

The Impact of Hotel Capabilities on Innovations

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Abstract

This article considers the investigation of hotel capabilities, both internal and external, which effect on innovations in Thai hotel industry. The data collection surveyed in Bangkok and popular destinations in Thailand. A 123 valid questionnaires have applied for data analysis. The multiple regression was conducted to examine the empirical model. Finding exposed a positive relationship between hotel capabilities and innovations. Nevertheless, management capability and information and knowledge capability have a negative effect on service innovation. The current study has only examined hotel capabilities in 4 dimensions. Internal capability consists of human capability and management capability. External capability consists of external collaboration capability and information and knowledge capability. More broadly, research is also needed to determine other capabilities which have a positive impact on hotel innovations. The higher level of hotel capabilities aims to improve service innovation and organizational innovation. The previous studies found that innovation helps to generate a sustainable competitive advantage. Hence, hotels should play attention on its capabilities improvement. This study is asserted the previous studies on the impact of internal and external capability on innovation, which is limited in service industry.

Keywords: Hotel capabilities, Internal capability, External capability, Service innovation, Organizational innovation

1. Introduction

The number of statistical visitors in Thailand from Tourism Council of Thailand (TCT) represented an upward trend over past decade. The growth of foreign tourists has increased 13.3% in 2016 comparing to 2015 and growing continuously [1]. The high competitive environment of the tourism industry has actuated the entrepreneurs to be innovativeness for survival. Additionally, the number of new hotels or new rooms are increasing each year in Thai hotel industry [2]. Therefore, hotels in Thailand should find the suitable strategies, methods, or tools to improve service quality and performance.

Innovation is examined as a key element for problem-solving, product and process improvement, a new product, a new production process, or a new marketing practice [3]–[5]. The initial study of innovation, Schumpeter [6], found that the level of innovation is effected to the level of competitive advantage. Damanpour et al. [7] indicated that innovation aims to make growth, profitability, and competitive advantage for either marketing, business, or industry. Several studies are asserted that innovation is played important in service sector [8]–[11]. Innovation in hotel industry over the past decade have suggested into two major factors, which is service and organizational innovation [5], [12]. The study of Victorino et al. [13] on service innovation development found that service innovation has a significantly impact on customer

decision for hotel selection. Service innovation has referred to the update existing service process or create a new service which is represented a new value to customers and formally created the competitive advantage for companies [14]. Organizational innovation has demonstrated as a tool to establish the sustainable competitive advantages, which is influenced a business success [15], [16]. Both service innovation and organizational innovation successful are affected by the level of capabilities of hotel.

In cultivating innovation process, management practices and service activities are represented the significant relevant to each other [17], [18]. The information and knowledge of customers are the keys to create the service to fulfill customer requirements. Hence, the collaboration amidst tourism organizations such as tour agencies, restaurants, and hotels are important. The recent years there has been considerable in the relationship of internal capability and external capability on innovation in hospitality and service industry [19], [20]. The external collaboration and knowledge sharing are affected to product innovation in the manufacturing sector and service sector [21], [22]. Mattsson and Orfila-sintes [23] have studied the impact of dynamics innovation and its impact on hotel performance in hotel industry, Spain. They found that the small hotels which have limited capabilities are necessary to collaborate with external resources to increase hotels' internal capabilities. The investigation of Thomas and Wood [24] on the effect of absorptive capability (external knowledge) on innovation has been supported the study of Mattsson & Orfila-sintes [23]. However, the research of Thomas and Wood [24] are excluded the investigation of external capability on a different type of innovation. Another study of Nieves and Segarra-Ciprés [19] has demonstrated the combination effect of internal and external knowledge in management innovation, nonetheless, this study is eliminated service innovation. Further research of Lee et al. [25] has focused only the internal capability (Human capital) effect on innovations in service industry, restaurant. There is little researching on the integration effect of internal and external capability on service and organizational innovation in hotel industry. Therefore, the purposes of this study are: (1) what is the empirical factors of internal and external capabilities in hotel industry, and (2) what is the impact of those factors on service innovation and organizational innovation.

