Journal of Economic Education

DOES SERVICE INNOVATION IN TOURISM AND HOSPITALITY RELY MORE ON INTERNAL OR EXTERNAL FACTORS?

Ming Lei,[1]✉ Chih-Hung Chen[2]

[1] School of Business Administration, Guangxi University of Finance and Economics, Guangxi, China
[2] National Institute of Development Administration, International College, Bangkok, Thailand

History Article	Abstract
	Global tourism is projected to fully recover by 2024, presenting a significant opportunity for the tourism and hospitality industry worldwide. However, companies in this sector continue to face challenges such as a turbulent external environment, high competitiveness, and a lack of confidence in the industry's recovery. To address these challenges, companies must focus on service innovation and improving their service innovation performance (SIP). Exploring SIP at the individual level is crucial because individual innovation is the foundation of organizational SIP. Based on the resource-based view (RBV), the knowledge-based view (KBV) and contingency theory, this study constructs the research paradigm of "internal and external innovation environments–individual capability–innovation performance" and proposes the conceptual model of this study. This study aims to clarify mechanisms through which internal and external innovation environment factors influence service innovation performance at the individual level. A total of 417 questionnaires were collected for analysis from middle and senior management employees of star hotels in China. The results indicate that there are direct and indirect effects in both paths of knowledge sharing and technology turbulence on SIP, with information literacy playing a mediating role; Furthermore, the findings reveal that market turbulence has a positive moderating effect on the relationship between technology turbulence and information literacy. These findings have both practical and theoretical implications © 2025 Universitas Negeri Semarang

✉ Correspondence address:
No. 100, Mingxiu West Road, Nanning City,
Guangxi Zhuang Autonomous Region, China
E-mail: minglei@gxufe.edu.cn

INTRODUCTION

Now that the outbreak has subsided, the world's attention has shifted to how to expedite economic growth and recover from the recession caused by the pandemic. Nevertheless, the International Monetary Fund (IMF) predicts that global economic growth will decrease annually from 2022 to 2024 (IMF, 2023), lower than the average of the previous decade before the pandemic. In contrast to the global economic downturn, the tourism and hospitality sector has been a strong performer, having almost fully recovered from the outbreak crisis by the end of 2023. According to the report by the United Nations World Tourism Organization (UNWTO), international tourist arrivals in the first three quarters of 2023 (January-September) have recovered to 87% of the level of the same period in 2019, with international tourist arrivals in the Middle East even exceeding the level of the same period in 2019 (UNWTO, 2023). The tourism and hospitality sector is experiencing a strong recovery, with a significant demand for travel. This presents a valuable opportunity for firms that were previously impacted by the pandemic.

The outbreak has made many practitioners and potential practitioners realize that the tourism and hospitality industry cannot survive without the flow of customers, and the fear and anxiety of possible job loss will affect the tendency of job seekers and potential job seekers to take up employment in the tourism and hospitality industry in the future (Liu-Lastres et al., 2023), which will result in a crisis of manpower shortage in the industry. In addition, In the post epidemic era, it is widely recognized in both industry and academia that the requirements of the industry for talent have changed. Thus, the education and training requirements to adapt in a complex and changing market and technological environment is an urgent issue for enterprises to think about and solve.

Service innovation has become an important initiative for companies to maintain their competitive position in an evolving environment (Snyder et al., 2016), especially in the tourism and hospitality industry, which is a key source of differentiation and advantage (Wu et al., 2023). Thus, companies have initiated a series of service innovation practices to achieve a competitive advantage in a turbulent environment. Since service innovation is an extra-role behavior with a low success rate and is as risky as physical product innovation, a set of evaluation indicators is needed to measure it (Storey et al., 2016). Service innovation performance (SIP) can be viewed as the result of service innovation and is an important indicator of service innovation success (Hussain et al., 2016). Thus, SIP, which is the output of service innovation activities and the sign of service innovation outcomes, has always been the goal pursued by firms.

Although previous studies have explored the contribution of SIP, three research gaps still exist. There was a common misconception that the services sector was less innovative and skilled than manufacturing (Pholphirul et al., 2021). However, this view is not supported by evidence. The tourism and hospitality industries, which encompass the food and beverage, accommodation, transportation, and entertainment sub-sectors, face intense competition due to the abundance of similar service products in the market that can be easily substituted or imitated (Chen, 2017). The tourism and hospitality industry is under

pressure to innovate its services, which can be achieved through the implementation of innovation strategies. Previous literature on innovation has primarily focused on manufacturing and high-tech firms, with less attention given to traditional service firms such as those in the tourism and hospitality industry (Hussain et al., 2016). However, this industry faces a complex and ever-changing external environment, making innovation in tourism and hospitality firms a topic that deserves more attention from academia. Previous research on innovation performance has mainly focused on the influence of internal factors within the innovation environment on performance, such as leadership (Gerlach et al., 2020), knowledge management (Butt et al., 2019), knowledge sharing (Kumar et al., 2024), organizational culture (Hussain et al., 2016), etc., while few studies have simultaneously consider the impact of external environmental changes on innovation performance. Companies need to learn innovation strategies in the turbulent external environment (Bodlaj & Čater, 2019). According to contingency theory, the external environment also has a significant impact on firm output (McAdam et al., 2016). To clarify the influencing factors and mechanisms of SIP in the tourism and hospitality industry, which is highly susceptible to external environmental changes, it is more scientific to consider both external and internal innovation environment factors simultaneously. This research considers technology turbulence and market turbulence as key external environmental factors affecting SIP.

Second, in the era of rapid information technology changes, new technologies such as 5G, big data, cloud computing, QR codes, Internet of Things, artificial intelligence (AI), meta-universe and blockchain are being used in an increasing range of application scenarios in the tourism and hospitality industry (Guerrero-Rodríguez et al., 2024; Önder & Gunter, 2020). The wide application of IT in tourism and hospitality firms has raised higher requirements for employees' information literacy, which is gradually becoming one of the necessary occupational literacies (Chang & Hsu, 2015). The positive impact of staff information literacy on their creativity and innovative performance has been extensively proven (Arifin et al., 2021; Bryan, 2014; Jinadu & Kiran, 2014; O'Farrill, 2010). Therefore, it is important to pay attention to the role of information literacy in individual innovation performance in the tourism and hospitality industry. While existing research has focused on information literacy in traditional academic and educational contexts, there has been a lack of attention to information literacy in workplace context (Al-Azri et al., 2023; Middleton & Hall, 2021; Naveed et al., 2022). Research on employee information literacy in tourism and hospitality context has not yet been found. The fifth European symposium on the topic of information literacy, held in France in September 2017, called on researchers to focus on information literacy in workplace context as the future direction of research to be focused on (Naveed & Shah, 2023). However, scholars have inadequately noticed information literacy in the workplace context, which contradicts the rapid development of IT and its increasingly common application in the workplace.

Third, SIP can be measured at different levels, including organizational, team and individual level. This study explores the measurement of SIP at the individual level, as individual innovation serves as a crucial foundation for organizational innovation. Middle

and senior management are better equipped to understand the internal and external innovation environment of the industry and the firm's innovation strategy, including the external innovation environment. They are also better suited to grasp the service innovation market orientation and design the overall service process. However, the literature review reveals that most studies on SIP focus on the organizational level (Storey et al., 2016; Storey & Kelly, 2001), with relatively few studies addressing the individual level.

This study aims to fill the above research gaps by addressing the following four research questions: 1) What role does information literacy play in the relevance of knowledge sharing to SIP? 2) What role does information literacy play in the relevance of technological turbulence for SIP? 3) What is the impact of market turbulence on the relationship between knowledge sharing and information literacy? 4) What is the impact of market turbulence on the relationship between technological turbulence and information literacy? In this regard, this study proposed the research paradigm of "internal and external innovation environment-individual ability-innovation performance" based on the KBV, RBV, and contingency theory and combined with the characteristics of the tourism and hospitality industry, i.e., the internal and external factors of the innovation environment jointly promote the improvement of the individual's innovation ability to produce the logic of innovation performance, and finally constructed the conceptual model of this study. The proposed model underwent further empirical testing using CB-SEM, and the Process Marco was adopted to investigate the mediating role of information literacy and the moderating role of market turbulence. The study is structured as follows: first, an introduction to the research background, followed by the structural model and hypotheses. Then, the research methodology and the results of data analysis are presented. Last, we discussed the research findings, their implications, the study's limitations, and future research.

LITERATURE REVIEW

Knowledge Sharing and Service Innovation Performance

According to KBV, knowledge can be considered as one of the most important intangible resources of an organization, which is created, used and shared by individual employees (Grant, 1996). Knowledge sharing among employees and between employees and consumers keeps the organization's knowledge base up-to-date and contributes to competitiveness. Knowledge sharing is an important route to knowledge acquisition (Nham et al., 2020), which can enhance individual innovativeness. Therefore, this study predicts that knowledge sharing affects SIP. In the tourism and hospitality industry, companies face challenges due to the personalized and diverse nature of customer demand for service products, as well as the industry's susceptibility to external environmental factors. In practice, staff from different departments may have varying levels of experience, information, knowledge, and customer contact points. Thus, knowledge sharing among employees is more conducive to fully understanding market information, breaking the programmed service preparation process and service delivery, providing

guests with innovative services, and ultimately improving the SIP. Based on the above discussion, the following hypotheses are proposed:

H1. Knowledge sharing positively affects service innovation performance.

Technological Turbulence and Service Innovation Performance

The academic consensus on technological turbulence is that it represents the extent of technological change of the industry (Huo et al., 2024; Jaworski & Kohli, 1993; Senbeto & Hon, 2021). This study defines technological turbulence as the extent of information technology changes in the tourism and hospitality industry, which is characterized by instability, complexity and unpredictability. The rapid rate of technological change in the tourism and hospitality industry implies a high degree of technological turbulence in the industry. That means shorter product life cycles, rapid technological obsolescence and a tendency for companies to develop new products (Atuahene-Gima, 1995).

