

The Effect of Knowledge Sharing on Organisational Performance with Types of Innovation as Mediation: A Study of Star Hotels in Bali Province, Indonesia

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The purpose of this study is to examine how the role of mediation types of innovation (product innovation/service, innovation process, innovation organisational and innovation marketing) impact the relationship between knowledge sharing (KS) and organisational performance, based on the knowledge-base-view theory. Data were collected using a questionnaire sent directly to the main managers of three hotels that were rated four or five stars in Bali Province, Indonesia. The research uses organisational level analysis units. The data comprises 105 responses obtained and analysed using WarpPls 6.0. The results showed that KS had a significant positive effect on organisational performance and the types of innovations at the hotels. A positive and significant influence is also shown in the relationship between the types of innovations and organisational performance. In addition, the types of innovations positively and significantly mediate the relationship between KS and organisational performance. It is important to develop KS practices in star hotels, because through the practice of KS and tacit and explicit knowledge, organizations will be able to continuously innovate so that performance will improve. This research is the first empirical study that exploits the role of mediating the types of innovations in the relationship between KS and organisational performance.



Key words: *Knowledge sharing, product/service innovation, process innovation, organisational innovation, marketing innovation, organisational performance.*

Introduction

The hotel industry, which includes restaurants, accommodation, entertainment, and the transportation business, faces increasingly fierce competition (Hu, Horng and Sun, 2009). In order to obtain a sustainable competitive advantage in these conditions, the knowledge-based view encourages organisations to manage knowledge effectively (Grant, 1996). In managing knowledge, the value of one's knowledge will increase for the organisation when shared (Ipe, 2003). This is in line with Bock and Kim's (2001) research which states KS in an organisation can create new values to improve its development and growth. In the hospitality industry, knowledge management can promote organisational innovation and innovative performance (Kim et al., 2013). For example, KS among team members can provide new creative products and services (Hu, Horng and Sun, 2009).

In the literature, it is recognised that KS has a very important role in supporting innovation in organisations (Hallin and Marnburg, 2008). Innovation plays a role in achieving a sustainable competitive advantage (Tajeddini, 2010; Kim et al., 2013) and will ultimately improve performance (Rajapathirana and Hui, 2018). This indicates there is a relationship between KS, innovation, and performance (Rahimpour et al, 2018).

The main objective of this study was to examine the effect of KS on organisational performance with the types of innovation as mediation in three, four and five-star hotels in Bali Province, Indonesia. A total of 105 hotels participated in this study, based on a survey of 230 hotels. The choice of hotels as research subjects is based on three reasons. First, Hu, Horng and Sun (2009) argue that the hotel industry faces increasingly fierce competition due to current tourists more than ever before seeking new and unique experiences. Second, there are open entries on prices, products and services offered and differential access by customers (Mia and Patiar, 2001). Third, there is an emergence of various problems in the hotel industry, such as increasing customer expectations, maintaining customer satisfaction and loyalty levels and improving service quality (Shamim, Cang and Yu, 2017).

The originality of the research is the type of innovation as the mediating variable in relationships involving KS and organisational performance. This research resulted in two contributions. First, it produced models of types of innovations as mediating the relationship between KS and organisational performance. Second, it contributed to the knowledge-based view literature by empirically studying the relationship between KS, types of innovation and organisational performance. This paper is organised as follows: section two presents the



literature review, section three presents the research hypothesis, section four describes the research methodology, section five presents the results and discussion and the conclusions are presented in section six (Kurmanali et al, 2018).

Literature Review

Knowledge Sharing

In epistemology, knowledge is a "justified true belief" that can increase the capacity of an organisation to take effective action (Nonaka, 1994). Human knowledge can be classified into two categories: explicit and tacit knowledge (Polanyi, 1966). Explicit or codified knowledge refers to knowledge that can be transmitted in formal and systematic languages. On the other hand, tacit knowledge has personal qualities, which makes it difficult to be formalised and communicated. Tacit knowledge is rooted in action, commitment, and related to certain contexts (Nonaka, 1994). In regards to knowledge that is not distributed evenly within an organisation, KS between individuals, teams and/or units is a must for organisations (Wang and Wang, 2012; Wang, Wang and Liang, 2014).

One model that implicitly and explicitly explains KS is a model of socialisation, externalisation, combination and internalisation (SECI), proposed by Nonaka and Takeuchi (1995) about the process of knowledge creation. Internalisation and socialisation make up the KS process by transforming organisational knowledge into individual or group knowledge. Externalization and combinations, on the other hand, make up KS by translating individual and group knowledge into organisational knowledge (Wang, Sharma and Cao, 2016).

