

Information Technology competency and knowledge management in the hospitality industry service supply chain

Abstract

Purpose– This study aims to provide a better understanding of how information technology (IT) competency and knowledge management (KM) contributes to service supply chain (SSC) (coordination, collaboration, and efficiency) practices in the hospitality industry.

Design/methodology/approach– Drawing on tourism businesses, this study tests the structural relationships of IT competency, KM, and SSC. Structural equation modeling (SEM) is performed to test the hypotheses. A survey of 494 hotels in Iran provided empirical evidence for the existence of interrelationships between multiple constructs.

Findings– Our analysis demonstrated that IT competency is significantly associated with KM. Furthermore, SSC practices are found to be directly impacted by KM and IT competency.

Originality/value– This study unpacks the mechanism that operates between IT competency, KM, and SSC and contributes to the academic research on SSC in the context of the hospitality industry.

Keywords Information technology competency, Knowledge management, Service supply chain, Hospitality industry

1. Introduction

The success of a business in today's global market depends largely on its ability to coordinate and collaborate with the supply chain (SC) members in a complex network of business communications and information. Research has indicated that in a competitive environment, the key to sustainable competitive advantage in SC is providing high-quality services that ultimately lead to tourists' satisfaction (Subramanian *et al.*, 2016). Service supply chain (SSC) is an actor-network of suppliers-providers, customers, and other key stakeholders involved in the exchange of resources required to provide services, turning these resources into the main and supporting services and providing these services for customers (Jamkhaneh *et al.* 2018). SSC as a competing unit in tourism businesses is closely connected to the relationships among customers, service providers, and groups of sub-contractors integrated with operator systems and resources (Mandal *et al.*, 2017; Buhalis and Leung, 2018; Huang, 2018). This relation can be viewed as practices and routines in terms of satisfying tourist industry requirements, agility in service processes, and enhancing upstream suppliers (e.g. drinks and food suppliers, laundry linen, culinary materials) and downstream partners (e.g. tourists).

Information technology (IT) can simultaneously provide support and make a positive change for competitive processes in increasingly hospitality markets (Buhalis, 2000; Paraskevas *et al.*, 2011). IT refers to the use of any networking, storage, computers, and other devices, processes and infrastructures to create, acquire, process, store, secure and exchange data or information (Jalilvand and Heidari, 2017). Remaining and managing efficiency of hospitality systems and dynamic SSC depend on IT support by assisting in completing job tasks (Law *et al.*, 2014) and

creating capability for fruitful collaborations and knowledge sharing with partners who can provide a source of competitive advantage (Buhalis and Leung, 2018).

To date, however, evidence of the impact of IT on SSC practices in the hospitality industry has been limited and inconclusive. Further, research reveals that a lack of knowledge management (KM) use results in failure of SC performance (Patil and Kant, 2014). KM capability is viewed as a strategic asset that facilitates the coordination and collaboration between SC members and promotes effective use of systems (Mao *et al.*, 2016). KM refers to the collection, analyzing processes, storage, and sharing of information and knowledge within an organization. KM aims to improve efficiency by reducing the need to rediscover and process unnecessary data and information (Girard and Girard, 2015). Meaningful use of KM leads to SSC excellence by the synergy that comes from learning, innovation, continues improvement, customer satisfaction, and flexibility. Surprisingly, due to the complexities and different social norms in organizational climates, the implementation of KM and capturing value in SSC are a complex task. Despite the urgent requirement to further investigation on these social material phenomena, limited studies have tested the relationship between KM capability, IT, and SSC practices in the hospitality sector (Wong and Wong, 2011; Liu *et al.*, 2013, Shakerian *et al.*, 2016; Bin Dost *et al.*, 2018).

With a strategic location and a young population, Iran has significant potential to become a leading tourism and hospitality market in the Middle-East region. According to Iran's tourism vision, to achieve certain key fundamental improvements and attract 20 million tourists by 2025, the government has planned to privatize the tourism industry and particularly suppliers involved in this sector. However, a key challenge is the lack of new hospitality development projects such as IT-based projects in the hotel sector. Further, the scarcity of KM mechanisms with international standards in the sector problematizes the vision (Mao *et al.*, 2013).