The academic consensus is that technological turbulence represents the extent of technological change in the industry (McAdam et al., 2016). Management should not simply conform to the environment, but instead flexibly apply the method of contingency change to the specific environment. This will enhance employees' understanding and cognition of the external environment and create a favorable environment for the company. Technological advancements have presented the tourism and hospitality industry with numerous opportunities for service innovation. (Ben Youssef & Zeqiri, 2022). For instance, the use of VR/AR and meta-universe technology can enhance the customer travel experience, while AI and QR code technology can simplify the service process. Therefore, this study concludes that all the characteristics of high technological turbulence can contribute to SIP. Accordingly, the following hypothesis is formulated:

H2. Technological turbulence positively affects service innovation performance.

Knowledge Sharing and Information Literacy

From the perspective of the knowledge-sharing process, employee knowledge sharing includes both formal sharing forms arranged and organized by the company (such as presentations, seminars, and exchanges) and informal private exchanges of experience and hands-on demonstrations. Regardless of the form of knowledge sharing, it contributes to creating a positive learning atmosphere throughout the organization. Information literacy is a competency that depends on learning to develop (Sample, 2020). Knowledge sharing, on the other hand, is a mutual learning process that involves transferring knowledge and experience to others. Based on the perspective that knowledge sharing promotes an organizational learning climate, it can be inferred that knowledge sharing contributes to information literacy.

According to Naveed and Saadia (2023), the level of information literacy in the workplace is related to various factors, including age, gender, educational qualifications, work experience, information instruction received, job nature, and location. In the tourism and hospitality industry, the use of IT varies among employees, even within the same

organization. This variation is due to differences in individual backgrounds and the different customer contact points that employees in various positions have. To promote communication and achieve common work goals, knowledge sharing is essential among employees with diverse backgrounds, especially when facing different customer groups with varying needs. Therefore, the hypothesis proposed is:

H3. Knowledge sharing positively influences information literacy.

Technological Turbulence and Information Literacy

The volatility, complexity, and unpredictability associated with technological turbulence are likely to drive active learning behaviors among employees (Moorman & Miner, 1997). External changes can create stress, which in turn can lead to proactive learning behaviors (Dekker & Hansén, 2004). Consequently, if employees feel that their knowledge and skills are inadequate to meet the demands of their job and the changing technological environment, they may be motivated to engage in active learning behaviors (Pérez-Nordtvedt et al., 2015). While learning is the best way to advance employees' information literacy skills (Crawford, 2013).

New technologies such as AI, robotics, face recognition, meta-universe, AR/VR, and webcasting have been widely invested in and used by tourism and hospitality firms (Guerrero-Rodríguez et al., 2024; Lo & Cheng, 2020). The application of these technologies provides customers with a brand new service experience and places higher demands on employees' information literacy (Middleton & Hall, 2021). Therefore, when competitors are ahead in adopting new technologies to gain a competitive advantage and improve innovation performance, companies face pressure to accelerate the adoption and application of IT facilities. This is particularly true in industries with high levels of technological change (Lose & Khuzwayo, 2021). The staff's understanding and awareness of IT will be strengthened through IT skills training provided by the Human Resources Department and other departments. This will contribute to enhancing the staff's information literacy. Therefore, we propose:

H4. Technological turbulence positively affects information literacy.

Information Literacy and Service Innovation Performance

RBV's proposition suggests that information literacy can be considered a heterogeneous resource that creates value and improves organizational benefits. In the workplace, information literacy is focused on decision-making, collaboration with colleagues, interaction with society and culture, and critical thinking about the vast amount of information available (Hicks & Lloyd, 2016). The present study discovered that workplace information literacy characteristics have a positive impact on employees' knowledge creation, lifelong learning ability, job fit, creativity, innovative behaviors, perception of opportunities, job performance, and organizational innovation (Hasanlu & Jafari, 2015; Li & Hung, 2010; Middleton et al., 2018; Naveed & Shah, 2023; Vick & Nagano, 2013; Wu, 2018). Although there is currently no literature on the impact of

information literacy on SIP, all the factors that are affected by information literacy are closely related to SIP. IT has become an accelerator of service innovation in tourism and hospitality companies, providing technological support for service innovation (Khatri, 2019). The wide application of IT in tourism and hospitality companies has increased the demand for employees with strong information literacy skills. This skill has become a necessary requirement for professionals in this field (Chang & Hsu, 2015). Therefore, this study infers:

H5. Information literacy positively affects service innovation performance.

Mediating role of Information Literacy

The external environment of the tourism and hospitality industry is not only changing rapidly but also unpredictable. In the face of unpredictable technological changes and elusive consumer preferences and demands, service innovation has become the best way for companies to cope with these changes in an intensely competitive market (Shin & Perdue, 2022). However, it is important to consider market and customer needs when implementing service innovations, as implementing service innovations without a market-oriented approach does not guarantee performance success (Cheng & Krumwiede, 2010). If the staff possesses high level information literacy, which means that he/she cares about the current state of the socio-cultural environment (technology, policy, market, culture, etc.), then he/she will be more market oriented in his/her service innovation practice and will be more likely to produce SIP. In addition, employees' high information literacy levels also imply they value mutual collaboration with coworkers (Lloyd, 2012). Innovation often involves unpredictable external environments and challenges. Collaborating with colleagues can help achieve innovative work tasks and successfully develop new products or services (Sawhney et al., 2005). Based on the above discussion, this study concludes that knowledge sharing can promote the level of information literacy. A high level of information literacy represents employees not only can handle information at a high level, but also emphasize on interacting with society and culture, as well as communicating and collaborating with their colleagues, all of which contribute to the improvement of individual SIP. In other words, the impact of knowledge sharing on individual' SIP is realized through information literacy.

According to the claims of contingency theory, when technological turbulence acts as an external environmental change factor to the firm, it needs to make corresponding changes or adjustments within the firm to cope with the external environment to match such an external environment (Luthans, 1973). Given the emergence of new technologies in the industry, product and service offerings have shorter life cycles. As a result, companies must continually develop new products or services to address these challenges (Glazer & Weiss, 1993). In the context of technological turbulence in the tourism and hospitality industry, numerous new services are dependent on new technologies (Ben Youssef & Zeqiri, 2022). The development of new services requires employees with high information literacy to operate and deliver them to customers. Additionally, the realization

of new services also relies on employees with high information literacy. Furthermore, technological turbulence presents many opportunities for technological change in the industry (Çeltekligil & Adiguzel, 2019). These opportunities can only be accurately and quickly recognized by highly information literate employees. When these opportunities are recognized, actions are taken to capitalize on them (Ahmad et al., 2020). In the tourism and hospitality context, such actions are employees' service innovation behaviors. Therefore, this study suggests that the impact of employees' perceptions of technological turbulence on their SIP is realized via information literacy in the tourism and hospitality industry, a sector widely utilizing new technologies. Hence, the following hypotheses are formulated:

H6. Information literacy positively mediates between knowledge sharing and service innovation performance.

H7. Information literacy positively mediates the relationship between technological turbulence and service innovation performance.

Moderating role of market turbulence

The tourism and hospitality industry is typically characterized by high levels of market turbulence (Senbeto & Hon, 2020). Due to the industry's inherent nature, rapid changes in customer preferences and market structure are common (Sigala et al., 2023). Such environments are prone to rendering existing knowledge obsolete, both individually and organizationally (Gemici & Zehir, 2021). Knowledge sharing can facilitate the updating of individual and corporate knowledge to mitigate the problem of knowledge obsolescence caused by market turbulence (Inkpen, 1996). Moreover, market turbulence represents the emergence of numerous new products and services in the market (Jaworski & Kohli, 1993). In the tourism and hospitality industry, many new services and products, as well as innovations in service processes, depend on new technologies to be realized (Ben Youssef & Zeqiri, 2022). To cope with a turbulent market, employees must improve their information literacy to develop new products and services that meet changing market demands. Market turbulence not only positively affects employee information literacy but also motivates employees to improve their information literacy through knowledge sharing.

When there is a high level of market turbulence, there is a strong demand for new products and services (Senbeto & Hon, 2020). The development of these new products and services is heavily reliant on advancements in technology (Çeltekligil & Adiguzel, 2019). The perception of external technological turbulence motivates employees to consciously improve information literacy. The higher level of information literacy means the better understanding of the market, the more market-oriented the new products/services developed will be, which in turn will be recognized by the market. Therefore, it can be inferred that market turbulence facilitates the relationship between perceived technological turbulence on information literacy. In tourism and hospitality context, new technologies have brought numerous new services and service process innovations for the industry,

enhancing the customer experience and improving SIP. Based discussion above, faced with rapid changes and unpredictable market demands, firms will improve their employee's perception of technological turbulence in various ways to enhance their information literacy to develop new market-oriented services to achieve sustained competitive advantage and enhance SIP. Thus, we hypothesize:

H8. Market turbulence positively moderates the relationship between knowledge sharing and information literacy.

H9. Market turbulence positively moderates the relationship between technological turbulence and information literacy.

Based on the above discussion, it can be summarized as follows: First, this study considers the RBV as a grounded theory for exploring the causes of individual service innovation performance and uses it to explore what kind of resources and how to utilize them to promote performance. Second, the KBV is used as a complement to the RBV to further explain knowledge and the impact of knowledge sharing on performance. Third, like the role of KBV, contingency theory is considered as a complementary theory to RBV to explain more scientifically the mechanism of generating individual service innovation performance. Eventually, based on the above three theories and combined with the characteristics of the tourism and hospitality industry, this study constructs the research paradigm of "internal and external innovation environment-individual capability-innovation performance". In other words, internal and external innovation environment factors jointly promote individual innovation capability (information literacy) and then improve innovation performance.