Innovation

Innovation is widely seen as an important component of competitiveness, which is embedded in organisational structures, processes, products, and services (Gunday et al., 2011). Therefore, companies that do not innovate will risk being eliminated from the market (Liao, Fei and Chen, 2007). Oslo (2005) comprehensively defines innovation as the implementation or significant improvement of products (goods and services) or processes, new marketing methods, or a new method in organisational business practices, work environments or external relations. This definition classifies innovation into four main focuses, namely innovative product/service, innovative process, organisational innovation, and innovative marketing (Razzaque et al., 2019).

a. Innovative Product/Service

An innovative product/service is the introduction of goods or services that are new or significantly increased with respect to characteristics or uses, including significant improvements in technical specifications, components and materials including software user-friendliness or other functional characteristics (Oslo, 2005). In general, research in the field of innovation does not distinguish between product and service innovations. This is because the services offered by organisations in the service sector are conceptualised in a similar way to products introduced by organisations in the manufacturing sector (Miles, 2001). This innovation aims to change the physical characteristics and components of commodities or services by increasing, developing or producing alternatives or something completely new (Abdallah, Khalil & Divine, 2012; Karpov, 2016).

b. Innovative Process

Process innovation is the latest method or improvement in internal processes to achieve organisational performance and goals (Habidin et al., 2015). This innovation helps organisations improve efficiency in creating or establishing quality products/services (Akgün, Keskin & Byrne, 2009). An innovative process is a process where companies can implement a production/service and processes that are better than current operations in order to achieve better performance (Liao, Fei & Chen, 2007).

c. Innovative Marketing

Innovative marketing is the application of new marketing methods that (Liao, Fei and Chen, 2007) create significant changes in product design or packaging, product placement, product promotion or pricing (Oslo, 2005). Marketing innovation is intended to better address customer needs, open new markets, or position the company's products in the market with the aim of increasing company sales (Gunday et al., 2011).

d. Organisational Innovation

Organisational innovation is the application of new methods in corporate business practices, in the workplace, or in relationships with external parties (Oslo, 2005). As Sundbo (2003) states, organisational innovation refers to the introduction of new organisational forms or new management philosophies. The term organisational innovation is also called administrative innovation. Administrative innovation is related to changes in organisational structure and processes, administrative systems, knowledge used in conducting management activities and managerial skills that enable organisations to function and succeed with the effective use of owned resources (Damanpour, Walker & Avellaneda, 2009).

Research Hypothesis

Relations between KS and Organisational Performance

There is nothing certain in the current economy; therefore, the only source to obtain sustainable competitive advantage from is knowledge (Nonaka, 2007). With regards to knowledge not being distributed evenly within an organisation, KS between individuals, teams and/or units is a must (Wang & Wang, 2012; Wang, Wang & Liang, 2014). Various benefits that will be obtained by the organisation from KS, among others, enable organisational performance to increase (Iyamah & Ohioorenoya, 2015). Sustainable competitive advantage (Cao & Xiang, 2012) and the quality of services provided to customers will consequently increase. The production cycle decreases, while cooperation between different departments and consolidation with partner alliances increases (Ma, Qi & Wang, 2008). As a result, KS is closely related to the long-term performance and competitiveness of a company (Du, Ai & Ren, 2007).

Previous studies show that KS influences performance. Wang and Wang (2012) examined the relationship of KS, the speed of innovation and the quality of innovation on financial and non-financial performance. The results show the practice of explicit and tacit KS facilitates innovation and performance. The positive relationship of KS to performance is also evident (Zahira & Kusumastuti, 2016). Wang, Wang and Liang (2014) showed that explicit KS had a positive and insignificant effect on operational performance, whereas in financial performance the results were significantly positive. Tacit KS does not have a direct effect on operational performance, while financial performance has a statistically significant positive effect. Based on this description and empirical evidence from the results of previous studies, the following H1 hypothesis was tested in this study:

H1: KS has a direct positive effect on organisational performance.

KS Relations and Types of Innovation

KS and innovation are two important, interrelated variables that need to be explored further to understand the dynamics and implications (Yeşil, Koska & Büyükbeşe, 2013). Through tacit and explicit KS, organisations can play an important role in innovation (Xu et al., 2010). When KS occurs between individuals or groups in the organisation, new individual or group ideas will emerge for others (Ofori et al., 2015). This allows employees to understand the types of products and services that customers want. Thus, KS will facilitate innovative service capabilities (Tang, Wang & Tang, 2013). Studies conducted by Tang, Wang and Tang (2013) at the international tourist hotels in Taiwan prove that KS has a positive and significant effect on innovation capabilities.



Rao, Yang and Yang (2018) argue that in the tourism industry, KS can encourage interaction and application of knowledge. This creates an opportunity for employees to connect with knowledge from various fields and thereby trigger innovative behaviour. Effective innovation can produce new products and methods and reorganise organisational structures and operating methods that are outdated. Organisations will realise better service quality and increase tourist satisfaction. At the micro level (company operations), KS can lead to behavioural innovations such as product/service innovation, process innovation, and management innovation because it can increase competitiveness. At the industrial (macro) level, KS can build a model of industrial cooperation and establish a system of sustainable inter-industry cooperation. Empirically, Lee et al. (2013) proved that KS was positively and significantly related to product innovation and process innovation. The significant positive relationship of KS to service innovation was proven by Hu, Horng and Sun (2009), while (Fauji & Utami, 2013) found explicit KS had a positive and significant effect on product innovation.

