digital skills and knowledge in modern organizations (de Araujo et al., 2021). Furthermore, previous studies (Martínez-Caro et al., 2020) argued that increasing digital culture in organizations has been critical in developing organizational performance because employees would share knowledge for the organization's benefit. Therefore, based on the propositions of SET (Chernyak-Hai & Rabenu, 2018), employees' KSB can be said to depend on the coexistence of a PL style and digital culture in an organization. This is defined in SET as the reciprocation of benefits between organizations and employees. This research, thus, purports to investigate the degree to which PL, DL and DOC stimulate KSB among employees in Malaysia.

Participative Leadership and KSB

PL is a leadership style where employees are allowed to work together, provide feedback and influence and make

decisions (Arnold et al., 2000; Wang et al., 2025). While PL was appreciated as it stimulated an atmosphere of innovation at the workplace, it was also criticized for its negative effect on innovative behaviour. Although developing specific behaviour in knowledge sharing among employees can have several advantages, accumulating knowledge remains a frequent thing (Koay & Lim, 2023; Kumar et al., 2024). It raises the significance of organizational culture that fosters employee creativity (Massaro et al., 2012). In this regard, KSB can be boosted by PL, which is a significant element of organizational culture (Miao et al., 2014). In the view of Fatima et al. (2017), when a participative leader engages their subordinates in various processes, that is, decision-making, problem-solving and work accomplishment, employees feel supported and encouraged to contribute through knowledge sharing or opinions. Chang et al.'s (2019) study further supports this. These authors found that PL enhances the exploratory innovations of employees. For others (Huang et al., 2006), PL engenders reciprocal trust, which has motivational effects on employees and encourages subordinates to share their opinions and new suggestions. Moreover, participative leaders consult with and involve employees in making decisions that bolster the KSB of employees (Busse & Regenber, 2018). It is also clear that PL gets employees to explore cues, develop critical thinking and push for change by identifying key issues. Therefore, we anticipate the following:

H_1 : PL positively influences employees' KSB.

Digital Leadership and Knowledge-sharing Behaviour

DL is defined as the process of implementing digital transformation within an organization, enabling it to digitize its work environment and learning culture (de Araujo et al., 2021; Arnold et al., 2000; Yang et al., 2025). According to Chatterjee et al. (2023), the role played by DL in workplace digital transformation cannot be argued. This is because it enables knowledge-sharing due to the prevalence of digital mechanisms (Bereznay et al., 2021). Leadership styles and behaviour directly impact employees' knowledge-sharing attitudes (Kim et al., 2015). According to SET, when a leader can support employees with information or by other means, for example, by participating in the work processes, the employees will work according to the leaders' instructions. Based on this argument, it can be stated that in the presence of PL, employees' KSB will be developed and become common in organizations, which will eventually benefit both leaders and institutions (Haider et al., 2022). Abbu et al. (2022) contend that the part played by digital leaders is essential in inspiring organizational and employee confidence. Moreover, digital leaders are also effective in fostering KSB (Abbu et al., 2022; Srivastava & Joshi, 2018). This is further supported by Winanti (2023), who reported

that DL positively influences the KSB of small and medium enterprises in West Java. Moreover, DL has been found to have a positive influence on employee KSB in the context of the higher education industry (Anwar & Saraih, 2024). Therefore, we anticipate that:

H_2 : DL positively influences employees' KSB.

Digital Organizational Culture and Knowledge-sharing Behaviour

DOC is defined as the workplace's embracement of fundamental norms and values needed to adopt digital technologies (Bughin et al., 2015; Vaska et al., 2021). DOC refers to the set of values, ideas, actions and policies that define how a company operates in a digital environment, encompassing how technology influences communication, teamwork, decision-making and overall work practices inside a company (Cao et al., 2025; Martínez-Caro et al., 2020). Organizations have been relying on technology more than ever. Therefore, employees are encouraged to share information and knowledge (Bhatti et al., 2024; Zamboni et al., 2024) over digital platforms (Pradana et al., 2020). Because business digitalization directly supports improving company results (Martínez-Caro et al., 2020). Buck et al. (2023) found that DOC can improve efficiency, data availability, transparency, employee behaviour and KSB. According to Abbasi et al. (2021), organizational culture has a positive influence on KSB. Korkt and Makumbe (2020) and Stachová et al. (2020) also posited that DOC intensifies KSB among employees. Furthermore, DOC motivates the development of shared work values; for example, it develops creativity and innovation, challenges and initiative, and also perpetual progress through a shared digital strategy (Martínez-Caro et al., 2020). Thus, we believe that the existing literature demonstrates that DOC has emerged as a significant factor in influencing KSB. Therefore, we anticipate that:

H_3 : DOC positively influences employees' KSB.