Next, the theoretical framework shown in Figure 1 is constructed to clarify the interactions among knowledge sharing, technological turbulence, information literacy and market turbulence on the individual service innovation performance of tourism and hospitality firms.
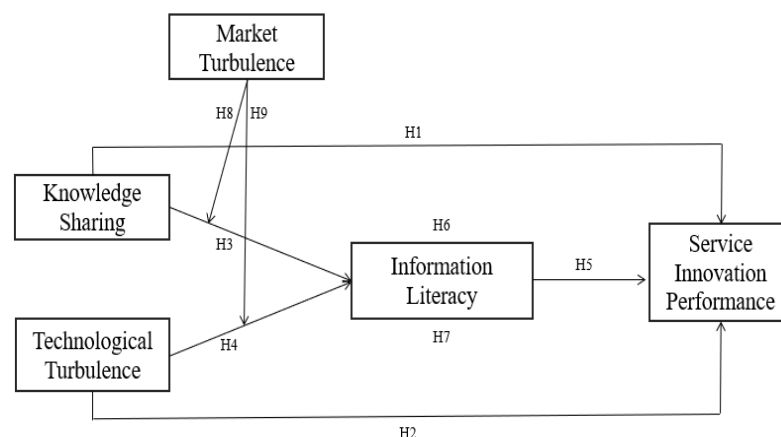

Figure.1 The conceptual model of this study

METHOD

Sampling

This survey was conducted on middle and senior management employees of star-rated hotels, the selected region is Guangxi, China. First, the hotel is a typical representative of a service-oriented company, including tourism and hospitality companies, and has all the characteristics of a service-oriented company (Boddewyn et al., 1986; Ghosh & Khatri, 2018). Second, middle and senior management are more familiar with the internal and external innovation environments and hotel innovation strategy than general staff. In this study, it refers to the market and technological environment. Third, high-star hotels are more capable and willing to invest in employee training and education, which will enable employees to be more innovative in service and have a higher level of information literacy. Fourth, although technological and market turbulence are objective external environmental factors, employees in different departments and positions may have different understandings of these objective phenomena. However, high-star hotels generally place greater emphasis on information and knowledge sharing, and middle and senior management typically have regular communication about the status of the internal and external environment and enterprise development. Accordingly, middle and senior management normally have a deeper understanding of the external market and technological environment involved in the research topic. Finally, Guangxi, China was chosen because the cities of Nanning, Beihai and Guilin in Guangxi are internationally and domestically renowned tourist destinations, these cities are loaded with numerous star-rated hotels.

To prioritize the selection and collection of respondents who are willing to be visited and have time to fill in the questionnaires, convenience sampling was used. This approach was chosen due to the target population being middle and senior management in hotels, and the need to consider the timeliness of sample collection while minimizing work disturbance. This study collected data through emails, the key informant technique, and on-site visits to distribute questionnaires. A total of 508 respondents from middle and senior management of star-rated hotels were included. After excluding responses with short completion times and irrational logic, 417 valid questionnaires were obtained, resulting in a validity rate of 82.1%, meeting the required sample size for CB-SEM analysis.

The demographic characterization of the sample in this study is shown below: By gender, slightly more respondents were female (54.20%); In terms of age, 26-35 was the highest percentage (47.96%) followed by 36-45 (23.26%); In terms of education, respondents mostly have college degree or above (92.09%), of which 45% have bachelor's degree and above. That shows that a certain level of education is required to become a middle and senior manager in star-rated hotels. In terms of the length of working experience in the hotel industry, 368 (88.25%) worked more than 3 years at hotel, indicating that to be middle or higher management in most cases requires the experience of certain years of hotel experience. Judging by department, the first-line departments

(housekeeping, food and beverage, recreation and entertainment) had 213 respondents (51.08%), while the second-line departments (marketing, finance, human resources, etc.) accounted for 204 respondents (48.92%). Respondents covered basically all hotel departments, the proportion of respondents from first line and second-line departments nearly equal. As for current positions, middle management (department supervisors and managers) accounted for 336 (80.58%) and senior management (department directors and vice general managers and above) accounted for 81 (19.42%). Regarding the age of the hotel, 121 (29.01%) accounted for under 4 years, 92 (22.06%) for 4-7 years, 130 (31.18%) for 8-15 years, and 74 (17.75%) for over 15 years.

Measurement

Since the study was conducted in China, the English scale needed to be translated into Chinese. In this study, back-translation was used to ensure that the questionnaire was semantically accurate. All items were measured using a 7-point Likert scale (from 1 "strongly disagree" to 7 "strongly agree"). The variables of knowledge sharing, technological turbulence, information literacy, market turbulence and SIP involved in this study were adapted from previous studies after making appropriate corrections to fit the tourism and hospitality context.

Knowledge sharing refers to the studies of Szulanski (1996) and Wang and Zhu (2012). Combined with the reality of Chinese enterprises, knowledge sharing is divided into two dimensions, namely, knowledge sharing ability and sharing intention. A total of five items were taken. For example, I am willing to share my knowledge, experience or skills related to hotel work with others; I will express my opinions in a way that is easier for others to understand. The KMO of the knowledge sharing scale was 0.885 and Cronbach's α was 0.936.

Many studies measure technological turbulence by utilizing the scale developed by (Jaworski & Kohli, 1993), which has good reliability and validity in empirical studies in different industries and firms in different countries. Therefore, this study adopted this scale as well and made statement corrections to incorporate the hotel context. At last, three items were taken for technology turbulence scale. For example, information technology in the hotel industry is changing very fast. The KMO for the technological turbulence scale was 0.885 and Cronbach's α was 0.906.

Information literacy was measured with a combination of references from Chang and Hsu (2015) and Wang and Jiang (2020). The two articles both explored the relationship between employee information literacy and creativity, similar to the context of information literacy in the workplace context of this study. Based on the above stated, four items were taken for information literacy (IL) scale. For example, in our hotel, I can quickly recognize the information I need at work. The KMO of the IL scale is 0.881 and Cronbach's α is 0.970.

Market turbulence was also measured by the scale developed by Jaworski and Kohli (1993) , which has been validated in different countries and industry firms and is still widely adopted and used in academic research (Arora et al., 2021; Saengchaia &

Jermsittiparsertb, 2019; Sun et al., 2022). As with technological turbulence, this study still adapted the scale developed by Jaworski and Kohli (1993) and revised the statements to fit the hotel context. Eventually, a total of four items were taken for the technological turbulence scale. For example, in the hospitality industry, customer preferences for service change rapidly. The KMO for the MT scale is 0.764 and Cronbach's α is 0.826.

SIP measurement varies across industries and fails to harmonize. Given the intangible nature of service, indirect indicators were used to measure SIP. Combining the studies of Al-Ababneh (2014) and Hu et al. (2009), two dimensions, ESIB and NSD, were used to measure individual SIP in this study. Reasons are: first, the two articles mentioned above are identical to this study's context, both of which focus on star-rated hotels; second, ESIB and NSD are measurement dimensions for individual service innovation behaviors, which are consistent with this study. Lastly, six items were taken for the SIP scale. For example, at work, I will come up with new and innovative ideas and promote them to my colleagues. My hotel has enough human resources to develop new services. The KMO for the SIP scale is 0.851 and Cronbach's alpha is 0.935.

RESULT AND DISCUSSION

Common Method Bias Test

The Common method bias (CMB) problem may arise when the data is collected by self-reporting questionnaires, especially when the independent and dependent variables come from the same respondent (Podsakoff & Organ, 1986). CMB affects the validity and reliability of the scale and may inflate or reduce the correlation between the independent and dependent variables. Therefore, Harman's one-way test, which is the most common method to judge CMB was used in this study. The results revealed that there were five common factors and the explained variance of the first factor was 36.546% < 50%, thus there was no CMB problem.

Multicollinearity Diagnose

In this study, multicollinearity was tested by VIF (Variance Inflation Factor) and tolerance. VIF is the reciprocal of Tolerance value. If VIF is less than 5 it means that no obvious multicollinearity exists between variables (Hair et al., 2010). As shown in Table 1 below, the independent variables VIF ranges between 1.312-1.408, which is in line with the scholarly recommendations. It represents that there is no problem of multicollinearity.

Table. 1. Multicollinearity Diagnose

Variable	Unstandardized Coefficients		Standardized Coefficients	*t*-value	*p*-value	Collinearity Statistics	
	B	S.E.	Beta			Tolerance	VIF
(Constant)	-.177	.427		-.414	.679		
KS	.249	.069	.160	3.600	.000	.756	1.322

TT	.282	.042	.309	6.729	.000	.710	1.408
IL	.328	.053	.278	6.207	.000	.747	1.338
MT	.105	.053	.088	1.986	.048	.762	1.312

Note: KS= Knowledge Sharing ; TT= Technological Turbulence ; MT= Market Turbulence ; IL=Information Literacy ; SIP= Service Innovation Performance; S.E.=Standard Error

Correlation Analysis

Regression analysis is only meaningful if a correlation exists between the variables. Meanwhile, high correlation between explanatory variables generates collinearity problem, which can lead to distortion of model estimation and other problems (Tu et al., 2005). Generally, it is suggested that a correlation coefficient of 1 indicates a perfect correlation; less than 0.3 indicates a low correlation, 0.3-0.7 represents a medium correlation, and more than 0.7 represents a high correlation (Hair et al., 2010).

As shown in Table 2, the sample size was 417, and the mean values of each construct ranged from 5.08 to 6.48, with standard deviations ranging from 0.63 to 1.07. The results of Pearson's correlation coefficients showed that technological turbulence (TT) and knowledge sharing (KS) (r=0.33), market turbulence (MT) and technological turbulence (TT) (r=0.47), information literacy (IL) and knowledge sharing (KS) (r=0.45), information literacy (IL) and technological turbulence (TT) (r=0.33), service innovation performance (SIP) and knowledge sharing (KS) (r=0. 41), service innovation performance (SIP) and technological turbulence (TT) (r=0.50), service innovation performance (SIP) and information literacy (IL) (r=0.48), and service innovation performance (SIP) and market turbulence (MT) (r=0.35) is medium correlation; market turbulence (MT) and knowledge sharing (KS) (r=0.23) is low correlation, and information literacy (IL) is low correlation with market turbulence (MT) (r=0.28). To summarize, the correlation between the variables in this study is low to medium.