Innovation is one way to deliver more value to customers. With tacit KS, salespeople provide employees in other functional fields with in-depth understanding of the operating environment and facilitate market orientation, which drives corporate marketing innovation (Arnett & Wittmann, 2013). The study conducted by Muddaha, Kheng and Sulaiman (2018) on SMEs in Nigeria, proves KS has no significant effect on marketing innovation strategy, whereas marketing innovation performance has a significant positive effect. Based on the description above, the H2 hypothesis proposed in this study is as follows:

- H2: KS has a positive effect on the types of innovation.
- H2a: KS has a positive effect on innovative product/service.
- H2b: KS has a positive effect on innovative process.
- H2c: KS has a positive effect on organisational innovation.
- H2d: KS has a positive effect on marketing innovation.

Relationship between the Types of Innovation and Organisational Performance

Innovation has a big impact on the performance of the company by producing a better market position, thus providing a competitive advantage and superior performance (Walker, 2004; Gunday et al., 2011). Oslo (2005) comprehensively classifies innovation into four types: innovative product/service, innovative process, organisational innovation, and innovative marketing. Damanpour, Walker and Avellaneda (2009) state that each type of innovation has different attributes, determinants and effects. Nicolau and Santa-María (2013) state that not all types of innovation have the same implications. Thus, to evaluate the potentially different effects of each type of innovation on performance, more research needs to be done (Hjalager, 2010).



Innovative product/service can improve company performance by reducing operating costs, improve the quality of customer satisfaction and the speed at which the company introduces new products or services to the market (Fauji & Utami, 2013). Innovative products provide greater opportunities to differentiate between existing products and those products technically provide excellence. Studies conducted by Abir and Chokri (2010) in the banking sector show that product innovation increases profitability, while process innovations increase profitability and efficiency.

Organisational innovation has a tendency to improve company performance by reducing administrative and transaction costs, increasing satisfaction in the workplace, gaining access to non-tradable assets (such as uncodified external knowledge) or reducing inventory costs (Oslo, 2005). Adopting organisational innovations will result in changes in strategy, structure and administrative procedures. This will improve the organisational climate, communication, personnel policies, teamwork, information sharing, and coordination and cooperation mechanisms (Damanpour & Aravind, 2011; Gunday et al., 2011). All of this can improve company performance (Azadehdel, Farahbod & Jamshidinejad, 2013). Past studies show that organisational innovation plays a key role in corporate performance and competitiveness (Jiménez-Jiménez & Sanz-Valle, 2011). Noruzy et al. (2013) prove that organisational innovation has a direct effect on organisational performance.

Innovative marketing is intended to better address customer needs, open new markets, or position the company's products in the market with the aim of increasing company sales (Gunday et al., 2011). Higher performance can only be achieved when companies prove the offerings of new and better products to the market (Nguyen, Phan & Nguyen, 2016). Gunday et al. (2011) explored the effects of product, process, organisational and marketing innovations on various aspects of company performance in manufacturing companies in Turkey. The results show that product, organisation, and marketing innovation have a positive effect on company performance. Studies conducted by Rajapathirana and Hui (2018) in insurance companies in Sri Lanka provide empirical evidence that process innovation has a strong enough influence on innovation performance. Marketing and product innovations have a significant and strong impact on innovation performance, while the relationship between organisational innovation and innovation performance is not statistically significant. Based on the description, the following third hypothesis (H3) was tested in this study:

- H3: The types of innovations have a positive effect on organisational performance.
- H3a: Product/service innovation has a positive effect on organisational performance.
- H3b: Process innovation has a positive effect on organisational performance.
- H3c: Organisational innovation has a positive effect on organisational performance.
- H3d: Marketing innovation has a positive effect on organisational performance.



The Role of Mediation is the Types of Innovations in the Relationship between KS and Organisational Performance

In the previous section, the direct effect of KS on organisational performance, the types of innovations and the types of innovations directed towards organisational performance were discussed. In the literature, it is recognized that sharing knowledge has a very important role in supporting innovation in organisations (Hallin & Marnburg, 2008); (Mohamed, Stankosky & Murray, 2004). Furthermore, innovation improves performance (Rajapathirana & Hui, 2018). This indicates that innovation mediates the relationship between KS and organisational performance. The effect of mediation is when there is a relationship between the independent and dependent variables at least in part through a third variable (Mia, 1993; Wang & Wang, 2012) which proves that the practice of explicit and tacit KS contributes to a company's operational and financial performance directly and indirectly by increasing the speed or quality of innovation.