Moderating Role of Job Autonomy

Job autonomy is defined as the degree to which a job allows employees substantial freedom and discretion in planning their own work and determining the process to be applied in carrying it out (Edelman et al., 2008; Elsetouhi et al., 2022). Job autonomy is defined as the extent to which an employee can have control over and impact their direct activities or responsibilities (Lopes et al., 2017). Therefore, job autonomy frees employees from internal and external constraints. Employees with high levels of job autonomy in their organizations are more likely than those with low levels of job autonomy to see the results of their actions (Sousa et al., 2012). Jaiswal and Dhar (2017) reported that job autonomy played a moderating role in the

relationship between affective commitment and employee creativity. However, Belias et al. (2022) found that job autonomy did not play a regulatory role in the association between conflict, job ambiguity and job satisfaction. Gordon and Parikh (2021) and Milagres et al. (2019) asserted that supporting employees' ability to apply their learning practices enhances performance and steers independent work. In this vein, Wu et al. (2023) advocated that job autonomy should be perceived as a strategic mechanism to inspire knowledge sharing (D'Souza et al., 2021). Moreover, job autonomy has not been used as a moderator in the various studies relating to leadership and organizational culture and their outcomes (Fuller et al., 2010; Llopis & Foss, 2016; Yagil & Oren, 2021). Nevertheless, we assume that job autonomy could positively moderate the influence of PL, DL and DOC on the KSB of employees. Following the above arguments, we hypothesized that:

H_4 : Job autonomy moderates the relationship between PL and employees' KSB.

H_5 : Job autonomy moderates the relationship between DL and employees' KSB.

H_6 : Job autonomy moderates the relationship between DOC and employees' KSB.

Moderating Role of Gender

Scholars argue that male and female employees are both essential components of human capital (Islam et al., 2025; Massaro et al., 2020; McDonald & Thornton, 2007). In this regard, while men display task-oriented agentic behaviour, women display communal behaviour when socializing (García & Welter, 2011; Vecchio, 2002). Personal attributes are influenced by a critical gender aspect, as well as PL, DL and DOC, which in turn increase employees' KSB (Paoloni et al., 2017, 2022). According to Carroll (2002), women are more interested than men in sharing and using tacit knowledge from colleagues. Beauregard (2012) found gender as a moderator of the possible relationship between an employee's self-efficacy and organizational citizenship behaviour. However, this relationship is more strongly exemplified in men than women. The gender effect has been studied extensively in previous studies in many decision-making frameworks, including sharing information (Holmberg & Hellsten, 2015; Lu & Hsiao, 2009; Paoloni & Dumay, 2015; Paoloni et al., 2018; Taylor & Thorpe, 2004; Zamboni et al., 2024). However, it is essential to highlight the outcome of the previous studies conducted by Venkatesh et al. (2003), who argued that the incidence of gender in the use of technology or in sharing information depends on the type of technology and context. However, Wang et al. (2017) show that men engage in more impulsive information sharing than their female counterparts. We therefore propose the following hypotheses:

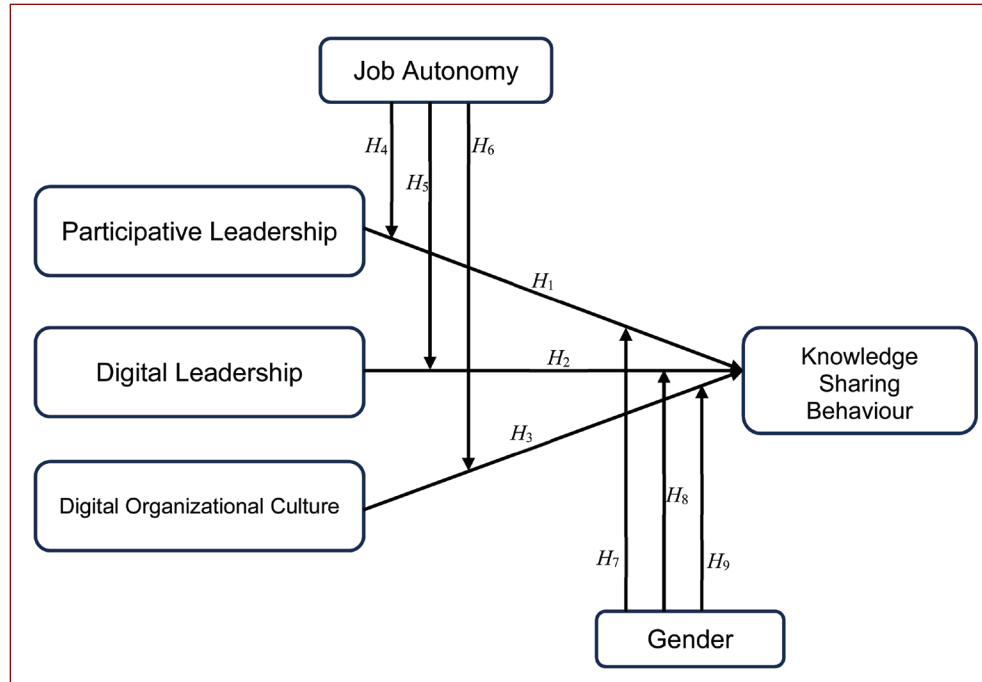


Figure 1. Conceptual Model and Hypotheses.