Table. 2. Correlation Analysis

Variable	Basic Statistics			Pearson Correlation				
	N	Mean	Std Dev	KS	TT	MT	IL	SIP
KS	417	6.485	0.631	1.000				
TT	417	5.803	1.075	0.333	1.000			
MT	417	5.079	0.821	0.228	0.470	1.000		
IL	417	5.983	0.832	0.453	0.331	0.276	1.000	
SIP	417	5.572	0.981	0.409	0.496	0.347	0.477	1.000

Note: Std Dev= Standard Deviation

Validity test

SEM is categorized into measurement and structural models, in this study, CFA analysis was conducted using Amos 23.0 to test whether the latent variables of knowledge sharing, technological turbulence, market turbulence, information literacy, and SIP are

composed of several observed variables. Measurement model fit was determined by testing convergent and discriminant validity.

Convergent Validity

The criteria, based on the recommendations of authoritative scholars, include: standardized factor loadings >0.5; compositional reliability >0.7; and average variance extracted >0.5 (Fornell & Larcker, 1981; Hair et al., 1998). As shown in Table 3 below, all factor loadings in this research model ranged from 0.629-0.894; component reliabilities ranged from 0.851-0.906; and average variance extractions (AVE) ranged from 0.566-0.706, which represents that all constructs met the criteria for convergent validity.

Table. 3. Convergent Validity

Variable	Item	Unstd.	S.E.	Z-value	*p*-Value	STD.	SMC	CR	AVE
KS	KS1	1.000				0.747	0.557	0.882	0.599
	KS2	1.020	0.063	16.115	***	0.806	0.650		
	KS3	1.115	0.069	16.213	***	0.811	0.658		
	KS4	1.125	0.075	15.009	***	0.752	0.566		
	KS5	1.267	0.085	14.959	***	0.750	0.563		
TT	TT1	1.000				0.718	0.516	0.851	0.656
	TT2	1.318	0.084	15.744	***	0.883	0.780		
	TT3	1.107	0.072	15.309	***	0.821	0.674		
IL	IL1	1.000				0.844	0.712	0.906	0.706
	IL2	1.126	0.049	22.771	***	0.894	0.800		
	IL3	1.041	0.053	19.684	***	0.809	0.655		
	IL4	1.075	0.054	19.754	***	0.811	0.658		
SIP	SIP1	1.000				0.629	0.396	0.885	0.566
	SIP2	0.985	0.087	11.343	***	0.648	0.420		
	SIP3	1.206	0.103	11.740	***	0.676	0.458		
	SIP4	2.125	0.153	13.875	***	0.848	0.718		
	SIP5	2.095	0.148	14.131	***	0.872	0.760		
	SIP6	1.860	0.139	13.348	***	0.801	0.642		

Note: ***=p<0.001 ; Unstd. = Unstandardized factor loadings; Std.= Standardized factor loadings; CR.= Critical Ration; SMC= Squared multiple correlations; AVE = Average variance extracted

Discriminant Validity

This study applied the strict AVE method to test the discriminant validity. Fornell and Larcker (1981) suggested that the square root of AVE for each construct required higher than the correlation coefficients of the pairs of variables to show discriminant validity between the constructs. As shown in Table 4 below, tthe square root of AVE for each construct is greater than the off-diagonal standardized correlation coefficients, which represents the discriminant validity between the constructs of the model.

Table. 4. Convergent Validity

	AVE	KS	TT	IL	SIP
KS	0.599	**0.774**			
TT	0.656	0.359	**0.810**		

IL	0.706	0.380	0.501	**0.840**	
SIP	0.566	0.541	0.404	0.489	**0.752**

Note: Bold diagonal font is the root value of AVE

Model Fit

The initial structural equation model was analyzed in this study using AMOS 23.0 software. As shown in Table 5 below, the results of SEM analysis showed that $\chi2 = 680.297$, $\chi2/ df = 5.274$, GFI= 0.814, AGFI= 0.754, RMSEA = 0.101, SRMR = 0.080, TLI = 0.862, and CFI = 0.884. From the indicators above, it is noted that some of the original model fit indicators did not meet the criteria. Therefore, it is necessary to make appropriate adjustments and corrections to the original model. From the modified Bollen-Stine results in Table 5, $\chi2 = 173.062$, $\chi2/ df = 1.342$, GFI = 0.965, AGFI = 0.958, RMSEA = 0.029, SRMR = 0.080, TLI = 0.989, and CFI = 0.991.The modified goodness-of-fit indices were all met with the criteria, which indicated that the the data of this research is suitable for SEM analysis (Bollen, 1989).

Table. 5. Model Fit

Model fit	Criteria	Model fit of research model	Bollen-Stine Model fit
MLχ^2	The small the better	680.297	173.062
df	The large the better	129.000	129.000
Normed Chi-sqr (χ^2/df)	1<χ^2/df<3	5.274	1.342
GFI	>=0.9	0.814	0.965
AGFI	>=0.9	0.754	0.958
RMSEA	<=0.08	0.101	0.029
SRMR	<=0.08	0.080	0.080
TLI (NNFI)	>=0.9	0.862	0.989
CFI	>=0.9	0.884	0.991

Hypotheses testing

Path Analysis

Path analysis is conducted to know the extent of effect or explanation of the independent variables on the dependent variable in the research model. As shown in Table 6, the variance explanatory power (R2) of knowledge sharing (KS), technological turbulence (TT) on information literacy (IL) is 0.297; The variance explanatory power (R2) of knowledge sharing (KS), technological turbulence (TT), and information literacy (IL) on service innovation performance (SIP) is 0.398. According to Chin (1998), the explanatory power of the model is acceptable. accepted. The path analysis results are summarized below:

1) The unstandardized regression coefficient of knowledge sharing (KS) on service innovation performance (SIP) is 0.139, Z-value = 2.229, and p-Value = 0.026, which represents that knowledge sharing (KS) has a significant positive effect on service innovation performance (SIP), thus H1 is supported.

2) The unstandardized regression coefficient of technological turbulence (TT) on service innovation performance (SIP) is 0.271, Z-value = 6.572, and p-Value < 0.001, indicating that there is a significant positive effect of technological turbulence (TT) on service innovation performance (SIP), so H2 is supported.

3) The unstandardized regression coefficient of Knowledge Sharing (KS) on Information Literacy (IL) was 0.584, Z-value =7.426, p-Value<0.001, which represents that Knowledge Sharing (KS) has a significant positive effect on Information Literacy (IL), thus H3 is supported.

4) The unstandardized regression coefficient of technological turbulence (TT) on information literacy (IL) is 0.197, Z-value = 4.264, p-Value<0.001, which represents that technological turbulence (TT) has a significant effect on information literacy (IL), so H4 is supported.

(5) The unstandardized regression coefficient of information literacy (IL) on service innovation performance (SIP) is 0.224, Z-value = 4.797, p-Value<0.001, which represents that information literacy (IL) has a significant positive effect on service innovation performance (SIP), thus supporting H5.

Furthermore, as shown in Figure 2 path analysis standardized coefficient results, the path coefficients for the direct effect of knowledge sharing (KS) and technological turbulence on service innovation performance were 0.124 and 0.392,

Table. 6. Path Analysis

DV	IV	Unstd.	S.E.	Unstd./S.E.	*p*-Value	Std.	R²
IL	KS	0.584	0.079	7.426	***	0.419	0.297
	TT	0.197	0.046	4.264	***	0.230	
SIP	KS	0.139	0.063	2.229	0.026	0.124	0.398
	TT	0.271	0.041	6.572	***	0.392	
	IL	0.224	0.047	4.797	***	0.278	

Note: ***p<0.001; Unstd. = Unstandardized regression coefficient; Std.= Standardized regression coefficient; S.E.= standard error; R²= Explainable Variance
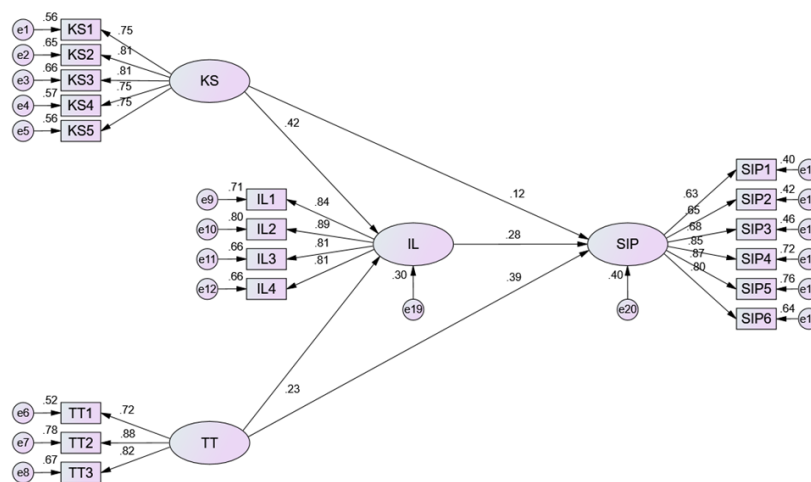

Figure. 2 Estimates of the path model

Mediating Effect Analysis

Using the PROCESS Template of modal 5 for mediating effects analysis (Hayes, 2017). As shown in Table 7 below, the total effect of knowledge sharing (KS) and technological turbulence (TT) on service innovation performance (SIP) is significant (p<0.001), and the confidence interval of 5,000 times of Bootstrap does not contain 0, which means that the effects of knowledge sharing (KS) and technological turbulence (TT) on service innovation performance (SIP) are all valid. In addition, the analysis of the following table shows that the indirect effect of KS→IL→SIP is significant (IE=0.173, SE=0.060, p=0.004); and the indirect effect of TT→IL→SIP is significant (IE=0.053, SE=0.025, p=0.034). The above results indicate that the two mediating hypotheses, H6 and H7, were valid in this study.