The structure of this paper is as follow. Part 2 illustrates the theory framework, and establish the study model and hypotheses. Part 3 describes the methodology of data analysis. Part 4 discusses the results of study model. And finally, conclusion, recommendations, and future question for further research are provided.

2. Literature Review and Hypothesis Development

2.1 The development of innovations in service industry

The growing interest in the study of innovation in services is derived from the contribution of service industry to economic growth [26]. The earliest stage of innovations' investigation in services, the era before 2000, can divide into 3 main categories [17]. The first category is the process innovation or a new production process in service enterprise [27]–[32]. The second category is focused on the role of information and communication technology in services [33]–[36]. The third category is concentrated on the diversified types of innovation, extraordinarily technological and organizational innovations [29], [37], [38]. A literature review of further studies in innovation has denoted the investigation into 2 dimensions, which are the type of innovation and the degree of innovation [39]. Innovation is defined as a new or improving content in a product (good or service), or a process (organizational, technological, or marketing strategies) [5], [12], [40]. OECD/Eurostat [5] has categorized 4 type of innovations, which include product innovation, process innovation, organizational innovation, and marketing innovation. Another study of Lee [25] has determined innovation in restaurant industry as product innovation, service innovation, management innovation, process innovation, and marketing innovation. These types of innovation in services are played the different feature from manufacturing industry [41] and within service

industry [42]. Each service business has provided specific products based on the requirement of customer in that service. Therefore, each service enterprise has different capabilities and activities to develop innovations. This reason makes an increasing in the study of firms' capabilities and innovations. In services, the development process of innovation tends to be continuous activities, however, an incremental change in products and processes can be existed [5]. It is complicated to identify the critical activities of innovation in service industry. Moreover, the degree of innovation (radical innovation and incremental innovation) is related to the learning activities of organizational operations [43]. Hence, this study focuses on 2 major types of innovation, which are service innovation and organizational innovation.

Product and service innovation are not normally distinguished in innovation study. Sirilli and Evangelista [44], and Miles [45] have demonstrated that services provided by service enterprises are similarly conceptualized as products introduced by manufacturing firm. Service innovation consists of implementation improvements in components and materials, technical specifications, incorporated software, user friendliness or other functional characteristics [5]. In this study, service innovation defines as a new or significantly improved service to the current or new customers such as new service features, intermediate services, or new components [5], [7], [46], [47]. For the studies of organizational innovation or management innovation, the usage of terminology is depended on authors [47]. Organizational innovation has incorporated the adoption of new administration methods, strategies, working concepts, or practices [48], [49]. Therefore, organizational innovation in this study is denoted organizational innovation as a new administration method in the organizational and/or in the affiliation with external companies [5], [7], [47].

2.2 Hotel capabilities and innovation

Until now, innovation has been considered as a critical factor of service sector, however, the development process of innovation differs in each service enterprises. Howells and Tether [50] determine services into 4 groups: services dealing mainly with products (such as logistics and transportation); (2) services dealing with information (such as call centers); (3) knowledge-based services; and (4) services dealing with people (such as hotel and health care). This study focuses on group number 4 as hotel industry is a core business in tourism industry. The hotel industry is a correlation organization with other enterprises in tourism supply chain. There are 3 main characteristic of service activities that differentiate hotel industry and other service industry [51]: (1) the level of hotel categories by "Star" (from 1 to 5) based on size, type, and quality; (2) the type of administration system such as independent operating and franchise contract; (3) the operation of services which require different degree of vertical integration in organization. These characteristics have defined the activities and capabilities to develop innovation.

The focus of recent research has been on the impact of internal and external capability in innovation processes. The studies of Yang [14] has been recommended a distinctly characteristic of internal and external capability. Internal capability is referred to the internal resources of firm to develop or create innovations. Internal capability consists of organization culture, organizational operation, marketing strategies, organizational culture, and human capital [14], [25]. Human capital has been discovered by several studies to be a critical factor in innovation process [14], [25], [52]. Orfila-Sintes et al. [51] have mentioned that human capital is a key competitive factor. The role of human capital in service activities is aimed to establish a new feature or improve the quality of existing services. Organizational operation or management strategies has been found as an important element of internal processes within the organization [53]. It can notice as the tangible capabilities which establish the internal and external competencies and form the operational routines of the firms [53], [54]. Therefore, the internal capability in this study focuses on human capital and management strategies, which determine as human capability and management capability.