H_7 : Gender moderates the relationship between PL and employees' KSB.

H_8 : Gender moderates between DL and employees' KSB.

H_9 : Gender moderates between DOC and employees' KSB.

Our research framework (depicted in Figure 1) is derived from the literature explored earlier and theoretical highlights on PL, DL, DOC, job autonomy, gender and KSB.

Methodology

Sampling Strategy and Data Collection

This research employed a purposive sampling method to collect empirical data (Etikan et al., 2015), specifically focusing on frontline employees working at government-licensed TTs in Selangor, Malaysia (Ministry of Tourism, Arts and Culture, 2024). Out of the 5,462 licensed TTs across Malaysia, 1,116 are in Selangor (MyGovernment, 2024). These organizations are categorized into five distinct types: Inbound and Outbound, Ticketing and Umrah or Ziarah, Inbound, Outbound and Ticketing (IOT), Inbound and Ticketing (IT), Inbound and Outbound (IO), and Inbound (I). After obtaining the required clearance from the management, we employed a drop-and-pick approach (Junod & Jacquet, 2023) to distribute survey questionnaires among frontline employees working in 367 IOT-category TTs in Selangor, Malaysia. IOT category TTs were selected because they provide a broad spectrum of

services that enable a comprehensive understanding of the operational difficulties faced by employees.

In this regard, frontline employees at IOTs directly interact with customers; thus, they can offer insights into what influences their KSB while working on both incoming and outbound travel dynamics (Islam et al., 2023; Rai, 2024). Moreover, since IOTs account for a sizable portion of the TT market in Selangor compared with other TTs (MyGovernment, 2024), this category was more suitable for the researchers to collect the data from the frontline employees working in these organizations.

The data collection adhered to strict ethical standards regarding confidentiality and anonymity ensuring the protection of both personal and organizational information that could identify the participants. We distributed 600 survey questionnaires to frontline employees on a heterogeneous purposive non-probability basis. We received only 438 questionnaires from them. There were 26 incomplete questionnaires. Therefore, we finally used the data collected from 412 participants. Thus, the response rate was 68.7%, which is sufficient (Sataloff & Vontela, 2021).

Furthermore, it is noteworthy that we only collected data from frontline employees because their opinions would help us grasp the factors influencing their KSB (Kim et al., 2021) in the IOTs in Malaysia. Since the tourism industry makes a significant contribution to Malaysia's GDP, that is, 4.5% in 2023, employing more than 3.4 million people in 2023 (Statista, 2024), the country was a suitable context for the research (Islam et al., 2023).

Respondents' demographic data showed that 54% of the sample were male while 46% were female. Most

respondents were graduates (66%), while 33% held a master's or MBA degree. Moreover, 1% of employees hold a PhD degree. The remaining 52% of participants were single. There were 14% of respondents with 1–2 years' experience, 42% with 3–4 years' experience, 31% with 5–6 years' experience and 12% with 7 or more years' experience.

Measures

The questionnaire consisted of questions that were adopted from previous studies and measured on a Likert scale comprising five points, showing 1 as [strongly disagree], 2 as [disagree], 3 as [neutral], 4 as [agree] and 5 as [strongly agree]. DL was assessed using a 6-item scale adopted from Arnold et al. (2000), with a Cronbach alpha reliability of 0.955. To assess DOC, we adopted five items from Lukas et al.'s (2013) model, which had a

Cronbach's alpha reliability of 0.915. Moreover, to evaluate PL, we adopted six items from Arnold et al. (2000), and the Cronbach alpha was 0.992. We used three items from Sudibjo and Prameswari (2021) to assess KSB, which was our dependent variable, and the Cronbach alpha was 0.973. We also adopted four items from Ahuja et al. (2007) to gauge job autonomy. We adopted these variables because they are more suitable for measuring how PL, DL and DOC influence employees' KSB.

We piloted the questionnaire items to ensure that they displayed meaningfulness and reliability for our proposed study (Van Teijlingen & Hundley, 2010). The questionnaire used in our research comprises 28 items, as shown in Table 1. We used Cronbach's alpha to evaluate the reliability of the latent variables. The results of this exercise indicated that the Cronbach alpha values for all the variables in this study were higher than 0.7 (as shown in Table 1), which is satisfactory.

Table 1. Measurement Model.