Therefore, seeking to address the gap, this study takes the first step towards conceptualization of an IT-KM framework for SSC via a theoretical lens to provide casual explanations on how IT capability and effective use of KM should be applied for SSC management in the hospitality industry. By providing the first evidence on linkages between IT, KM, and SSC, we contribute to the tourism and hospitality literature and extend prior findings. More importantly, this research narrows the gap in the literature by analyzing and interpreting the casual roles of IT and KM capabilities on SSC practices. This work in turn provides valuable information related to a sociotechnical perspective on how to enhance collaboration and efficiency of hospitality management.

2. Theoretical background

2.1. IT competency

Effective use of IT to fulfil organizational tasks and goals forces a change in the focus of management perspectives from goods-dominant logics to services, collaborations, and customer satisfaction. Businesses, particularly the tourism industry, have experienced this transformation and change as a source of competitive dimension. For example, efficiency and collaboration between partners can be maximized via IT competency and consequently the higher value will co-create for the marketplace (Buhalis and O'Connor, 2005, Buhalis and

Foerste, 2015). From the resource-based view (RBV), the success of identifying customer needs and creating value depends largely upon key resources such as IT competency (Cho et al., 2012).

In organizational processes, a high level of IT competency is considered to be the most critical type of information capability. Based on this key resource, firms gain capability to utilize and manage insightful knowledge involved in the supply chain (Liu et al., 2016).

2.2. *KM*

A recent progress in information processing provides an extensive utilization of knowledge transfer, production, and storage of knowledge as well as knowledge reuse. Thus, many businesses in the hospitality sector have taken actions to implement KM in recent decades (Jääskeläinen and Laihonen, 2013, Cooper, 2018). KM can improve the level of capability to utilize prior knowledge to capture a new value and apply it in routines (performative) and practices that allow firms to compete in the market. This set of processes includes knowledge acquisition, sharing, and application (Wee and Chua, 2013); knowledge documentation, acquisition, and creation (Liang et al., 2007); and knowledge transfer and protection (Tseng and Lee, 2014). The genealogy of KM in SSC can be traced back from the knowledge-based view of the business. According to the RBV, unique abilities and competency generating and exploiting valuable knowledge improve outcomes. If the abilities are embedded into SSC, they can create values for the chain and lead to better performance. Accordingly, the knowledge-based view provides a theoretical foundation for supporting the argumentation that KM affects SSC in the hospitality industry.

2.3. *SSC*

The growing attention to quality of service and customer satisfaction has led to many service managers taking actions in the area of SSC performance. Services are inherently diverse; thus, it seems unreasonable to provide an integrated management framework for SSC that can apply to all industries; for example, the purchase processes to provide complex services that require technical knowledge are apparently different from standard services such as travel and tourism services. In the case of tourism and hospitality services that are clearly intangible, their SC structure is different from that of manufacturing firms (Guo and He, 2012). The more tangible the services become, the more difficult it will be to assess the SC performance. Therefore, there is a requirement to design a framework consisting of intangible resources, service support networks, and hard and soft performance. The lack of contributing factors regarding SSC networks' efficiency, relationships management in the co-creation processes, for example between the hotel and producers, represents a "wastage of value" (Thomas-Francois et al., 2018). Whether in SSC management or in physical goods, the key decision for businesses is to reduce the degree of uncertainty in terms of demand and supply (Giannakis, 2011). A SSC model for the hospitality industry combines both front- and back-end systems, as illustrated in Figure 1. IT offers enormous business opportunities to enhance revenue while reducing operational costs.