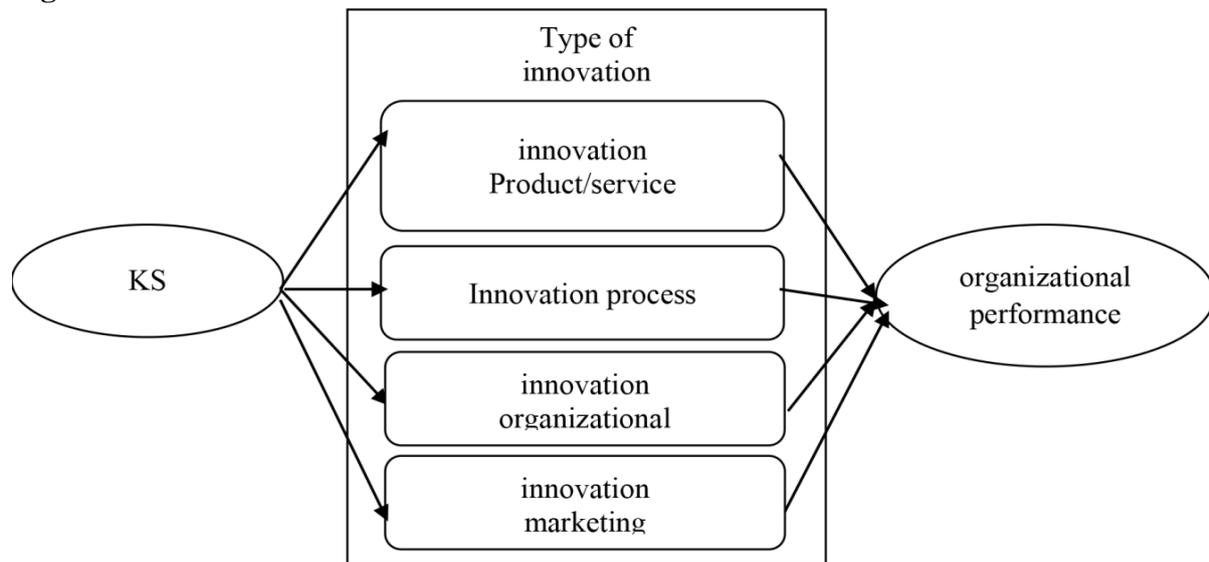
Based on the first hypothesis, KS has an effect on organisational performance. The second hypothesis is that KS has a positive effect on the types of innovations, and the third hypothesis is that types of innovation have a positive effect on organisational performance. Following the work of previous researchers, the fourth hypothesis (H4) tested in this study is as follows:

- H4: KS affects organisational performance through types of innovation.
- H4a: KS influences organisational performance through product/service innovation.
- H4b: KS influences organisational performance through an innovative process.
- H4c: KS influences organisational performance through organisational innovation.
- H4d: KS influences organisational performance through product innovation.

Theoretical Framework

Based on previous studies, the theoretical framework that was developed states that KS directly and indirectly impacts organisational performance through the types of innovation, as shown in Figure 1 below.

Figure 1. Theoretical Framework



Research Methods

Data Collection and Samples

Data for this study were collected through surveys using letters sent directly to three, four and five-star hotels in Bali Province, Indonesia. The selection of the hotels is based on the consideration that hotels with these classifications have better management and facilities compared to other hotel classifications. As many as 230 questionnaires were sent by post, contact person, and online to managers. To increase the response rate, the researchers followed up by contacting the hotel by telephone to ask if the questionnaire had reached the key respondent and to obtain information about the causes of non-responses. In addition, non-monetary incentives were offered in the form of executive summaries of research findings for their cooperation. The data collection produced 105 questionnaires that could be used, indicating a response rate of 45.75 percent. The non-response bias was tested by using a t-test to compare 91 of the earliest respondents and the last 14 respondents. The results showed no significant differences between the two groups ($p > 0.05$).

Measurement of Research Variables

The instruments developed by Wang and Wang (2012) and Wang, Sharma and Cao (2016) were used to measure KS. The instrument was adjusted to the object of research. The questionnaire included 13 items related to explicit and tacit KS. A five-point Likert scale ranging from "1" (strongly disagree) to "5" (strongly agree) was used as a measure. Respondents were asked to respond to how far they shared their knowledge within the organization they managed.

Innovation instruments were adopted from Nasution and Mavondo (2008) and Lin, Chen and Chiu (2010). The instruments consisted of four types of innovations, namely product/service innovation, process innovation, organisational innovation and marketing innovation. The questionnaire included 17 items and a five-point Likert scale ranging from "1" (strongly disagree) to "5" (strongly agree) was used as a measure. Respondents were asked to respond to the practices of innovation carried out in the hotels they manage.

OGRPER instruments were adopted from Tavitiyaman, Qu and Zhang (2011), Campo, Díaz and Yagüe (2014), and Wang and Wang (2012), consisting of financial and non-financial performance. The questionnaire included eight items and a five-point Likert scale ranging from "1" (strongly disagree) to "5" (strongly agree) was used as a measure.