Constructs	Items	FL	CA	CR	AVE	Sources
Digital organizational culture (DOC)	We openly discuss failures with all team members.	0.954	0.873	0.899	0.528	Lukas et al. (2013)
	Decisions are based on the opinion of the whole team, not on a single person only.	0.891				
	We work in cross-functional teams (combining people from IT, marketing, finance, etc.).	0.955				
	In our company, we avoid strong hierarchies in project work.	0.950				
	Every team member brings in ideas and suggestions for digital products and services.	0.932				
Digital leadership (DL)	A digital leader raises the awareness of the employees of the institution about the risks of information technologies.	0.911	0.767	0.842	0.518	Arnold et al. (2000)
	A digital leader raises awareness of the technologies that can be used to improve organizational processes.	0.924				
	A digital leader determines the ethical behaviours required for informatics practices together with all its stakeholders.	0.875				
	A digital leader plays an informative role to reduce resistance to innovations brought by information technologies.	0.892				
	A digital leader shares his/her own experiences about technological possibilities that help his/her colleagues to learn about the organization's structure.	0.873				
	In order to increase participation in the corporate vision, a digital leader guides the employees of the institution regarding the technological tools that can be used.	0.938				
Knowledge-sharing behaviour (KSB)	I often share the knowledge I have with colleagues.	0.982	0.779	0.870	0.691	Sudibjo and Prameswari (2021)
	Management plays an important role in the exchange of knowledge.	0.980				
	When I gain new knowledge, I want to learn more and develop it.	0.944				
Participative leadership (PL)	My manager encourages us to express ideas/ suggestions.	0.990	0.843	0.882	0.517	Arnold et al. (2000)
	My manager listens to my work group's ideas and suggestions.	0.978				
	My manager uses my work group's suggestions to make decisions that affect us.	0.981				
	My manager gives all work group members a chance to voice their opinions.	0.989				
	My manager considers my work group's ideas when he/she disagrees with them.	0.989				
	My manager makes decisions that are based only on his/her own ideas.	0.985				

Results and Analysis

This study employed SmartPLS 3.0 to investigate the impact of PL, DL and DOC on KSB among Malaysian workers. Using Smart-PLS-3 software, the data collected were bootstrapped to 5000 samples to produce estimates of the sample's distribution appropriateness and the standard errors to ensure accuracy in population representation (Bandara et al., 2025; Purwanto & Sudargini, 2021). Furthermore, multivariate fact-based checks were conducted through various tests, including factor loadings, convergent validity and discriminant validity.

Common Method Variance

Since the cross-sectional survey strategy was employed for data collection, there is a likelihood of common method variance, particularly for some items (Ramayah et al., 2017). On this aspect, Podsakoff et al. (2003) found that behavioural factors in the structural links are responsible for the higher potentiality of CMV. To address this issue, we deployed the Harman 1-factor test with the first-order latent variables. Hence, this study did not identify bias in the dataset. As a result, there is no problem with CMV in this study. Moreover, we conducted a number of tests to confirm the absence of response bias, including pre-notification and multiple notifications, as well as *t*-test amongst early and late responses as suggested by Armstrong and Overton (1977) and Rahman et al. (2019).

Measurement Model

We employed a two-step approach via a measurement model as depicted in Figure 2, which encompasses convergent and discriminant validity. Convergent validity, as recommended by Henseler et al. (2012), is confirmed when factor loadings, composite reliability and the average variance extracted (AVE) have values exceeding 0.5, 0.7 and 0.5, respectively. Composite reliability has been used for internal consistency items, where the values exceed 0.7. According to Table 1, it is clear that factor loadings, the composite reliability and the AVE from our analysis are in line with Henseler et al.'s (2012) recommendations.

The square root of AVE (Fornell and Larcker's criteria) and heterotrait–monotrait (HTMT) ratio of correlations to assess discriminant validity (Fornell & Larcker, 1981; Hair et al., 2017). Each construct's correlation has been exceeded by the AVE's square root, indicating adequate construct validity, as exhibited in Table 2 (Hair et al., 2017).

According to Table 3, each HTMT ratio is lower than the highest restraining threshold at 0.85 (Henseler et al., 2012), which suggests an improved discriminant validity. It is because if the HTMT is higher than the set threshold, then the presence of discriminant validity can be established.