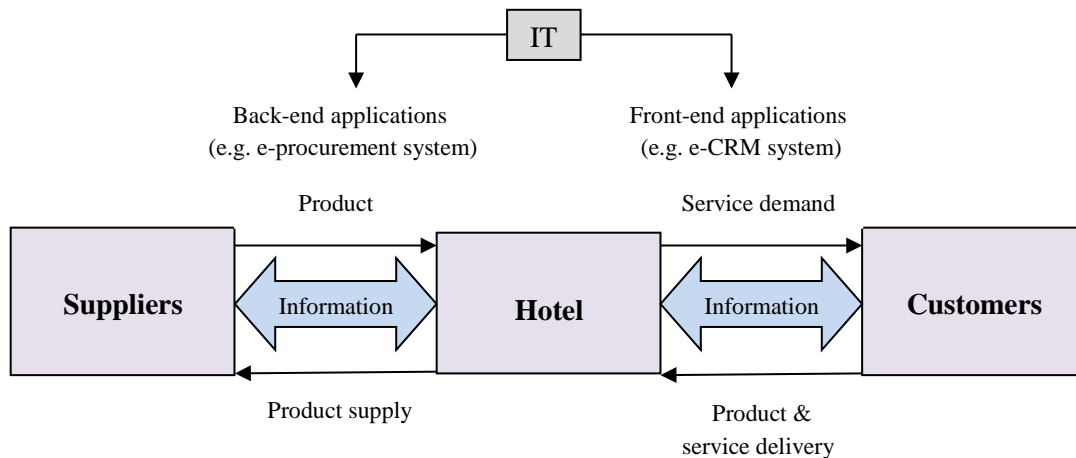


Figure 1. SSC of a hotel (adopted from Kothari et al., 2005)

3. Hypothesis development

3.1. IT competency and KM

At present, IT plays a major role in the transmission of information within an organization. To be successful, organizations must be effectively equipped with knowledge power. However, some organizations focus more on systems and tools rather than on knowledge sharing. IT is doubtless an effective and efficient tool and system which can be used to share knowledge and facilitate the KM processes. Intelligent computer hardware and software tools can play an effective role in KM processes. In fact, IT competency can play a variety of roles in supporting the KM processes (White and Cicmil, 2016). IT assists companies in the facilitation of co-creation practices, dynamic service (Neuhofer et al. 2015), access to experts, and effective use of KM in the organization (Singh and Soltani, 2010). Creating an organizational climate equipped with updated tools related to IT can accelerate and facilitate the KM processes and make it possible to establish more effective communication among employees. However, it should be noted that people in an organization should be aware of how to use the IT tools and systems and be able to use them well. The important point is that the IT infrastructure leads to automation and standardization of certain tasks and support of knowledge transfer in the KM process (Mao *et al.*, 2016). Hence, the following hypothesis is advanced:

H1. IT competency positively affects KM.

3.2. IT competency and SSC

As inferred from the results of the research, IT, if used properly, can provide many benefits for an organization. For example, studies demonstrate that the use of IT channels can enhance the products' quality, the workflow, the organizational flexibility, and relationships with buyer-supplier to meet customers' needs (Rahimi et al. 2016). It is thus understandable that many companies have to develop IT strategies as a source to facilitate obtaining and using information so that they can remain in the increasingly competitive market. The existence of flexible IT infrastructures, along with the knowledge to manage it and integrate the company's strategies with IT practices, can have a positive impact on the competitive position of companies and guarantees the quality of SC (Liu *et al.*, 2016; Gunasekaran *et al.*, 2017). Thus,

due to the considerable effect of IT on the other affairs of the organization, it can be concluded that it will have a noticeable impact on *SC* as well (Huo *et al.*, 2015; Qrunfleh and Tarafdar, 2015). In a survey of managers at luxury hotels, Alsetoohy and Ayoun (2018) found that the use of intelligent agent technology has a positive effect on both hotels' procurement practices and procurement performance. Additionally, the results indicated that hotels' food procurement practices have a positive influence on food procurement performance. Kaya and Azaltun (2012) also surveyed senior management and relevant department authorities of five-star hotels in Istanbul and found that the internet is being used instead of fax as a means of communication in the *SC* of hotels. Further, the use of information systems is reflected in the *SC* process. Additionally, as mentioned in the previous sections, the ability to adopt IT can improve the *SSC* performance of a company in compliance with environmental changes and thus lead to a better competitive position for the company than its rivals, who may be faced with serious problems regarding information and the process of adaptation to their environment (Gunasekaran *et al.*, 2017). Hence, the following hypotheses are suggested:

H2. IT competency positively affects *SSC* coordination.