Results

Profile of Respondent

The summary of the results of the demographic profiles of the respondents is shown in Table 1. Judging from the classifications, most of the participants in this study were four-star hotels (40%). Respondents have quite good experience, with (72.38%) working for 10-15 years. Most of the respondents were men (68.57%). Most respondents (51.43%) were 31- 40 years old. In terms of the level of education, 71.43% had bachelor's degrees and 11.32% had master's degrees. Respondent profiles are summarized in Table 1 below.

Table 1: Respondent Profiles

	Description	Total (n=105)	%
Hotels classification	Three star	36	34,29%
	Four star	42	40,00%
	Five star	27	25,71%
Years of service	<= 5 years	14	13,33%
	5-10 years	76	72,38%
	>10 years	15	14,29%
Gender	Male	72	68,57%
	Female	40	38,10%
Age	≤ 30 years	11	10,48%
	31–40 years	54	51,43%
	>40 years	40	38,10%
Educational level	High school equivalent		
	Diploma	18	17,14%
	Bachelor	75	71,43%

	Master	12	11,43%
	Doctorate		

Table 2 below provides a summary of statistics, such as the thoracic range, actual range, mean and standard division (SD) for all variables. KS has the highest mean (3.70), followed by organisational innovation (3.69) and process innovation (3.67). The lowest mean (3.54) was for organisational innovation and organisational performance.

Table 2: Descriptive Statistics

Variables	Theoretical Range	Actual range	Mean	SD
Knowledge sharing (KS)	1-5	1,58-4,92	3,70	0,95
Innovation service (INSER)	1-5	1,25-5,00	3,54	0,99
Innovation process (INPROC)	1-5	1,20-5,00	3,67	0,97
Innovation organization (INORG)	1-5	1,00-5,00	3,69	1,02
Innovation marketing (INMAR)	1-5	1,00-5,00	3,55	1,02
Organizational performance (ORGPOR)	1-5	1,13-5,00	3,54	0,94

Note: (n=105)

Measurement Model

Estimated measurements and structural models of this study, using WarpPLS 6.0. PLS, have the ability to model linear relationships without the constraints of structural equation modelling methods such as normality and large sample sizes related to indicator estimates (Chin, Marcolin & Newsted, 2003). With PLS, researchers can simultaneously analyse measurement models and structural models, while also allowing the adoption of more complex research models (Lee et al., 2011).

For the analysis and interpretation of the model, the use of PLS was conducted in two stages. First, the measurement model (outer models) and then the second structural model (inner model). An outer model displays the relationship between constructs and indicators and assesses the reliability and validity of measurement models. Inner models represent constructs and display relationships (paths) between constructs (Hulland, 1999).

The procedure for testing types of innovation as mediation and the relationship between KS and organisational performance is carried out in two steps based on (Baron & Kenny, 1986). First, an estimation of KS's direct effect on organisational performance is performed. Second, an estimation of the indirect effect is completed. In addition, the Sobel test was used to ensure the significance of the indirect effect.

a. Testing of Construct Validity and Reliability

Evaluation of convergent construct validity uses an indicator loading factor and average variance extracted (AVE) (Kock, 2010). The results of the outer model shown in Table 3 below prove that the criteria for convergent validity have been fulfilled, namely loading factors greater than 0.70. This is in accordance with what was recommended by (Hair et al., 2014) and AVE is greater than 0.05. According to Chin (1998), the value of an AVE of 0.50 indicates adequate convergent validity. Table 3 below also shows that reliability has been met with the composite reliability greater than 0.70, as suggested by Nunnally and Bernstein (1994). The Cronbach alpha is also greater than 0.70. In addition, Table 4 below shows that discriminant validity has been fulfilled, namely the AVE root in the diagonal column is greater than the correlation between constructs in the same column. Based on the analysis above, the measurement model for this study is reliable and valid.

Table 3: Reliability Assessment for a Theoretical Model

Construct	Item	Factor loading	AVE	Composite reliability	Cronbach's alpha
KS	kshar1	0.854	0.754	0.973	0.970
	kshar2	0.860			
	kshar3	0.884			
	Kshar4	0.856			
	Kshar5	0.874			
	Kshar6	0.821			
	Kshar7	0.912			
	Kshar8	0.875			
	Kshar9	0.883			
	Kshar10	0.868			
	kshar11	0.853			
	Kshar12	0.875			
	Kshar12	0.397 (removed)			
ORGP	Orgper1	0.878	0.770	0.964	0.957
	Orgper2	0.895			
	Orgper3	0.847			
	Orgper4	0.907			
	Orgper5	0.888			
	Orgper6	0.860			
	Orgper7	0.858			
	Orgper8	0.884			

INSER	Inser1	0.903	0.780	0.934	0.905
	Inser2	0.924			
	Inser3	0.885			
	Inser4	0.817			
INPRO	Inpro1	0.861	0.757	0.940	0.919
	Inpro2	0.919			
	Inpro3	0.900			
	Inpro4	0.824			
	Inpro5	0.843			
INORG	Inorg1	0.935	0.874	0.965	0.952
	Inorg2	0.945			
	Inorg3	0.941			
	Inorg4	0.919			
INMAR	Inmar1	0.910	0.801	0.941	0.916
	Inmar2	0.902			
	Inmar3	0.923			
	Inmar4	0.842			