Assessing the Structural Model

Based on the validity and reliability of the measurement model assessment presented above, we continued to assess

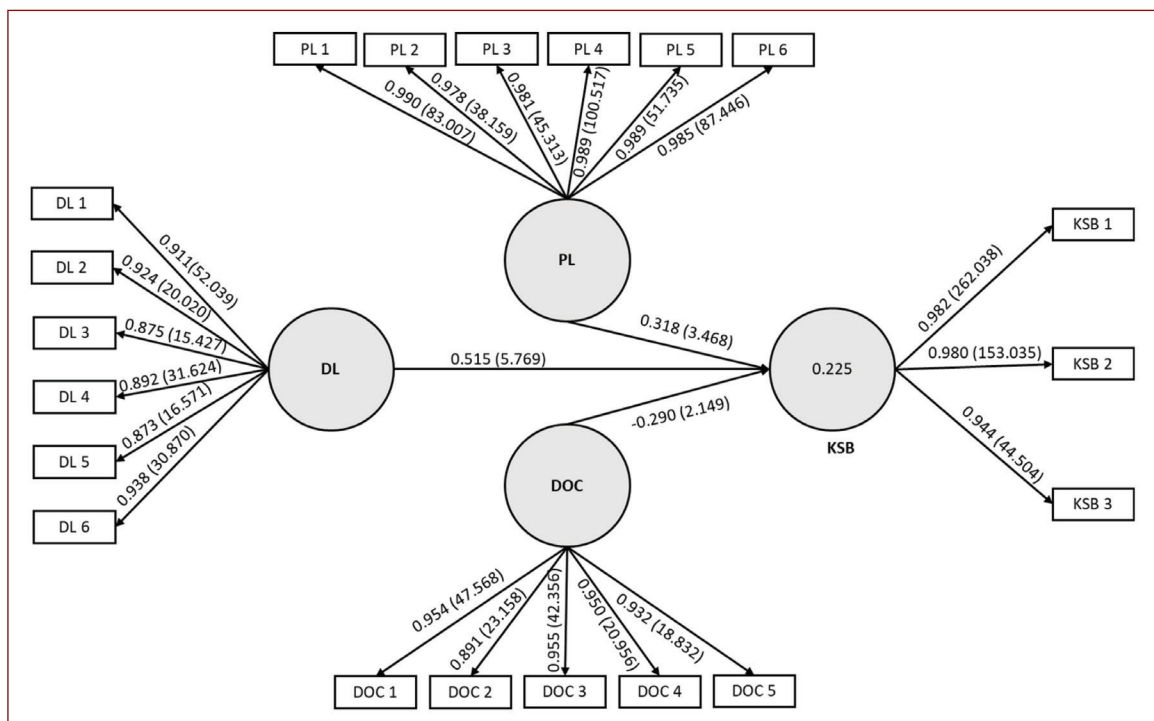


Figure 2. Measurement Model.

Table 2. Assessment of Discriminant Validity (Fornell–Larcker Criterion).

	DOC	DL	KSB	PL
DOC	0.864			
DL	0.574	0.903		
KSB	0.224	0.194	0.974	
PL	0.797	0.611	0.242	0.980

Table 3. Assessment of Discriminant Validity (Heterotrait–Monotrait Ratio).

	DOC	DL	KSB	PL
DOC				
DL	0.599			
KSB	0.200	0.186		
PL	0.812	0.625	0.242	

Table 4. Structural Model.

Relationship	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	t-Statistics (O/STDEV)	p Values
PL-> KSB	0.318	0.313	0.092	3.468	.001
DL-> KSB	0.516	0.514	0.089	5.769	.000
DOC->KSB	-0.292	-0.272	0.136	2.149	.032

the structure model. According to the structural model results in both Figure 2 above and Table 4 below, three hypotheses (H_1 , H_2 and H_3) found support. According to the results, PL is significant and positive in boosting the knowledge-sharing behaviour of Malaysian employees. In this regard, the beta value stands at 0.318, the t -value equals 3.468 and the t -value p value equals 0.001. Moreover, our results indicate that DL has a significant and positive impact on knowledge-sharing behaviour of employees, as evidenced by a beta coefficient of 0.516, a t -value of 5.769 and a p value of .000. Conversely, DOC has a negative and significant impact on knowledge-sharing behaviour of employees (beta value at -0.292, t -value at 2.149 and p value at .032).

Moderation Effect of Job Autonomy and Gender

We employed a product-indicator approach using PLS-SEM to examine the mediating effect of job autonomy in the relationship linking DOC, DL, PL and KSB. The product-indicator approach was suitable and applied in this study (Henseler & Fassott, 2010). However, the moderation results for job autonomy are outlined in Figure 3 and Table 5. The results demonstrate that job autonomy does not moderate the relationship between PL and employees' KSB, as indicated by a beta of -0.012, a t -value of 0.091 and a p value of .927. Thus, H_4 is rejected. Moreover, H_5 is not accepted because beta = -0.759, t -value = 1.858 and p value = 0.063 imply that job autonomy does not moderate the relationship between DL and KSB of employees.

The findings also show that job autonomy represents an effective moderator in enhancing the relationship between DOC and KSB among Malaysian employees (beta 0.983, t -value 2.477, p value .013). This means H_6 has been accepted.