External capability is considered as the activities of organizations and external resources, which include organizational collaboration, management compatibility, technological sharing, knowledge sharing, and information sharing [14], [23], [51]. From Yang [14], external capability has examined as the collaboration with external resources to create or improve innovations. The previous studies have explained that the collaboration with innovative external suppliers or partners is effected to the level of innovation of the firm, especially in tourism enterprise [51], [55], [56]. The information and knowledge of customers from suppliers or partners are assisted the tourism enterprise to get a deeper understanding customer behavior [51]. The company which understands their customer requirement can perform better performance and reach the largest share of the market. Hence, the tourism enterprise should play attention on collaboration and sharing resources with external organizations. In this study, external capability determines in 2 factors, which are external collaboration capability, and information and knowledge capability. Finally, hotel capabilities consist of human capability, management capability, external collaboration capability, and information and knowledge capability. Thus, the hypothesis of this study have constructed as showing below:

H1: Hotel capabilities has a positive effect on service innovation.

H1a: Human capability has a positive effect on service innovation.

H1b: Management capability has a positive effect on service innovation.

H1c: External collaboration capability has a positive effect on service innovation.

H1d: Information and Knowledge capability has a positive effect on service innovation.

H2: Hotel capabilities has a positive effect on organizational innovation.

H2a: Human capability has a positive effect on organizational innovation.

H2b: Management capability has a positive effect on organizational innovation.

H2c: External collaboration capability has a positive effect on organizational innovation.

H2d: Information and Knowledge capability has a positive effect on organizational innovation.

3. Research Methodology

3.1 Data collection and the samples

A purposive sampling method was used to conduct a questionnaire in the tourism destination areas in Thailand, such as Bangkok, Pattaya, Phuket, Chiang Mai, Khon Kaen and Ubon Ratchathani. The research object was the high-rating hotels (3-5 star). The questionnaires were mailed to the CEO or managers of the target hotels by electronic mail, mail survey, and walk-in. The data collection was during November 2016 to February 2017. The total responses of 131 have 8 samples with missing data. Thus, the valid samples of 123 are applied to the data analysis.

The respondents' profile is shown in table 1. The administration system of respondents has demonstrated into 2 major groups, which are independent operating of 61% and operating under the company network of 36.6%. The order of target respondents, high-rating hotel, are the 4-star hotel of 36.6%, 3-star hotel of 35.8%, and 5-star hotel of 20.3%. One-third of respondents has more than 150 rooms. Another one-third of respondents has 51-100 rooms. Moreover, the hotel size less than 50 rooms is 21.1% and the size of 101-150 rooms is 10.6%.

3.2 Measurements of the constructs

Hotel capabilities are considered in term of internal and external capability based on the literature review [57]–[60]. The constructs of hotel capabilities are as follows: human capability has 4 items, management capability has 3 items, external collaboration capability has 3 items, and information and knowledge capability has 6 items. Innovations are constructed in 2 dimensions: service innovation has 4 items and organizational has 4 items [5], [19], [57]. The measurement for

all items in this questionnaire is indicated using five-point Likert scales. The scales rating is 1 = least to 5 = very much to indicate the level of hotel capabilities improvement and innovations development. All constructs are presented in Table 2.

Table 1: Profile of the respondents (n = 123)

Characteristics	Frequency (n)	Percentage (%)
Administration system		
Operating under the company network	45	36.6
Independent operating under franchise agreement	1	0.8
Independent operating	75	61.0
Others	2	1.6
Hotel standard (Star)		
1-Star	1	0.8
2-Star	5	4.1
3-Star	44	35.8
4-Star	45	36.6
5-Star	25	20.3
Others	3	2.4
Size of your hotel (number of room services)		
Less than 50 rooms	26	21.1
51-100 rooms	41	33.3
101-150 rooms	13	10.6
More than 150 rooms	43	35.0