Notes: n = 105

Table 4: Correlations among Latent Variables with Square Roots of Average Variances Extracted (AVEs)

	KS	AVE	Composite reliability	ORGP	INSER	INPRO	INORG	INMAR
KS	0.868	0.754	0.973					
ORGP	0.798	0.770	0.964	0.877				
INSER	0.672	0.780	0.934	0.760	0.883			
INPRO	0.692	0.757	0.940	0.766	0.581	0.870		
INORG	0.855	0.874	0.965	0.840	0.650	0.671	0.935	
INMAR	0.561	0.801	0.941	0.719	0.581	0.628	0.578	0.895

b. Evaluation of Structural Models

This evaluation is intended to analyse the relationship between latent variables. This model is assessed by estimating the path coefficients and R^2 values. As stated by Chin, Marcolin and Newsted (2003), the path coefficients show the strength of the relationship between independent and dependent variables. Significant path coefficients provide support for the relationships between hypothesized variables, whereas R^2 values indicate the predictive power of the model for the dependent variable (Ko, Kirsch & King, 2005). The path significance of the structural model of this study was determined using 500 mode bootstrap

re-sampling. Chin (2010) argues that bootstrap is a non-parametric approach to estimate the accuracy of PLS estimates.

Figure 2 and Table 5 below show the results of the hypothesis testing of the structural relationship between KS and organisational performance. Our hypothesis (H1) tests the direct effect of KS on organisational performance (OGRPER). The test results showed that KS was positive and significantly affected OGRPER ($\beta = 0.798$; $p < 0.01$); therefore, the results support H1.

Meanwhile, Figure 3 and Table 5 below show the structural relations of KS, INSER, INPRO, INORG, INMAR, and OGRPER. We tested the KS hypothesis to impact INSER (H2a), INPRO (H2b), INORG (H2c) and INMER (H2d). The test results showed that KS was positively and significantly related to INSER ($\beta = 0.672$; $p < 0.01$), INPRO ($\beta = 0.692$; $p < 0.01$) INORG ($\beta = 0.855$; $p = 0.01$) and INMER ($\beta = 0.561$; $p = 0.01$). Thus, the test results support H2 (H2a, H2b, H2c and H2d).

Furthermore, testing the INSER hypothesis (H3a), INPRO (H3b), INORG (H3c) and INMER (H3d) has an effect on the OGRPER. The test results shown in Figure 3 and Table 5 below show a positive and significant relationship between INSER ($\beta = 0.239$; $p < 0.01$), INPRO ($\beta = 0.208$; $p < 0.01$), INORG ($\beta = 0.388$; $p < 0.01$) and INMER ($\beta = 0.196$; $p < 0.01$) against OGRPER; therefore, supporting the hypothesis of H3 (H3a, H3b, H3c and H3d).