Focusing on the moderating role of gender in the relationship connecting DOC, DL, PL and KSB, the results show an insignificant effect of gender. Table 5 and Figure 4 provide specifics for DOC ($b = 0.109$, $t = 0.673$, $p = .501$), DL ($b = 0.033$, $t = 0.224$, $p = .823$) and PL ($b = -0.074$, $t = 0.742$, $p = .458$). Thus, H_7 , H_8 and H_9 were rejected.

Discussion

The research examined whether PL, DL and DOC impact KSB among Malaysian workers. This research also examined how job autonomy and gender moderate the relationships between the independent variables, that is, PL, DL, DOC and KSB, in Malaysia. According to the results, H_1 was accepted owing to the significantly positive link between DL and KSB. This result for H_1 aligns with previous investigations, which have found mostly concordant results in various industry settings (Busse & Regenberg, 2018; Fatima et al., 2017; Lam et al., 2014). Therefore, it is empirically established that DL is effective in enhancing KSB among employees. This suggests that PL is a significant catalyst for enhancing KSB among Malaysian employees.

H_2 covers the impact of DL on KSB in a similar industry context, was also supported, as found by some previous researchers (Abbu et al., 2022; Srivastava & Joshi, 2018).

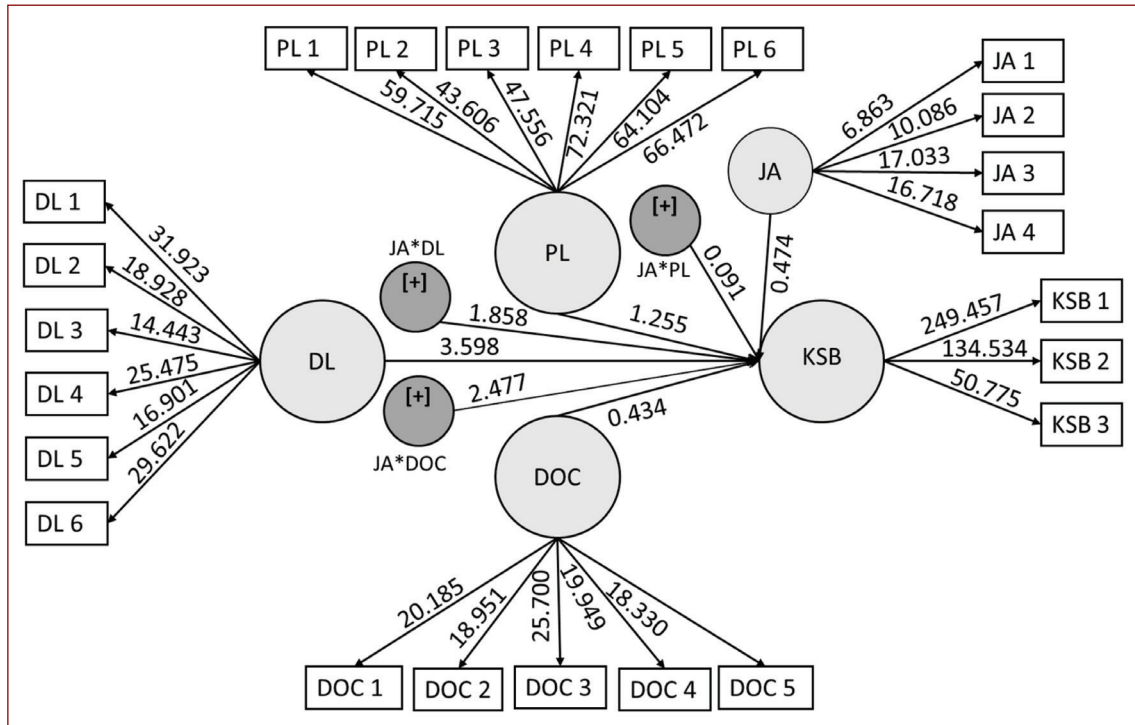


Figure 3. Moderation Effect of Job Autonomy.

Table 5. Moderation Effect of Job Autonomy and Gender.

Relationship	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	p Values
JA*PL→KSB	0.012	-0.010	0.135	0.091	.927
JA*DL→KSB	-0.759	-0.721	0.408	1.858	.063
JA*DOC→KSB	0.983	0.952	0.397	2.477	.013
Gender *PL→KSB	-0.074	-0.074	0.100	0.742	.458
Gender *DL→KSB	0.033	0.045	0.147	1.224	.823
Gender *DOC→KSB	0.109	0.083	0.162	0.673	.501

This refers to the fact that an employee would like to share with others the existence of DL, which is common in today's technology-driven era. Furthermore, H_3 , which posits the impact of DOC on KSB, was also supported by the study's results. It is because the results show that DOC has a significantly positive influence on KSB. The results for hypothesis 3 showed that digital organizational culture is significant, but it negatively influences the KSB of employees. This is inconsistent with the results of Kokt and Makumbe (2020), Stachová et al. (2020), Abbasi et al. (2021) and Buck et al. (2023). Thus, the negative influence of DOC on KSB of employees may raise strategic concerns for managers.