H3. IT competency positively affects *SSC* collaboration.

H4. IT competency positively affects *SSC* efficiency.

3.3. *KM and SSC*

A review of the previous studies shows that there exists a general consensus that *KM* is a critical factor in logistics and *SC* decision-making (Schoenherr *et al.*, 2014). Some other studies have found that *KM* is associated with *SC*. Lin (2017) concluded that organizational capabilities and knowledge sharing lead to superior *SC management*, which, in turn, facilitates improved competitive performance. Similarly, Golrizgashti (2016) found, based on a case study in home appliance manufacturing firms in Iran, that *KM* has a positive impact on *SC*. Additionally, Cantor *et al.* (2014) determined that developing *KM* is one of the key enablers of the *SC* process in US manufacturing industries. To gain a sustainable competitive advantage, organizations need to constantly identify, acquire, organize, share, and evaluate their knowledge resources. In other words, improving the *SSC* of a company or organization inevitably involves planning, implementing, monitoring and evaluating the *KM* processes. From this perspective, how to produce and derive more *KM* resources is vital to an organization (Schiuma, 2012). Effective *KM* will increase customer-organization collaboration. This approach enables organizations to consider suggestions based on their customers' needs and demands, therefore resulting in higher levels of customer retention and sales growth. Similarly, if knowledge is properly organized and implemented or new knowledge is considerably created, there will not only be an increase in organizational excellence but *SSC* will also be inspired (Lin, 2017). Hence, the following hypotheses are suggested:

H5. *KM* positively affects *SSC* coordination.

H6. *KM* positively affects *SSC* collaboration.

H7. *KM* positively affects *SSC* efficiency.

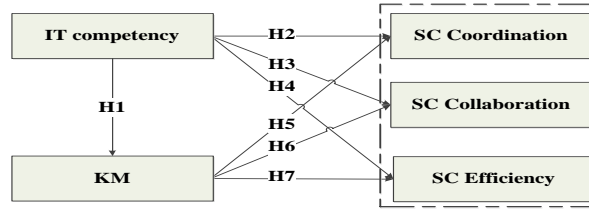


Figure 2. The conceptual model

4. Methodology

4.1. Population and sampling

Based on data recorded for Iran’s Cultural Heritage, Handicrafts and Tourism Organization (ICHHTO), 1025 hotels are operating in Iran. There are 354 two-, 221 three-, 348 one-, 23 five-, and 79 four-star hotels in which all of them have been technologically equipped in the recent five years. The testing of the conceptual model requires data from knowledgeable respondents in the hotels. Thus, we collected survey data from the top executives. An initial survey was distributed to a group of hotel managers to extract their comments on the survey items. In order to determine the face validity of the instrument, a back translation method (McGorry, 2000) was used. To do so, two bilingual individuals participated in the translation process. In addition, the instrument was revised based on the feedback achieved from the executives in the hospitality industry. A pilot study was conducted, and the sample size was estimated at 494 hotels through Cochran’s formula. Contact and address information was searched from ICHHTO (2018) and from hotels’ web sites. The survey was distributed to the remaining hotels so that their contact information could be gathered — 68 by mail and 426 by e-mail. The mailed surveys encompassed a postage-paid and self-addressed envelope for recurring the completed survey. E-mail receivers saved the attached survey, marked their responses, and returned it as an electronic attachment. In sum, 317 responses were returned, or 64 percent of the 494 hotels contacted — 41 by mail and 276 by e-mail. Follow-up e-mail and mail notices were dispatched over a 10-week period. The sample selection method bias was assessed using independent t tests on the research variables. No significant difference ($P < 0.05$) was identified, and therefore, the bias did not present a problem in our data set.