Figure 2. Direct Relationship between KS and Organisational Performance

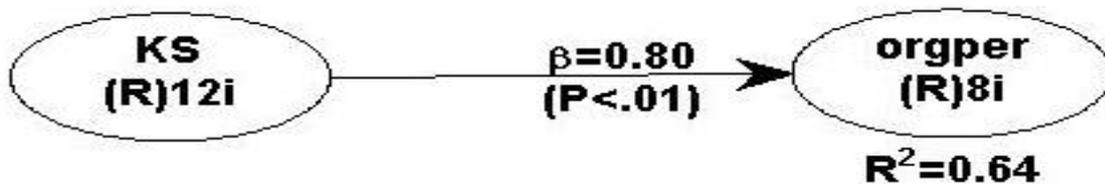


Figure 3. Full Research Model

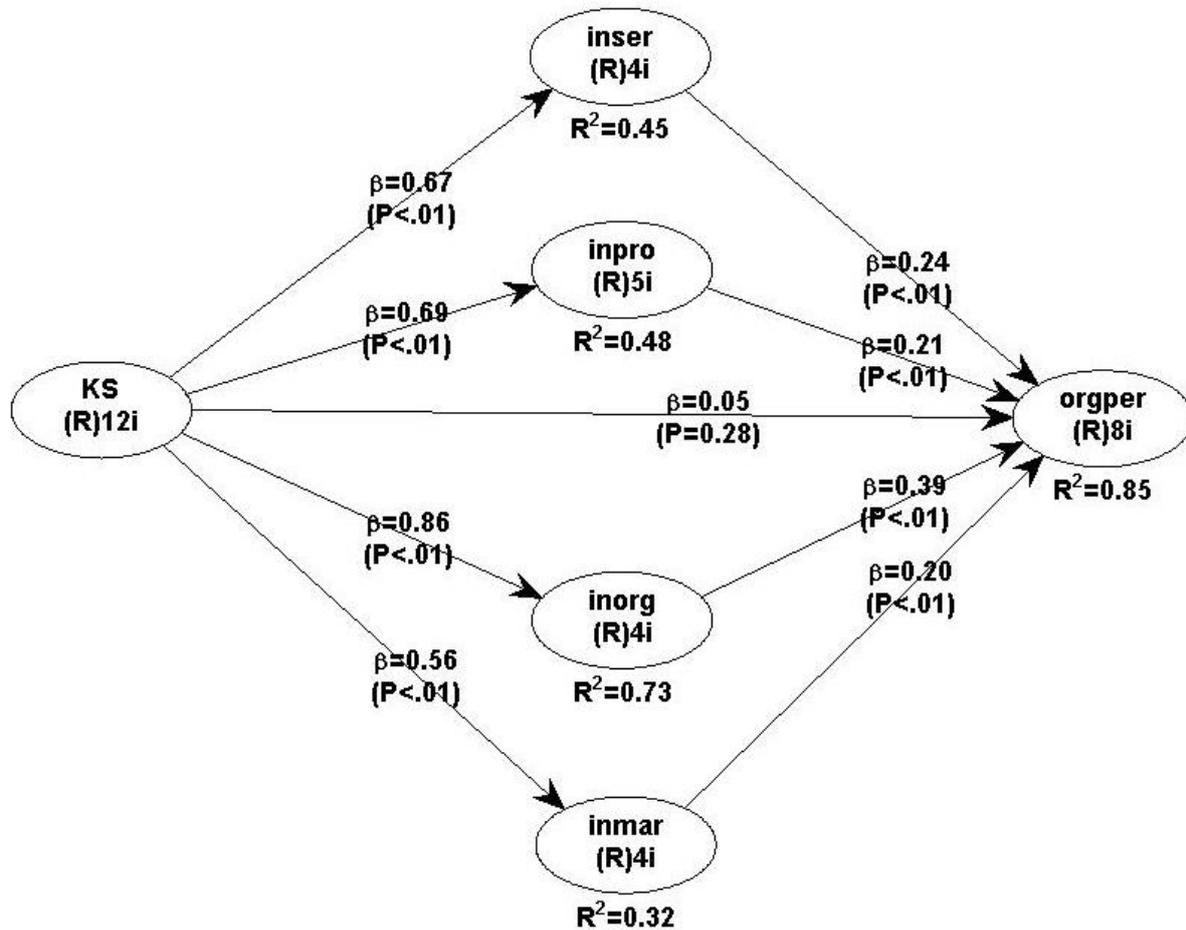


Table 5: A Theoretical Model of the Direct Relationship of Research Variables

Independent variable	Dependent Variable	Hypotheses	Relevant path	Path coefficient	p-value	Remarks
KS	ORGP	H1	KS→ORGP	0.798	0,001	Supported
KS	INSER	H2a	KS→INSER	0.672	0,001	Supported
KS	INPRO	H2b	KS→INPRO	0.692	0,001	Supported
KS	INORG	H2c	KS→INORG	0.855	0,001	Supported
KS	INMAR	H2d	KS→INMAR	0.561	0,001	Supported
INSER	ORGP	H3a	INSER→ORGP	0.239	0,001	Supported
INPRO	ORGP	H3b	INPRO→ORGP	0.208	0,001	Supported
INORG	ORGP	H3c	INORG→ORGP	0.388	0,001	Supported
INMAR	ORGP	H3d	INMAR→ORGP	0.196	0,001	Supported

The mediating effect of types of innovation in the relationship of knowledge sharing on organisational performance was tested in accordance with the procedure suggested by Baron and Kenny (1986). Full mediation will be proven if the relationship from the independent

path (knowledge sharing) to the dependent variable (organisational performance) is not significant, but the relationship from the independent variable path to the mediator (types of innovation) and from the mediator to the dependent variable is significant. Mediation of the results is proven when all paths are significant (Ismail, Isa & Mia, 2018). This study shows that types of innovation fully mediate the relationship of knowledge sharing to organisational performance.

Table 6 below shows the indirect relationship of KS to ORGPER through the types of innovation. The test results showed a positive and significant relationship between KS and ORGPER through INSER ($t = 4.226$; $p < 0,01$), through INPRO, ($t = 2.459$; $p < 0.5$), through INORG, ($t = 3.457$; $p < 0.01$), and through INMAR ($t = 3.342$; $p < 0.001$); therefore, supporting the hypotheses H4 (H4a, H4b, H4c and H4d).