H_4 was about job autonomy's moderating role in the link between PL and employees' KSB. The results showed that job autonomy does not have any moderating role in this link. This could be due to the prevalence of the PL approach, which allows employees to enjoy job autonomy

by nature and enables leaders to let subordinates share their opinions with others if necessary. Hence, following SET, the results are theoretical; when the leaders support their employees, HR outcomes are more significant, for example, more remarkable KSB among employees. However, although H_5 was rejected, this may signify that regardless of the level of autonomy given to employees, the influence of DL on their KSB remains stable, probably because DL practices already encompass support and empowerment that transcend autonomy levels.

According to the results, H_6 was accepted outlining that the moderating role of job autonomy on the relationship between DOC and employees' KSB is significant and positive. This suggests that when organizations provide more autonomy to employees, the potential negative influence of DOC on KSB can be mitigated, offering a valuable strategic lever for organizations seeking to foster a more collaborative knowledge environment. This could

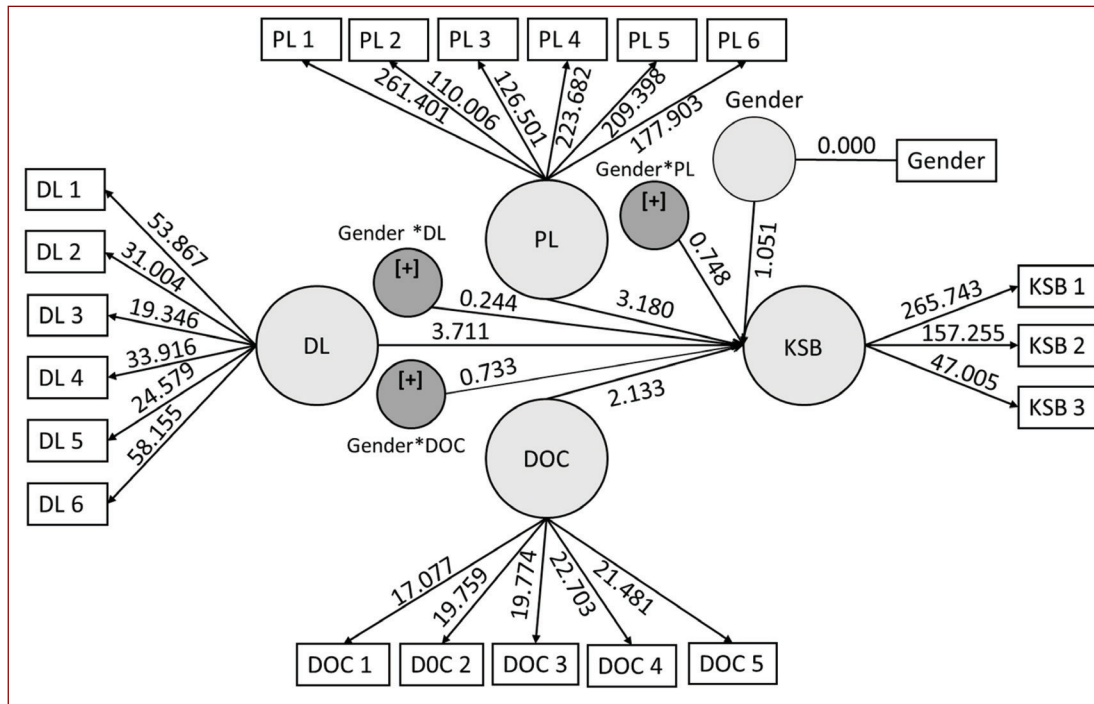


Figure 4. Moderation Effect of Gender.

be claimed as a novel contribution of this study because job autonomy's moderating role in the influence of PL, DL and DOC on KSB has not been investigated in previous research. Furthermore, results obtained from the moderation analysis support the social change theory to a significant extent (Cropanzano & Mitchell, 2005), indicating that DOC occurs. In this regard, our results support earlier investigations by Sousa et al. (2012) and Wu et al. (2023), which highlighted that greater job autonomy leads to diverse outcomes for their employees' roles.

However, our research did not find a moderating effect of gender on the relationship between PL, DL, DOC and employee KSB. However, such a thing goes against the assumption that women are less inclined to share information or are more cautious about sharing information with others (Beauregard, 2012). Therefore, findings suggest that PL, DL and DOC are independent of gender in influencing KSB. Thus, a higher prevalence of KSB among women than men cannot be attributed to a greater susceptibility in women to sharing knowledge than men. Therefore, based on our findings, neither gender appears to moderate the influence of PL, DL or DOC on employee KSB. Thus, this result is also novel, as gender has not been examined as a moderator in this context before.