4-2. Instrument

There were 28 items in the survey that were made to address the seven research hypotheses. All items employed a 5-point Likert’s scale. There were six questions adapted from Liu et al. (2016) to ask the respondents about IT capability in their hotels. There were ten questions that were used to measure KM construct, developed from Forte et al.’s (2016) study. Finally, SSC construct was measured using a 12-item scale adapted from Ramanathan and Gunasekaran (2014), Huo et al. (2015), and Yoon et al. (2016).

4-3. Validity and reliability analysis

Cronbach’s α was used to assess reliability. If the α value is higher than 0.70, the measurement reliability is satisfactory. We use confirmatory factor analysis (CFA) to test the convergent validity (Table 1). All factor loadings for the total measurement model were statistically

significant and larger than 0.50 (with all t values at $p < 0.01$ level), supporting convergent validity, the CFA. Discriminant validity was also acceptable because the analysis estimated significantly lower chi-squares for the unconstrained models.

4-4. Data analysis

Structural Equation Modelling (SEM) was employed to examine whether the conceptual model is valid. AMOS software was used for data analysis. Five major fit indices including χ^2/df , RMSEA, CFI, AGFI, and GFI were employed to assess the model fit.

5. Findings

The survey targeted hotel managers identified on the basis of information provided by the ICHHTO. The sample of hotel managers contained more males (84 percent) than females (16 percent). More than 85 percent had a college, university, or graduate education. Almost 65 percent of managers were in the 40-49 age group, followed by 30-39 (29 percent). In terms of size, 56 percent of the hotels had more than 150 rooms, whereas 38 percent had between 50 and 150. Only 6 per cent had less than 50 rooms. In terms of ranking, 62 percent were 3-star hotels, and 38 percent were 4- or 5-star hotels.

Table 1. Characteristics of respondents

Variable	Range	Percentage
Gender	Male	84
	Female	16
Education	Less than high school	2
	High school graduate	3
	Associated degree	4
	Some college or technical school	6
	Bachelor's degree	64
	Master's degree	18
	Ph.D. degree	3
Age	Under 30	1
	30-39	29
	40-49	65
	50 or above	5
Number of rooms	More than 150	56
	Between 50 and 150	38
	Lower than 50	6
Ranking	3-star hotel	62
	4-star hotel	30
	5-star hotel	8

The factor loadings of each construct ranged from 0.53-0.95 (Table 2). Cronbach's α for SSC

collaboration was the lowest (0.76) and KM was the highest (0.97). Statistics of the CFA for each factor regarding the values of χ^2/df , CFI, GFI, AGFI, RMSEA, and p-value of each measurement model are shown in Table 3. Compared to the suggested values for the goodness of fit tests (Yoon et al., 2016), the values were satisfactory in each model.

Table 2. Results of CFA and reliability tests

Construct	Items	Factor loading	α
IT competency	We have established business rules and standards for hardware and operating systems to ensure platform compatibility	0.81	0.96
	Our information systems are designed to support new business relationships easily	0.90	
	We can implement IT in many business processes	0.95	
	The extent to which IT is used in our business processes (e.g., operation, management, and decision-making) is high	0.87	
	In our hotel, top managers are interested in using IT applications in the hotel	0.89	
	In our hotel, we commit to support IT applications in the hotel	0.95	
KM	Creating knowledge and new methods through inter-agency collaboration is valuable for our hotel	0.93	0.97
	The hotel uses appropriate ways to encourage staff to develop creatively	0.95	
	The hotel utilizes a good system for collecting information and knowledge	0.92	
	The hotel records organized knowledge and experience into a staff information bank	0.92	
	Staff are able to transfer knowledge and personal experience within the hotel	0.86	
	The hotel is able to preserve employees' working knowledge and specialized techniques	0.88	
	Staff can obtain required information through the database or through other members of the hotel	0.94	
	Usually, employees communicate with other members of the hotel to solve work problems	0.87	
	Many new novel and useful ideas are produced	0.88	
	Problem areas with which customer are dissatisfied are covered	0.84	
SSC coordination	The participation level of our major suppliers in the process of procurement and production	0.71	0.87
	The participation level of our major suppliers in the design stage	0.83	
	We help our major supplier to improve its processes to better meet our needs	0.64	
	Stable procurement through the network with our major supplier	0.83	
SSC collaboration	Sharing business plans with other partners	0.53	0.76
	Involving SC partners in forecasting to improve accuracy	0.66	
	Items from suppliers delivered on time	0.64	
	Consultation before decision-making	0.72	
SSC efficiency	The hotel involves waste reduction in processes	0.74	0.79
	The hotel standardizes operation processes	0.58	
	The hotel provides on time delivery, service speed	0.71	