Table 6: Indirect relationships (results of Sobel test and Baron and Kenny method)

Independent variable	Mediator	Dependent variable	Relevant path	Sobel test	probability	Result
KS	INSER	ORGPREG	KS → INSER → ORGPROG	4,226	0,000	Supported H4a
KS	INPRO	ORGPREG	KS → INPRO → ORGPROG	2,459	0,014	Supported H4b
KS	INORG	ORGPREG	KS → INORG → ORGPROG	3,457	0,001	Supported H4c
KS	INMAR	ORGPREG	KS → INMAR → ORGPROG	3,342	0,001	Supported H4d

Discussion and Conclusions

Discussion

This study conclusively provides empirical evidence that KS (tacit and explicit) directly and indirectly influences organisational performance on three, four, and five-star hotels in Bali Province, Indonesia. This is proven by the acceptance of all research hypotheses. With the acceptance of the H1 hypothesis which states that KS directly influences organisational performance, it indicates that KS at three, four, and five-star hotels in Bali Province, Indonesia is directly able to increase organisational performance. This is reflected in the achievement of financial and non-financial performance. Achievement of financial performance can be seen from the average occupancy rate, gross profit, return on investment and income in the last three years. The achievement of non-financial performance is seen from the level of customer satisfaction, the level of hotel response to customers, the level of success in launching new services and the level of quality of services provided to customers. The results of the study support previous studies (Zahira & Kusumastuti, 2016). Support is

also aimed at previous studies (Wang & Wang, 2012; Wang, Wang & Liang, 2014; Azadehdel, Farahbod & Jamshidinejad, 2013).

The acceptance of the hypothesis H2a, which states KS has a positive effect on product/service innovation, means that through KS star hotels in Bali Province, Indonesia can improve product/service innovations such as introducing many new services, modifying existing services, looking for new service models and introducing more superior new services. This study supports previous studies (Kim et al., 2013; Hu, Horng & Sun, 2009). The acceptance of H2b, which states that KS has a positive effect on process innovation, means that through KS the organisation can improve process innovations such as benchmarking operating system procedures, renew work practices, use technology to improve service quality and provide training in the use of new technologies. This study supports previous studies (Kim et al., 2013).

The acceptance of H2c, which states that KS has a positive influence on organisational innovation, means that KS can improve innovation in organisations by introducing new ways to manage innovation, investing in updating administrative procedures, and empowering employees to take initiatives. This study supports previous studies (Awaja, Awaja & Raju, 2018). The acceptance of the H2d hypothesis states KS has a positive effect on marketing innovation, meaning that through KS hotels can increase marketing innovation such as setting competitive prices, using innovative promotional methods, expanding potential market demand, and using operating systems that can connect directly with customers. This study supports the findings of previous studies (Muddaha, Kheng & Sulaiman, 2018).

In addition, with the acceptance of hypotheses H3a, H3b, H3c, and H3d, which pose product/service innovation, process innovation, organisational innovation, and marketing innovation have a positive effect on organisational performance; the implications indicate product/service innovation, process innovation, organisational innovation, marketing innovation, and organisational performance in star hotels improved. This is reflected in the achievement of financial and non-financial performance in accordance with a predetermined plan. The achievement of financial performance can be seen in the average occupancy rate, gross profit, return on investment and income in the last three years. The achievement of non-financial performance is seen from the level of customer satisfaction, the level of hotel response to customers, the level of success in launching new services and the quality of services provided. The positive effect of product/process innovation and innovation process on organisational performance supports prior research (Gunday et al., 2011; Ar & Baki, 2011).

The positive and significant influence of organisational innovation on organisational performance supports previous studies (Jiménez-Jiménez & Sanz-Valle, 2011; Hislop, 2013;



Noruzy et al., 2013). The positive and significant influence of marketing innovation on organisational performance also supports previous studies (Joueid & Coenders, 2018; Gunday et al., 2011). The acceptance of hypotheses H4a, H4b, H4c and H4d, which states KS influences organisational performance through types of innovation (innovation product/service, innovation process, innovation organisational and innovation marketing), means the practice of KS on three, four, and five-star hotels in the Bali Province of Indonesia will directly contribute to organisational performance or types of innovations.

Conclusion

This research provides a better understanding of the relationship between KS and organisational performance through service innovation, process innovation, organisational innovation, and marketing innovation at three, four, and five-star hotels in Bali Province, Indonesia. The results of this study provide insight into star hotels in the Province of Bali for the importance of KS. Through the practice of KS with both tacit and explicit knowledge, the organisation is able to improve its performance. KS is also able to encourage organisations to continuously innovate. Innovation is important because organisational performance innovations generate improvement.

Facing very tight competition in the era of industry 4.0 where tourists always want to look for new things that exceed their expectations, hotels should be able to realise these hopes by continuously innovating. Product/service innovation, process innovation, organisational innovation and marketing innovation can be used together because without innovation new products will not be created. The success of innovation will be determined by the ability of individuals or groups within the organisation to voluntarily use KS with both tacit knowledge and explicit knowledge such that organisational performance is increased and organisations allowed to survive.

The study did not carry out detailed testing of tacit KS and explicit KS and since testing focused on KS this created limitations in this study. In addition to the limitations of this study, the use of samples is relatively small, and sampling is carried out in a cross-section. Further research needs to conduct an in-depth study of how the KS mechanism occurs so that it can increase organisational performance. In addition, it is also necessary to examine the antecedent factors of KS, so as to produce a more comprehensive model.



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