Study Implications

From a Theoretical Standpoint

This research provides several implications from a theoretical standpoint. The study contributes to current

knowledge by expanding existing research outcomes on leadership, organizational culture, KSB and SET through an examination of the influence of PL, DL and DOC on stimulating KSB.

The findings suggest the need for further examination of KSB among employees, as previous investigations were limited in that they only largely addressed the direct impact of participative DL and DOC on KSB. Our current research is, thus, novel in identifying indirect links between the above constructs in light of job autonomy and gender as moderating variables.

Our study's focus on the Malaysian context is pertinent because KSB has been identified as a tool for ensuring that organizational information is shared among employees in an emerging economy context. In this context, knowledge sharing has not been sufficiently probed considering job autonomy and gender. This makes this research an attempt to close the gap in literature. This is because the present study is one of the few that have empirically tested the model with the variables, especially within the context of the tourism industry in Malaysia. Consequently, the present research contributes to the literature by highlighting outcomes of PL, DL and DOC regarding KSB in a global context that often requires strategic change at short notice.

Furthermore, this work demonstrates that only two of the proposed moderating relationships through job autonomy are corroborated, suggesting a need for additional support for DL and DOC within organizations. Although our study did not find evidence for the moderating role of job autonomy in the relationship between PL and KSB, one cannot negate a prolific contribution from PL to KSB since direct influence

is found. Our literature review found no previous study that empirically tested job autonomy's and gender's moderating role on the path between these constructs, at least within the tourism literature.

Finally, numerous studies have empirically demonstrated that there may be differences in KSB between genders. However, this study found no moderating role of gender organizations in Malaysia, where women have made much progress in recent years, especially in ASEAN countries. Thus, this research contributes to gender literature by presenting that KSB is mostly similar among genders.

Practice Implications

This study was conducted in Malaysia, which represents a major tourist destination in the ASEAN region. Thus, this study has several implications for tourism practitioners, managers, employees and policymakers of Malaysia and other similar countries. The study first established that PL, DL and DOC have a positive influence on the development of KSB among employees. It is, therefore, crucial for managers and other relevant decision-makers to ensure that managers or team leaders adopt PL to increase KSB. This also indicates that leaders in the tourism industry who treat their employees or followers well can create a better workplace with a culture of sharing knowledge, which is essential for gathering ideas from other employees or stakeholders. In addition, due to the PL approach, leaders will be able to stimulate their followers to communicate with others when relevant and share their knowledge as necessary. When employees have the opportunity to participate in work with managers or leaders, they learn more effectively, which enhances their existing knowledge and promotes their KSB with others. Thus, the organizations eventually benefited.

Moreover, the research results indicate that practitioners should have both digital leaders and a DOC to enhance employees' KSB at work. When digital leaders in a DOC raise awareness of the technologies and their ethical aspects, provide informatics practices, encourage innovations, etc., the employees will show more motivation for knowledge-sharing with peers. Therefore, it is important for practitioners to develop digital leaders and digital culture in the tourism organizations of Malaysia. This can also be applicable to other countries' tourism businesses, where DL and organizations' digital culture can boost employee KSB.

Moreover, the study reveals that job autonomy moderates the relationship between DL, DOC and KSB of tourism employees, which also suggests that practitioners in this industry should provide employees with better job autonomy to achieve better outcomes. Furthermore, the study has also established that there is no interference of gender regarding knowledge-sharing through the independent variable. Hence, gender should not be considered a negative or positive issue regarding KSB

within the tourism industry, where many men and women work. As a result, the study concludes that gender issues should not be considered when evaluating KSB aspects. Therefore, practitioners and policymakers should understand that the prevalence of KSB among females and males cannot be explained by comparing the two genders.

Conclusions

This study employs an empirical analysis to examine the impact of PL, DL and DOC on KSB among Malaysian workers. There are a few limitations. Firstly, the data was gathered solely from a sample taken from tourism organizations in Malaysia. Therefore, data generalization can be difficult since different organizations in other industries may have various aspects. However, we advocate that future investigations cover diverse industries. Besides, given that the tourism sector continuously evolves, our study reflects only current scenarios. This means that future studies will focus more on predictive research, increasing generalizability. We recommend that subsequent research investigations adopt a longitudinal approach and incorporate other leadership styles and qualities, such as authentic leadership, transactional leadership and transformational leadership. We also acknowledge a time limitation; therefore, this study only looked at the two moderators. However, to gain more compelling insights, researchers could expand this model, identify new moderators in the future, and examine the mediating role of different factors. As the tourism industries of Malaysia and other countries grow, it is necessary to have employees who are open to sharing knowledge effectively with others. Therefore, future studies identifying more independent variables for better knowledge behaviour would enrich the current literature.

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