	The hotel provides overall average delivery lead times for formal orders	0.87	
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Table 3. Fit indices of measurement models

Variable	Fit indices					
	χ^2/df	GFI	AGFI	CFI	RMSEA	p-value
IT competency	2.72	0.99	0.94	0.99	0.06	0.012
KM	2.79	0.98	0.91	0.99	0.07	0.008
SSC	1.21	0.98	0.95	0.99	0.02	0.001
Cut-off value	≤ 3	≥ 0.90	≥ 0.90	≥ 0.90	0.10>	≤ 0.05

The correlations between each variable and the square roots of average variance extracted (AVE) of latent variables are indicated in Table 4. Statistics indicated that the square root of latent variables AVE is higher than the correlation between a certain latent variable and other latent variables, meeting this requirement of discriminant validity. The AVE for each variable should be higher than 0.5. According to the results, all measurement items satisfied the threshold, and convergent validity was confirmed. Because the values of composite reliability (CR) of IT competency, KM, SSC collaboration, SSC coordination, and SSC efficiency were all >0.7, convergent validity satisfied the threshold.

Table 4. Correlation matrix and AVE

Factor	IT competency	KM	SSC coordination	SSC collaboration	SSC efficiency
IT competency	1				
KM	0.379*	1			
SSC coordination	0.284*	0.325*	1		
SSC collaboration	0.331*	0.212*	0.414*	1	
SSC efficiency	0.402*	0.266*	0.492*	0.310*	1
AVE	0.82	0.79	0.81	0.74	0.77
Sqrt (AVE)	0.91	0.89	0.90	0.86	0.88
CR	0.89	0.86	0.85	0.82	0.79

*p<0.05

SEM was used to test the causal relationships among five variables of the model developed in Section 3. The model's fit is assessed by χ^2/df , CFI, GFI, AGFI, and RMSEA. The value of $\chi^2/d.f$ 1.09, GFI 0.95, CFI 0.999, AGFI 0.091, RMSEA 0.01, and the p-value of 0.000 were satisfactory. Table 4 shows that all seven paths specified in the hypothesized model are statistically significant. When critical-ratios (CR) are in the range of -1.96 to 1.96, the hypothesis is rejected (Jalilvand et al., 2017). As indicated in Table 5, the relationship between IT competency and KM is significant ($\beta= 0.69$, CR= 14.90), supporting H1. Additionally, the effects of IT competency on SSC coordination ($\beta= 0.44$, CR= 6.92), SSC collaboration ($\beta= 0.53$, CR= 6.83), and SSC efficiency ($\beta= 0.57$, CR= 8.01) are positive and significant. These findings indicate that H2, H3, and H4 are supported. Furthermore, the paths' coefficients from KM to SSC construct are positive and significant: SSC coordination ($\beta= 0.39$, CR= 6.43), SSC collaboration ($\beta= 0.25$, CR= 4.31),

and SSC efficiency ($\beta= 0.51$, CR= 7.09). According to these findings, H5, H6, and H7 are supported.

Table 5. Results of SEM

Hypothesis		Path		β	CR	Result
H1	IT competency	→	KM	0.69**	14.90	Supported
H2	IT competency	→	SSCC	0.44**	6.92	Supported
H3	IT competency	→	SSCL	0.53**	6.83	Supported
H4	IT competency	→	SSCE	0.57**	8.01	Supported
H5	KM	→	SSCC	0.39**	6.43	Supported
H6	KM	→	SSCL	0.25**	4.31	Supported
H7	KM	→	SSCE	0.51**	7.09	Supported