Table. 7. Mediating Effect Analysis

Effect	Estimate	Product of coefficients			Bootstrap 5000 times	
					Bias-corrected 95%	
		S.E.	*t*-value	*p*-value	LLCI	ULCI
Total Effects						
KS→SIP	0.427	0.067	6.354	0.000	0.295	0.559
Indirect Effects						
KS→IL→SIP	0.173	0.060	2.883	0.004	0.083	0.312
Direct Effects						
KS→SIP	0.254	0.069	3.655	0.000	0.117	0.390
Total Effects						
TT→SIP	0.369	0.039	9.363	0.000	0.292	0.447
Indirect Effects						
TT→IL→SIP	0.053	0.025	2.120	0.034	0.018	0.116
Direct Effects						
TT→SIP	0.316	0.039	8.201	0.000	0.240	0.391

Note: KS= Knowledge Sharing ; TT= Technological Turbulence ; MT= Market Turbulence ; IL=Information Literacy ; SIP= Service Innovation Performance

Moderating Effect Analysis

Based on the PROCESS Template, MODEL7 fits this research model (Hayes, 2017). Bootstrap analyses were performed on the model 5000 times to estimate confidence intervals. The moderated mediation, since the confidence intervals do not include 0, indicates that the effect of the moderated mediation was significant. In this research model, market turbulence is used as a moderating variable to explore the effect on the relationship between knowledge sharing and information literacy and the relationship between technological turbulence and information literacy. That is, the interaction of knowledge sharing with market turbulence and the interaction of technological turbulence with market turbulence in Table 8 below.

As can be seen from Table 8, when knowledge sharing (KS) is the independent variable and market turbulence (MT) is the moderating variable, the interaction between KS and MT is -0.044 (p = 0.023 > 0.05), and the Bootstrap confidence interval [-0.132 0.044] contains 0, indicated that the moderating effect does not exist. The interaction between technical turbulence and market turbulence is 0.068 (p = 0.023 < 0.05) when technical turbulence (TT) is the dependent variable and market turbulence (MT) is the moderating variable, the Bootstrap confidence interval [0.010 0.127] does not contain 0, which indicated that the moderating effect exists. The above results showed that H8 is not supported and H9 is supported.

Table. 8. Moderating Effect Analysis

DV	IV	Estimate	S.E.	p-value	Bootstrap 5000 times CI	
					LLCI	ULCI
IL	KSxMT	-0.044	0.045	0.322	-0.132	0.044
IL	TTxMT	0.068	0.030	0.023	0.010	0.127

Note: KS= Knowledge Sharing；TT= Technological Turbulence；MT= Market Turbulence；IL= Information Literacy

As shown in Figure 3 below, when technological turbulence increases, the slope of high market turbulence is steeper upwards and increases the rate of change in information literacy faster, while the slope of low market turbulence moves more gently upwards and increases the rate of change in information literacy slower. That is, at higher levels of market turbulence, increased market turbulence contributes to the development between technological turbulence and information literacy.
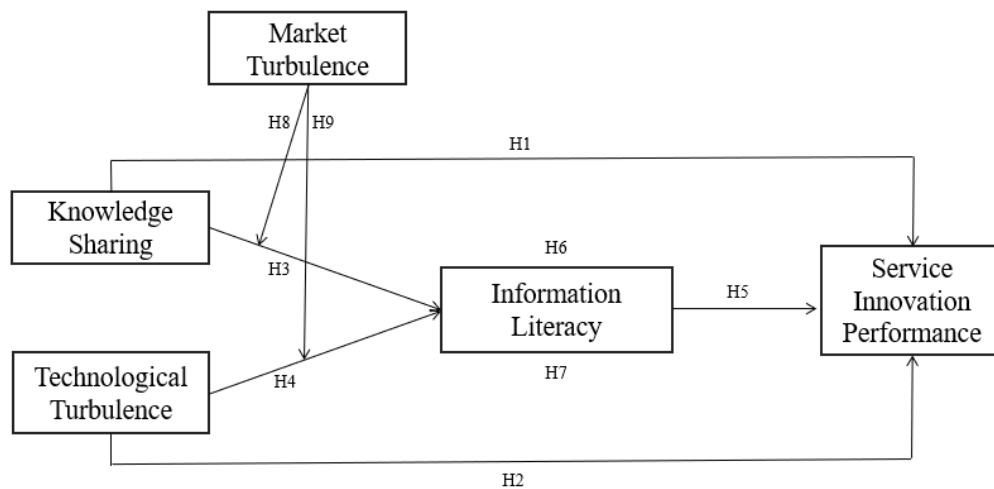
Figure. 3 Moderating effects of market turbulence

Discussion of the Results

Based on the results of CB-SEM analysis, the findings support the conceptual model constructed in this study. The study results are discussed by examining the role of the four explanatory variables knowledge sharing, technological turbulence, information literacy and market turbulence on the explanatory variable SIP.

First, as for knowledge sharing, we found that knowledge sharing positively affects SIP (H1). This means in tourism and hospitality contexts, more knowledge sharing among employees is associated with higher SIP. The present findings on this relationship are partially consistent with the results of past studies on knowledge sharing and SIP. The similarity is that they all confirm the positive relationship of knowledge sharing on SIP (Hu et al., 2009; Hussain et al., 2016; Kumar et al., 2024). The difference is that this study focuses on the impact of knowledge sharing on SIP at the individual level, while other studies focus on team or organizational level. In addition, this study supported knowledge sharing positively affects information literacy (H3), this finding resonates with the findings of (Zhang et al., 2016), which concluded that knowledge sharing not only contributes to formation a positive organizational learning climate, but also promotes the employees' information literacy level. This finding also corroborates results of Ishimura and Fitzgibbons (2022) that information literacy is a competency that can be acquired through learning and training. Nevertheless, there remains a lack of evidence supporting the correlation between knowledge sharing and information literacy in the context of tourism and hospitality in previous studies.

Second, as for technological turbulence, this study supported the positive relationship between technological turbulence and SIP (H2). Although lack of research on the direct relationship between technological turbulence and SIP at individual level. Still, this finding is partially consistent with previous studies. For example, Folger et al. (2021) demonstrated that employee perceptions of technological turbulence positively affect individual ambidexterity, which is defined as the ability to both explore and exploit, and represents the ability of individual in an organization to respond to changes in the environment. And individual duality is closely related to both individual innovative performance (Rosing & Zacher, 2017) and innovative work behavior (Shahzadi & Khurram, 2020). This study differs from the above studies in that Folger et al. (2021) addressed the facilitating effect of technological turbulence on innovation behavior and innovation capabilities, while this study addressed the effect of technological turbulence on the outcome of innovation (SIP). In addition, the findings of this study support the positive relationship between technological turbulence and information literacy (H4), which is partially consistent with previous research. For example, Enwald et al. (2017) stated that positive attitudes towards IT can positively influence information literacy. Because a higher perceived technological turbulence means that he/she is more aware of the changing technological developments in the industry and has a more positive attitude towards technology, which in turn makes him/her more proactive in the use of social software (Folger et al., 2021) and training in information literacy courses (Yebowaah & Sanche, 2021). Those will all contribute to the improvement of individual information literacy. But this study concerned the effect of

environmental factors external to the organization (technological turbulence) on information literacy, whereas the studies of Enwald et al. (2017) and Chen et al. (2022) focused on the effect of internal organizational factors (individual attitudes and the construction of ICT equipment) on information literacy. To summarize, empirical research on the direct relationship between technological turbulence and information literacy in the context of the tourism and hospitality context is still lacking.

Third, as for information literacy, this study supported the mediating role of information literacy on knowledge sharing and SIP (H6) and information literacy on technological turbulence and SIP (H7) in the context of tourism and hospitality industry. The mechanisms of how internal and external innovation environment factors (technological turbulence and knowledge sharing) act on individual SIP are not straightforward enough. Therefore, confirmation that information literacy exists as a mediating effect can help to understand more clearly how internal and external innovation environment factors act on individuals to eventually contribute to SIP. Moreover, this study confirmed the important role of technological turbulence, an external environmental factor, on individual SIP. For firms, the external environment as an objectively existing phenomenon is generally unchangeable. Despite the fact that firms in high technological turbulence situations can improve individual innovation performance through various measures to enhance employees perceived technological turbulence, technological turbulence cannot be changed by firms. Therefore, when the external objective environment cannot be changed by firms, finding the mediator between the external environment and SIP, that is, information literacy, a factor that can be manipulated by firms, can provide feasible ideas and operable solutions for how to improve the SIP of firms' managements in practice. Based on literature review, there are fewer empirical studies on information literacy in the workplace context, and no studies have been found yet in tourism and hospitality industry scenario. Therefore, this study proved that the mediating role of information literacy between internal and external innovation environments and individual SIP in tourism and hospitality industry context is not only innovative in the literature, but also provides a theoretical basis for decision makers and managers to consider how to improve the individual work skills and individual innovation ability in practice.

Fourth, as for market turbulence, inconsistent with the expectations of this study, market turbulence did not strengthen the interaction between knowledge sharing and information literacy. In other words, H8 did not supported. The possible reason might be the survey respondents were middle and senior management of star hotels, senior management usually communicate and discuss the current market situation of the company and industry on a regular basis. Accordingly, the senior management will pass on this information to middle management. Therefore, for star hotel management, knowledge sharing is a part of the corporate culture (Hon et al., 2022; Scott & Laws, 2006), which has even been explicitly institutionalized, and practicing knowledge sharing is natural among middle and senior management employees. According to the correlation analysis results, the overall knowledge sharing level of star hotel management surveyed is high. From

previous studies, we can also observe that knowledge sharing has been a key factor for star hotels to enhance organizational performance (Kim et al., 2013), employee service innovation behavior (Kim & Lee, 2013), and SIP (Hu et al., 2009; Kumar et al., 2024). It's safe to say that the importance of knowledge sharing is widely recognized and practiced, both in industry and academia. The importance of knowledge sharing for middle and senior management of star hotels is common sense and normal and will not change significantly due to market turbulence. Therefore, market turbulence cannot significantly affect the relationship between knowledge sharing and information literacy in this study.

Furthermore, Market turbulence reinforced the positive effect between technological turbulence on information literacy. That is, H9 was supported. This indicated that the higher individuals' perceived market turbulence, the stronger the relationship between their perceived technological turbulence and information literacy. Simultaneously, it is implied that the higher the management's understanding of the external environment of the industry, the greater their ability to interact with information in their work. The ability to interact with information is particularly important in today's workplace and has a role in facilitating individual SIP. This finding (H9) also confirmed the claim of contingency theory that external environmental turbulence can be matched by firms through internal adjustments to update their knowledge and capabilities, which facilitates performance (Chatterjee et al., 2023; Hussain et al., 2022).