3.3 Data analysis

To test the hypothesizes, this study is adopted a multiple regression to test the scale measurements. First, all measurement items have conducted in the group follow the earlier theoretical of innovation by using a confirmatory factor analysis (CFA). The group of independent variables is human capability, management capability, external collaboration capability, and information and knowledge capability. The dependent variables in our model are service innovation and organizational innovation. Kaiser-Meier-Olkin (KMO) is used as a measurement of CFA, which recommended to be greater than 0.60. Additionally, the reliability has tested the internal consistency of each construct, which Cronbach's alpha coefficient should be over 0.70. After CFA, the independent variables were tested each dependent variable by using multiple regression. F-test and t-test are examined the relationship between independent variables and dependent variables. The level of relationship has represented by the beta (β) number. Furthermore, the adjust R^2 number is presented how the independent variables have explained each dependent variable [61].

4. Research Results and Discussion

4.1 Factor analysis and reliability test

Table 2 presented CFA and reliability test. Hotel capabilities in this study have explained 4 independent variables which the Cronbach's alpha of human capability is 0.854; the Cronbach's alpha of management capability is 0.813; the Cronbach's alpha of external collaboration capability is 0.927; the Cronbach's alpha of information and knowledge capability is 0.920. In addition, the KMO value of human capability is 0.816; the KMO value of management capability is 0.682; the KMO value of external collaboration capability is 0.746; the KMO value of information and knowledge capability is 0.820.

For dependent variables, the Cronbach's alpha of service innovation is 0.811, and the Cronbach's alpha of organizational innovation is 0.830. Service innovation has KMO value of 0.786, and

organizational innovation has KMO value of 0.731. All variables have the Cronbach's alpha value exceed 0.70 and KMO value over 0.60. Therefore, the CFA in this study can accept and reliable.

Table 2: Reliability test and factor analysis

Constructs	Mean	Std. Deviation	Factor Loading	KMO	α
Hotel Capabilities					
Human capability:				0.816	0.854
Employees' creativeness to provide new ideas and new service.	4.05	0.756	0.823		
Intension of employees to perform the best service.	3.79	0.781	0.856		
Training course to develop knowledge, skills, and performance has provided for employees.	3.72	0.719	0.807		
High level of knowledge and skills of employees.	3.66	0.913	0.867		
Management capability:				0.682	0.813
High level of synergy between executives and staffs.	4.06	0.761	0.906		
High level of cooperation between executives and staffs.	4.01	0.835	0.887		
Organizational is adopted KIP (Key Performance Indicator).	3.68	1.035	0.797		
External collaboration capability:				0.746	0.927
High level of acknowledgment of supplier about hotel product and service.	3.72	0.815	0.925		
High level of engagement between organizational and supplier to improve service performance.	3.69	0.770	0.953		
High level of cooperation with supplier to develop new service.	3.56	0.831	0.924		
Information and knowledge capability:				0.820	0.920
High level of knowledge sharing to enhance the higher skills of hotel staff.	3.74	0.798	0.810		
High level of exchange the existing technological with supplier to provide a better service.	3.68	0.772	0.829		
High level of technical knowledge sharing with supplier to improve organizational management.	3.61	0.884	0.850		
High level of support from supplier to promote hotels' service to customer.	3.53	0.890	0.885		
Sharing comment of customers with hotel's main supplier.	3.43	0.831	0.832		
Updating and sharing customer' information with supplier.	3.39	0.826	0.871		
Service Innovation:				0.786	0.811
High level of service quality improvement.	3.98	0.794	0.871		
Supplementary services is always provided for customer requirement.	3.95	0.848	0.787		
Hotels' service feature is a business model for competitor.	3.80	0.809	0.704		
Hotels' service features have a high level of development.	3.52	0.872	0.882		
Organizational Innovation:				0.731	0.830
High level of updating of service system to be faster and more efficiency.	3.98	0.768	0.843		
High level of collaboration with external source.	3.92	0.742	0.702		
Organization success to develop a better and unique management procedure.	3.87	0.768	0.847		
Management procedure has a high level of improvement.	3.80	0.768	0.862		