Notes:***P<0.001;**P<0.01; **IT competency:** Information technology competency, **KM:** Knowledge management, **SSCC:** Service supply chain coordination, **SSCL:** Service supply chain collaboration, **SSCE:** Service supply chain efficiency

6. Conclusions

We have conducted a study in the context of the hotel industry designed to identify the impact of IT competency on KM and SSC, yet tourism literature and related theories have limited tools available to analyze such dynamic relationships. To address this gap, we have designed a conceptual model to formulate the hypotheses. In doing so, we connect existing theories KM and IT competency in the important concept, SSC. Finally, we test the model to explain the consequences of IT competency and KM on SSC coordination, collaboration, and efficiency. We hope that this model will better equip researchers to understand these casual relationships — “IT competency and KM”, “IT competency and SSC”, and “KM and SSC” — within organizations, tourism industries, and society.

7. Implications

7.1. Theoretical

Our findings contribute to the multidisciplinary literature related to the use of information systems and processes of organizational excellence. While prior literature mainly focuses on the antecedents of KM and performance (e.g., Liu et al. 2013, Qrunfleh and arafdar, 2015; Bin Dost et al., 2018), by conceptualization and testing the model we develop a sociotechnical perspective. Understanding technological materials, the process of knowledge transfer as part of KM, actual collaboration in value chains, as well as their efficiency can facilitate a better understanding of IT artifacts, actual use of KM systems, and emerging outcomes from the interaction in the social context of organizations.

In the tourism literature, researchers have demonstrated how IT knowledge as essential management capabilities is required for generating dynamic SC and competitive advantage (Mandal et al. 2017). Adding to the knowledge of tourism SSC, our findings demonstrate that IT competency plays a vital role in coordination and collaboration, fostering the relationships

with hotel suppliers, and making decision-making fast and efficient. According to Neuhofer et al (2012), in a dynamic experience of co-creation process, IT competency supports the tourism industry in the service delivery stage where the networks of suppliers, buyers, and tourists interact. This study provides compelling theoretical support for value co-creation insights from service-dominant logic into the tourism SSC literature. From this view, beneficial coordination, collaboration and efficiency of the involved actors in service ecosystems are congruent with the value co-creation process (Vargo and Lusch, 2017), and particularly supports the mid-range theory development of service-dominant orientations.

Given the current situation of technological change, hotel-supplier behaviors, and the essence of tourism experience management, we believe that our work by offering a better integration of information system theory and KM capability enriches understanding of interactions among SSC actors, structure, and performance in the tourism value chains.

7.2. Managerial

Our study can be helpful to managers engaged in supply chain relationships and excellence because it enables them to adopt more meaningfully KM and IT tools and improves the processes of coordination- and collaboration-associated efficiency that highlight value co-creation.

The practical aspect of the study unpacks the concept of IT competency and KM. It generalized these two concepts by providing the SSC process in practice. The performative aspect of the SSC process consists of specific actions (coordination, collaboration, and efficacy), by specific people (hotel managers), in specific places (tourism industry). In other words, this managerial implication is in line with the routine in practice, as indicated by Iannacci and Hatzaras (2012). Businesses involved in tourism should recognize the value of IT competency when they are designing strategies and action plans. Considering this critical factor in practice, for example investment in business-IT alignment can strengthen SSC, and thus provides support for both operational and financial performance. To achieve this alignment, firms should shift from KM adoption towards effective use of KM by identifying effective relationship between users, systems, and tasks. The presence of IT competency is fundamental in forming the transparent interaction of KM processes, an approach which could also legitimate SSC practices in action. These competencies and capabilities are particularly valuable in the tourism industry because they enable hotels, for example, to coordinate and collaborate with their partners to satisfy customer requirements efficiently.

8. Limitations and future lines of research

As a major limitation, the current study was conducted discontinuously and was cross-sectional, thus affecting the evaluation results. Further, the research was conducted in the hotel sector, therefore making it difficult to generalize the results to other service industries. To enhance future studies and provide better results, it is recommended that a longitudinal analysis is conducted at different time intervals, possibly on several different hotels, restaurants, and travel agencies and other tourism and hospitality firms.

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