Finally, another interesting finding of this study is that the coefficient of the path from technological turbulence to service innovation performance is much larger than the coefficient of the path from knowledge sharing to service innovation performance. This represents that increasing the perception of technological turbulence in tourism and hospitality enterprises can contribute more to the generation of individual service innovation performance than increasing the level of knowledge sharing. In other words, the positive effect of external environmental stimuli is more pronounced than that of internal firm factors. The fourth industrial revolution has had a significant impact on the tourism and hospitality industry, as it is an industry that heavily relies on new technologies (Ben Youssef & Zeqiri, 2022). The tourism and hospitality industry has greatly benefited from this technological change and rapid iteration, which has provided ample technical support for service innovation. And when corporate policymakers and leaders perceive and recognize the opportunities and challenges that technological change brings to the industry, they will increase investment in IT talent and adoption of IT equipment to support service innovation. Similarly, as managers are exposed to these new IT devices and IT professionals, their perceptions of technological turbulence will increase, and they will be motivated to think about how to use these advanced technologies to create new service offerings and service experiences for customers. In this scenario, the impact of technological change in the industry on individual innovation will be more pronounced than the innovation inspiration brought about by knowledge sharing.

Theoretical Implication

First, it filled the research gap of information literacy in the tourism and hospitality context. The three contexts in which information literacy is studied are usually categorized as academic and educational context, daily life context, and workplace context (Lloyd & Williamson, 2008) Although research on information literacy in the workplace has begun to increase in recent years, there is still less empirical research on information literacy in the workplace compared to the wealth of research in academic and educational contexts. Arguably, there is a mismatch between the relatively few research achievements on information literacy in the workplace context (Al-Azri et al., 2023) and the reality that employee information literacy in the information age has become a key factor in the competition among modern companies (Chang & Hsu, 2015). Past research has found that information literacy can have a positive impact on productivity, job performance, and personal and organizational innovation (Ahmad et al., 2020; Chang & Hsu, 2015). Therefore, by considering information literacy in the model to explore SIP in tourism and hospitality context, this study not only expanded the research on information literacy context, but also responded to the call to strengthen the research on information literacy in the specific work context, as advocated by scholars and research organizations in the past.

Second, this study synthesized the mechanisms of external environmental factors (market turbulence and technological turbulence) and internal environmental factors (information literacy and knowledge sharing) on individual SIP and proposed the research paradigm of "internal and external innovation environment-individual capabilities-innovation performance. Unlike most previous studies, which only explored the enabling mechanisms of innovation performance from the internal environmental factors of firms, this study comprehensively considered the impact of internal and external innovation environmental factors on individual innovation performance. This research enriched the research paradigm of SIP and provided a new research model for future researchers to explore the topic of innovation performance. Meanwhile, it also enriched the research to explore SIP at the individual level.

Third, this study combined the RBV, KBV and contingency theory to explore the formation mechanism of SIP. The findings confirmed that the three theories are complementary. The results supported the idea of Barney (2001), a representative of resource-based theory, that it is necessary to evaluate the resources and capabilities of firms to be competitive from the contingency perspective. Therefore, to improve SIP in today's increasingly turbulent and competitive business environment, it is important to focus not only on internal business factors, but also on external environmental drivers.

CONCLUSION

This study provided guidance on employee training practices for tourism and hospitality firms, revealing that information literacy significantly mediates the impact of internal and external innovation environments—namely, knowledge sharing and technological turbulence—on service innovation performance. Previous studies have

shown that training (Abimbola, 2017), education (Olayemi et al., 2022), organizational learning (Zhang et al., 2016), and information literacy instructions received (Naveed & Saadia, 2023) all promote information literacy, which provides actionable guidance on what aspects of training should be strengthened by companies in the future, including how to train talents in relevant fields of study in colleges and universities. Specifically, the following four areas are included:

First, knowledge is more valuable through sharing, enhancing knowledge sharing. Knowledge is of limited utility when applied only to individuals, knowledge can be added value through sharing. Accordingly, management can create an atmosphere of knowledge sharing in the company by improving knowledge sharing motivation and building sharing platforms. From a motivation perspective, individual knowledge sharing includes both extrinsic (reputation, reciprocity, reward) and intrinsic (altruism) aspects of motivation (Li & Hung, 2010). For management, they can focus on selecting staff with good communication habits from recruitment and emphasize the cultivation of staff's sense of sharing in routine work. From the perspective of sharing platform building, besides building the traditional offline sharing platform, the company should utilize the convenience brought by new technology development to build the online social platform for knowledge sharing and experience exchange. Due to the development of IT, increasing online communication platforms are available for companies to utilize. Enterprise social media (ESM) as a kind of online collaboration and communication platform based on web2.0 technology, provides convenience for internal organizational members to collaborate and communicate. Though there are negative impacts, such as, psychologically stressing the individual (Chen & Wei, 2020), leading to perceived work overload. However, the academic and industry consensus is that ESM is a double-edged sword (Shang et al., 2023), and its identified benefit is that it enhances communication and collaboration among organizational members. While collaboration is a catalyst for innovation, especially in service innovation (Feng & Sivakumar, 2016). Therefore, use of ESM platforms should be promoted for tourism and hospitality companies to facilitate SIP.

Second, to increase the employees' perception of the technological turbulence in the tourism and hospitality industry. For companies, any training on perceived technological turbulence should not be superficial but should be deep and specialized. Specifically, it should delve into the status and future trend of new-generation information technology applications related to the tourism and hospitality industry, such as, self-service technology for customers, service robots, e-billing, smart rooms, touch screen technology, and Internet of Things (IoT) technology. For middle and senior management employees, it is important to stay on top of technological changes in the industry, for example, the status and prospects of emerging technologies such as meta-universe, cloud technology, AI, blockchain, 5G, big data, VR/AR, ChatGPT, and other applications in the industry. For the grass-roots managers and front-line staff, it is necessary to strengthen staff training in the use of IT equipment that the enterprise has purchased and use these advanced IT equipments to realize personalized and diversified customer services.

Third, to enhance employees' information literacy via diverse channels: 1) Regular training courses on information literacy as an important part of an individual's professional literacy. Information literacy is an ability acquired through learning.(Lloyd, 2005). Thus, general courses on information literacy and specialized courses on information literacy tailored to specific departmental work demands should be offered by the human resources department and by other sectors of a company, respectively; 2) Firms should increase the adoption and use of IT equipment. All industries are accelerating informationization and intelligence. Digital Natives are becoming the main source of customers in the tourism and hospitality industry. As a generation growing up in the era of internet, they have an innate affinity for digital lifestyles (Choi et al., 2022). Evidently, it has become a major trend for companies to invest in IT equipment in the industry. Additionally, this study confirmed that both employees perceived technological turbulence and information literacy contribute to individual SIP. Accordingly, companies should increase investment in IT equipment based on their own situation, improve employees' information literacy, meanwhile build a platform for knowledge sharing and information literacy. In the long run, both knowledge and information literacy are heterogeneous resources for firms, which contribute to improving performance and maintaining competitive advantages.

Fourth, enhance the employees' perception of market turbulence in the tourism and hospitality industry. Nowadays, most companies can identify the customer segments and demands they correspond to, but customer demands tend to change at any moment. Therefore, it is necessary for companies to identify the dynamic needs of target customers. For middle and senior management employees, regular communication is necessary about the market status of the industry as well as the market status of the company, so that management can fully understand the characteristics of different market segments for targeted marketing. For grassroots management and frontline employees, the HR department should improve employees' perception of market turbulence by regular training. Except for the operation ability training, the current market situation of the industry should be taken as one of the basic contents of the regular staff training. The aim is to better understand customers.

There are some limitations in this study. Firstly, this study explored the mechanism of technological and market turbulence on individual SIP and did not discuss other external environmental factors. In the future, the influence of other external environmental factors on individuals, such as policy environment and competitive environment, can be considered. Secondly, due to the wide scope of the tourism and hospitality industry, it is a comprehensive industry that encompasses branches such as food, accommodation, transportation, tourism, shopping and entertainment. However, other branches of the industry have also been committed to innovation. Therefore, in the future, researchers can target other sub-industries of the tourism and hospitality to conduct research, such as, travel agencies, tourist transportation, catering, scenic spots and other samples. Thirdly, the research model was only tested in China, to test the generalizability of the model, the research site is recommended to other countries where tourism and hospitality industries are well developed in the future.

REFERENCES

Abimbola, M. (2017). Information literacy skills and equitable access to learning resources in selected secondary schools in Ilesa city: An empirical perspective. *Library Philosophy and Practice (e-journal)*, 1-18. https://digitalcommons.unl.edu/libphilprac/1683/

Ahmad, F., Widén, G., & Huvila, I. (2020). The impact of workplace information literacy on organizational innovation: An empirical study. *International Journal of Information Management, 51*, 1-12. https://doi.org/10.1016/j.ijinfomgt.2019.102041

Al-Azri, H. M., Harith Al-Harrasi, N., & Al-Aufi, A. S. (2023). Information literacy and relation to workplace: a review of the literature. *Global Knowledge, Memory and Communication*. https://doi.org/10.1108/gkmc-08-2022-0191

Arora, A., Arora, A. S., Anyu, J. N., & McIntyre, J. R. (2021). Global value chains' disaggregation through supply chain collaboration, market turbulence, and performance outcomes. *Sustainability, 13*(8), 1-18. https://doi.org/10.3390/SU13084151

Atuahene-Gima, K. (1995). An exploratory analysis of the impact of market orientation on new product performance: A contingency approach. *Journal of Product Innovation Management, 12*(4), 275-293. https://doi.org/10.1016/0737-6782(95)00027-Q

Barney, J. B. (2001). Resource-based theories of competitive advantage: A ten-year retrospective on the resource-based view. *Journal of Management, 27*(6), 643-650. https://doi.org/10.1177/014920630102700602

Ben Youssef, A., & Zeqiri, A. (2022). Hospitality industry 4.0 and climate change. *Circular Economy and Sustainability, 2*(3), 1043-1063. https://doi.org/10.1007/s43615-021-00141-x

Boddewyn, J. J., Halbrich, M. B., & Perry, A. C. (1986). Service multinationals: conceptualization, measurement and theory. *Journal of International Business Studies, 17*, 41-57. https://doi.org/10.1057/PALGRAVE.JIBS.8490860

Bodlaj, M., & Čater, B. (2019). The impact of environmental turbulence on the perceived importance of innovation and innovativeness in SMEs. *Journal of Small Business Management, 57*, 417-435. https://doi.org/10.1111/jsbm.12482

Bollen, K. A. (1989). A new incremental fit index for general structural equation models. *Sociological Methods & Research, 17*(3), 303-316. https://doi.org/10.1177/0049124189017003004

Butt, M. A., Nawaz, F., Hussain, S., Sousa, M. J., Wang, M., Sumbal, M. S., & Shujahat, M. (2019). Individual knowledge management engagement, knowledge-worker productivity, and innovation performance in knowledge-based organizations: the implications for knowledge processes and knowledge-based systems. *Computational and Mathematical Organization Theory, 25*, 336-356. https://doi.org/10.1007/s10588-018-9270-z

Çeltekligil, K., & Adiguzel, Z. (2019). Analysis of the effect of innovation strategy and technological turbulence on competitive capabilities and organizational innovativeness in technology firms. *Procedia Computer Science, 158*, 772-780. https://doi.org/10.1016/j.procs.2019.09.114

Chang, C.-P., & Hsu, P.-C. (2015). The correlation between employee information literacy

and employee creativity. *Qual Quant 49*(1), 221–234. https://doi.org/10.1007/s11135-013-9983-5

Chatterjee, L., Feng, C., Nakata, C., & Sivakumar, K. (2023). The environmental turbulence concept in marketing: A look back and a look ahead. *Journal of Business Research, 161*, 113775. https://doi.org/10.1016/j.jbusres.2023.113775

Chen, M., Zhou, C., Wang, Y., & Li, Y. (2022). The role of school ICT construction and teacher information literacy in reducing teacher burnout: Based on SEM and fsQCA. *Education and Information Technologies, 27*(6), 8751-8770. https://doi.org/10.1007/s10639-022-10989-7

Chen, X., & Wei, S. (2020). The impact of social media use for communication and social exchange relationship on employee performance. *Journal of Knowledge Management, 24*(6), 1289-1314. https://doi.org/10.1108/JKM-04-2019-0167

Cheng, C. C. J., & Krumwiede, D. W. (2010). The effects of market orientation and service innovation on service industry performance: An empirical study. *Operations Management Research, 3*, 161-171. https://doi.org/10.1007/S12063-010-0039-X

Choi, M., Choi, Y., & Kim, D.-Y. (2022). Digital natives: internal defence mechanism to distrust tourism advertisements. *Current Issues in Tourism, 26*(16), 2692-2707. https://doi.org/10.1080/13683500.2022.2095508

Crawford, J. C. (2013). Information literacy and lifelong learning. *Library and Information Research, 37*(114), 1-6. https://doi.org/10.1533/9781780633480

Enwald, H. P. K., Hirvonen, N., Kangas, M., Keränen, N., Jämsä, T., Huvila, I., & Korpelainen, R. (2017, September 18-21). *Relationship between everyday health information literacy and attitudes towards mobile technology among older people* Information Literacy in the Workplace: 5th European Conference, ECIL 2017, Saint Malo, France.

Feng, C., & Sivakumar, K. (2016). The role of collaboration in service innovation across manufacturing and service sectors. *Service Science, 8*(3), 263-281. https://doi.org/10.1287/serv.2016.0135

Folger, N., Brosi, P., & Stumpf-Wollersheim, J. (2021). Perceived Technological Turbulence and Individual Ambidexterity– The Moderating Role of Formalization. *European Management Journal, 40*(5), 718-728. https://doi.org/10.1016/j.emj.2021.10.005

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39-50. https://doi.org/10.2307/3151312

Gemici, E., & Zehir, C. (2021). High-performance work systems, learning orientation and innovativeness: the antecedent role of environmental turbulence. *European Journal of Innovation Management, 26*(2), 475-503. https://doi.org/10.1108/EJIM-05-2021-0243

Gerlach, F., Hundeling, M., & Rosing, K. (2020). Ambidextrous leadership and innovation performance: a longitudinal study. *Leadership & Organization Development Journal, 41*(3), 383-398. https://doi.org/10.1108/LODJ-07-2019-0321

Ghosh, K., & Khatri, N. (2018). Does servant leadership work in hospitality sector: A representative study in the hotel organizations. *Journal of Hospitality and Tourism Management, 37*, 117-127. https://doi.org/10.1016/j.jhtm.2017.10.012

Grant, R. M. (1996). Toward a knowledge-based theory of the firm. *Strategic*

Management Journal, 17(S2), 109-122. https://doi.org/10.1002/smj.4250171110

Guerrero-Rodríguez, R., Álvarez-Carmona, M. Á., Aranda, R., & Díaz-Pacheco, Á. (2024). Big data analytics of online news to explore destination image using a comprehensive deep-learning approach: a case from Mexico. *Information Technology & Tourism, 26*(1), 147-182. https://doi.org/10.1007/s40558-023-00278-5

Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (1998). *Multivariate data analysis (5th ed.)*. Englewood Cliffs.

Hair, J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (2010). *Multivariate data analysis (7th ed.)*. Englewood Cliffs.

Hasanlu, A., & Jafari, M. (2015). Explaining the relationship between information literacy and intellectual capital. *Australian Journal of Business Science Design & Literature, 7*(35), 106-116. https://core.ac.uk/reader/234626980

Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford publications.

Hicks, A., & Lloyd, A. (2016). It takes a community to build a framework: Information literacy within intercultural settings. *Journal of Information Science, 42*(3), 334-343. https://doi.org/10.1177/0165551516630219

Hu, M.-L. M., Horng, J.-S., & Sun, Y.-H. C. (2009). Hospitality teams: Knowledge sharing and service innovation performance. *Tourism Management, 30*(1), 41-50. https://doi.org/10.1016/j.tourman.2008.04.009

Huo, B., Wang, B., & Li, Z. (2024). How to deal with technological turbulence for improving innovation performance. *Technology Analysis & Strategic Management, 36*(3), 549–562. https://doi.org/10.1080/09537325.2022.2042510

Hussain, K., Konar, R., & Ali, F. (2016). Measuring service innovation performance through team culture and knowledge sharing behaviour in hotel services: A PLS approach. *Procedia-Social and Behavioral Sciences, 224*, 35-43. https://doi.org/10.1016/j.sbspro.2016.05.397

Hussain, N., Bhatti, W. A., Khan, S. A., Arslan, A., & Tarba, S. Y. (2022). Firm absorptive capacity: Multidimensionality, drivers and contextual conditions. *Journal of Knowledge Management, 26*(10), 2718-2742. https://doi.org/10.1108/jkm-07-2021-0552

Inkpen, A. C. (1996). Creating Knowledge through Collaboration. *California Management Review, 39*(1), 123-140. https://doi.org/10.2307/41165879

International Monetary Fund. (2023). *World Economic Outlook Update, July 2023: Near-Term Resilience, Persistent Challenges*. https://www.imf.org/en/Publications/WEO/Issues/2023/07/10/world-economic-outlook-update-july-2023

Ishimura, Y., & Fitzgibbons, M. (2022). How does web-based collaborative learning impact information literacy development? *The Journal of Academic Librarianship, 49*(1), 102614. https://doi.org/10.1016/j.acalib.2022.102614

Jaworski, B. J., & Kohli, A. K. (1993). Market Orientation: Antecedents and Consequences. *Journal of Marketing, 57*(3), 53-70. https://doi.org/10.1177/002224299305700304

Kim, T. T., & Lee, G. (2013). Hospitality employee knowledge-sharing behaviors in the relationship between goal orientations and service innovative behavior. *International Journal of Hospitality Management, 34*, 324-337. https://doi.org/10.1016/j.ijhm.2013.04.009

Kim, T. T., Lee, G., Paek, S., & Lee, S. (2013). Social capital, knowledge sharing and organizational performance: What structural relationship do they have in hotels? *International Journal of Contemporary Hospitality Management, 25*(5), 683-704. https://doi.org/10.1108/IJCHM-JAN-2012-0010

Kumar, M., Mamgain, P., Pasumarti, S. S., & Singh, P. K. (2024). Organizational IT support and knowledge sharing behaviour affecting service innovation performance: empirical evidence from the hospitality industry. *VINE Journal of Information and Knowledge Management Systems, 52*(2), 256-279. https://doi.org/10.1108/vjikms-07-2021-0124

Li, C. K., & Hung, C. H. (2010). An examination of the mediating role of person-job fit in relations between information literacy and work outcomes. *Journal of Workplace Learning, 22*(5), 306-318. https://doi.org/10.1108/13665621011053217

Liu-Lastres, B., Huang, W.-J., & Bao, H. (2023). Exploring hospitality workers' career choices in the wake of COVID-19: Insights from a phenomenological inquiry. *International Journal of Hospitality Management, 111*, 1-11. https://doi.org/10.1016/j.ijhm.2023.103485

Lloyd, A. (2005). Information literacy: Different contexts, different concepts, different truths? *Journal of Librarianship and information Science, 37*(2), 82-88. https://doi.org/10.1177/096100060505535

Lloyd, A. (2012). Information literacy as a socially enacted practice: Sensitising themes for an emerging perspective of people-in-practice. *Documentation, 68*(6), 772-783. https://doi.org/10.1108/00220411211277037

Lloyd, A., & Williamson, K. (2008). Towards an understanding of information literacy in context: Implications for research. *Journal of Librarianship Information Science, 40*(1), 3-12. https://doi.org/10.1177/0961000607086616

Lo, W. H., & Cheng, K. L. B. (2020). Does virtual reality attract visitors? The mediating effect of presence on consumer response in virtual reality tourism advertising. *Information Technology & Tourism, 22*(4), 537-562. https://doi.org/10.1007/s40558-020-00190-2

Lose, T., & Khuzwayo, S. (2021). Technological perspectives of a balanced scorecard for business incubators: Evidence from South Africa. *Problems and Perspectives in Management, 19*(4), 40-47. https://doi.org/10.21511/ppm.19(4).2021.04

Luthans, F. (1973). The contingency theory of management: A path out of the jungle. *Business Horizons, 16*(3), 67-72. https://doi.org/10.1016/0007-6813(73)90026-8

McAdam, R., Miller, K., & McSorley, C. (2016). Towards a contingency theory perspective of quality management in enabling strategic alignment. *International Journal of Production Economics, 207*, 195-209. https://doi.org/10.1016/J.IJPE.2016.07.003Corpus

Middleton, L., & Hall, H. (2021). Workplace information literacy: a bridge to the development of innovative work behaviour. *Journal of Documentation, 77*(6), 1343-1363. https://doi.org/10.1108/jd-03-2021-0065

Middleton, L., Hall, H., Muir, L., & Raeside, R. (2018). The interaction between people, information and innovation: Information literacy to underpin innovative work behaviour in a Finnish organisation. *Proceedings of the Association for Information Science and Technology, 55*(1), 367-376. https://doi.org/10.1002/pra2.2018.14505501040

Moorman, C., & Miner, A. S. (1997). The impact of organizational memory on new

product performance and creativity. *Journal of Marketing Research, 34*(1), 91-106. https://doi.org/10.1177/002224379703400108

Naveed, M. A., & Saadia, H. (2023). Information literacy at journalists' workplace in Pakistan. *Journal of Librarianship Information Science*. https://doi.org/10.1177/09610006221142625

Naveed, M. A., & Shah, N. A. (2023). Information literacy in the legal workplace: Current state of lawyers' skills in Pakistan. *Journal of Librarianship and information Science, 55*(2), 334-347. https://doi.org/10.1177/09610006221081895

Nham, T. P., Nguyen, T.-M., Tran, N. H., & Nguyen, H. A. (2020). Knowledge sharing and innovation capability at both individual and organizational levels: An empirical study from Vietnam's telecommunication companies. *Challenges for the Knowledge Society, 15*(2), 275-301. https://doi.org/10.2478/mmcks-2020-0017

Olayemi, O. M., Madukoma, E., & Yacob, H. (2022). Health information literacy of tuberculosis patients in DOT centers in Lagos State, Nigeria. *Frontiers in Health Informatics, 11*(117), 1-7. https://doi.org/10.30699/fhi.v11i1.372

Önder, I., & Gunter, U. (2020). Blockchain: Is it the future for the tourism and hospitality industry? *Tourism Economics, 28*(2), 291-299. https://doi.org/10.1177/13548166209617

Pérez-Nordtvedt, L., Mukherjee, D., & Kedia, B. L. (2015). Cross-border learning, technological turbulence and firm performance. *Management International Review, 55*, 23-51. https://doi.org/10.1007/s11575-014-0224-5

Pholphirul, P., Rukumnuaykit, P., Charoenrat, T., Kwanyou, A., & Srijamdee, K. (2021). Service marketing strategies and performances of tourism and hospitality enterprises: Implications from a small border province in Thailand. *Asia Pacific Journal of Marketing and Logistics, 34*(5), 887-905. https://doi.org/10.1108/APJML-01-2021-0064

Podsakoff, P. M., & Organ, D. W. (1986). Self-reports in organizational research: Problems and prospects. *Journal of Management, 12*(4), 531-544. https://doi.org/10.1177/014920638601200408

Rosing, K., & Zacher, H. (2017). Individual ambidexterity: the duality of exploration and exploitation and its relationship with innovative performance. *European Journal of Work and Organizational Psychology, 26*(5), 694-709. https://doi.org/10.1080/1359432X.2016.1238358

Saengchaia, S., & Jermsittiparsertb, K. (2019). The effect of market turbulence on the supply chain strategies and the organizational performance. *Journal of Innovation, Creativity and Change, 5*(2), 284-303. https://ijicc.net/images/Vol5iss2_/19_Kittisak_P284_2019R.pdf

Sample, A. (2020). Historical development of definitions of information literacy: A literature review of selected resources. *The Journal of Academic Librarianship, 46*(2), 1-8. https://doi.org/10.1016/j.acalib.2020.102116

Sawhney, M. S., Verona, G., & Prandelli, E. (2005). Collaborating to create: The Internet as a platform for customer engagement in product innovation. *Journal of Interactive Marketing, 19*(4), 4-17. https://doi.org/10.1002/dir.20046

Senbeto, D. L., & Hon, A. H. Y. (2020). Market turbulence and service innovation in hospitality: examining the underlying mechanisms of employee and organizational resilience. *The Service Industries Journal, 40*(15-16), 1119-1139. https://doi.org/10.1080/02642069.2020.1734573

Senbeto, D. L., & Hon, A. H. Y. (2021). Development of employees' resilience in technologically turbulent environments: Probing the mechanisms of consonance–dissonance and crisis leadership. *International Journal of Contemporary Hospitality Management, 33*(8), 2721-2740. https://doi.org/10.1108/ijchm-11-2020-1263

Shahzadi, K., & Khurram, S. (2020). Self-efficacy and Innovative Work Behavior: The Role of Individual Ambidexterity and Formalization at Work Place in Pakistan. *Journal of the Research Society of Pakistan, 57*(1), 31-46. http://pu.edu.pk/images/journal/history/PDF-FILES/3_57_1_20.pdf

Shang, Y., Pan, Y., & Richards, M. (2023). Facilitating or inhibiting? The role of enterprise social media use in job performance. *Information Technology & People, 36*(6), 2338-2360. https://doi.org/10.1108/ITP-04-2021-0268

Sigala, M., Ren, L., Li, Z., & Dioko, L. A. N. (2023). Talent management in hospitality during the COVID-19 pandemic in Macao: A contingency approach. *International Journal of Contemporary Hospitality Management, 35*(8), 2773-2792. https://doi.org/10.1108/ijchm-06-2022-0793

Snyder, H., Witell, L., Gustafsson, A., Fombelle, P., & Kristensson, P. O. (2016). Identifying categories of service innovation: A review and synthesis of the literature. *Journal of Business Research, 69*(7), 2401-2408. https://doi.org/10.1016/j.jbusres.2016.01.009

Storey, C., Cankurtaran, P., Papastathopoulou, P., & Hultink, E. J. (2016). Success Factors for Service Innovation: A Meta-Analysis. *Journal of Product Innovation Management, 33*(5), 527-548. https://doi.org/10.1111/jpim.12307

Storey, C., & Kelly, D. (2001). Measuring the performance of new service development activities. *The Service Industries Journal, 21*(2), 71-90. https://doi.org/10.1080/714005018

Sun, J., Tekleab, A., Cheung, M. F. Y., & Wu, W. (2022). The contingent roles of market turbulence and organizational innovativeness on the relationships among interfirm trust, formal contracts, interfirm knowledge sharing and firm performance. *Journal of Knowledge Management, 27*(5), 1436-1457. https://doi.org/10.1108/jkm-04-2022-0289

Szulanski, G. (1996). Exploring internal stickiness: Impediments to the transfer of best practice within the firm. *Strategic Management Journal, 17*(S2), 27-43. https://doi.org/10.1002/SMJ.4250171105

Tu, Y.-K., Kellett, M., Clerehugh, V., & Gilthorpe, M. S. (2005). Problems of correlations between explanatory variables in multiple regression analyses in the dental literature. *British dental journal, 199*(7), 457-461. https://doi.org/10.1038/sj.bdj.4812743

Vick, T. E., & Nagano, M. S. (2013). *Relations between information literacy and knowledge generation in innovation teams-a four dimensional perspective* International Conference on Knowledge Management and Information Sharing, Vilamoura, Portugal: Escola de Engenharia de São Carlos, Universidade de São Paulo. https://pdfs.semanticscholar.org/9b03/75b97de2bd26db5cd3f2515f3b6314214ebd.pdf

Wang, Y.-F., & Zhu, Y. (2012). Zǔzhī shèhuì huà, xìnrèn, zhīshì fēnxiǎng yǔ chuàngxīn xíngwéi: Jīzhì yǔ lùjìng yánjiū [Organizational socialization, trust, knowledge sharing and innovation behavior: Research on mechanism and path]. *R & D*

Management, 24(2), 34-46. https://doi.org/10.13581/j.cnki.rdm.2012.02.006

Wang, Z., & Jiang, Z. (2020). Cóng zhīshì huòqǔ dào chuàngxīn nénglì: Xìnxī sùyǎng de tiáojié xiàoyìng [From knowledge acquisition to innovative capacity: The moderating effect of information literacy]. *Science Research Management, 41*(1), 274-284. https://doi.org/10.19571/j.cnki.1000-2995.2020.01.027

World Tourism Organization. (2023). *Tourism on Track for Full Recovery as New Data Shows Strong Start to 2023*. https://www.unwto.org/news/tourism-on-track-for-full-recovery-as-new-data-shows-strong-start-to-2023

Wu, C.-M., Chen, T.-J., & Wang, Y.-C. (2023). Formation of hotel employees' service innovation performance: Mechanism of thriving at work and change-oriented organizational citizenship behavior. *Journal of Hospitality and Tourism Management, 54*, 178-187. https://doi.org/10.1016/j.jhtm.2022.12.015

Wu, M.-S. (2018). Information literacy, creativity and work performance. *Information Development, 35*(5), 676-687. https://doi.org/10.1177/0266666918781436

Zhang, L., Nie, T., & Gao, B. (2016). Zǔzhī xuéxí huánjìng xià yuángōng xìnxī sùyǎng duì chuàngzào lì de yǐngxiǎng--zhīshì fēnxiǎng xíngwéi de tiáojié zuòyòng [The effect information literacy on employee creativity under organizational learning environment: The moderating role of knowledge sharing behavior]. *Science of Science and Management of S.&.T, 37*(12), 101-110. https://www.ssstm.org/CN/abstract/abstract1078.shtml