4.2 Test of hypothesis

The hypothesis testing is applied multiple regression analysis via SPSS. The constructs of hotel capabilities are used as independent variables for H1 and H2. The result of hypothesis testing has shown in Table 3. H1 was significant ($F(4,118) = 18.407$, $R^2 = 0.363$, Sig. = 0.000), which dependent variable is service innovation. The multiple regression analysis indicated that human capability has a positive effect on service innovation ($\beta = 0.324$, t-test = 3.291, Sig. 0.001). External collaboration capability also has positive effect on service innovation ($\beta = 0.224$, t-test = 1.806, Sig. = 0.073). However, management capability and information and knowledge capability have not enough evident to support the positive effect on service innovation. The multiple regression model of H2 was statistically significant ($F(4,118) = 31.873$, $R^2 = 0.503$, Sig. = 0.000). The result determined that, human capability has positive effect on organizational innovation ($\beta = 0.193$, t-test = 2.215, Sig. 0.029). Management capability has considerably positive effect on organizational innovation ($\beta = 0.232$, t-test = 2.511, Sig. 0.013). External collaboration capability has significantly positive effect on organizational innovation ($\beta = 0.263$, t-test = 2.400, Sig. 0.018). Likewise, information and knowledge capability also has positive effect on organizational innovation ($\beta = 0.186$, t-test = 1.708, Sig. 0.090). Organizational innovation has influenced by all independent variables.

Interestingly, the results show that human capability has high weight effect on service innovation and external collaboration capability has high weight effect on organizational innovation. The reasons for these results might influence by the characteristic of service industry, which the quality of product (service) is depended on the satisfaction of customers in that moment. Therefore, human resource is played important to improve the service and creates customer loyalty from their performance. For organizational innovation, the profit of hotel is increasingly based on the level of relationship of other entrepreneurs in tourism industry. External collaboration capability is played important role in tourism supply chain due to the requirement of knowledge and information to engage customer and become competitive advantage. The result in the study is affirmed the previous studies which human capability play the important role to develop service and organizational innovation [14], [25], [51]. The investigation of external collaboration has supported that the level of relationship with external resource help hotels to improve hotels' innovation [19], [23], [24].

Table 3: Result of multiple regression analysis on hypothesized

Independent Variables	Dependent Variables			
	Service Innovation		Organizational Innovation	
	Std. Coefficient	t-test	Std. Coefficient	t-test
Human capability	0.324**	3.291	0.193**	2.215
Management capability	0.070	0.665	0.232**	2.511
External collaboration capability	0.224*	1.806	0.263**	2.400
Information and knowledge capability	0.134	1.084	0.186*	1.708
Adjust R ²	0.363		0.503	
F-test	18.407		31.873	

Note: * p = 0.05, ** p = 0.10

5. Conclusions and Recommendations

Innovations aim to create the new ideas for business concept and business model by transforming “what to do” and “how to do”. The level of innovation success is depended on activities and capabilities of each firm. This paper presents the impact of internal and external capability on hotels’ innovations supplying accommodation businesses in Thailand. The concept of innovations in services has been divided into two major dimensions, which are service innovation and organizational innovation. This study found that hotel capabilities which include internal capability and external capability are influenced the level of service innovation and organizational innovation. Internal capability is included human capability and management capability. External capability consists of external collaboration capability and information and knowledge capability.

For practical implication, this study mentions the advantage of collaborative practice as a capability to develop innovation in hotel industry. For internal capability, hotels should provide the courses or training to update the knowledge and skills of employees. The higher level of performance of employees is effected to service performance and help to reduce the waiting time of service. The high level of cooperation and synergy between executives and staffs lead to innovative in organizational innovation. Additionally, management strategy such as KPI (Key Performance Indicator) aims to improve service process. For external capability, the high level of collaboration leads to service and operation improvement. The technical knowledge and customer information increase the efficiency of service process and create a new management strategy. Consequently, the collaboration with external organizations in tourism supply chain establishes the benefit for hotels. The higher level of hotel capacities leads to achieve service innovation and organizational innovation, which influence on competitive advantage.

This study found some interesting results between hotel capabilities and innovations in accommodation services. However, the result of multiple regression analysis excluded the positive effect on service innovation for management capability and information and knowledge capability. Therefore, the further investigation on hotel capabilities and service innovation should examine other factors such as technological capability or apply another analysis method such as nonlinear regression.

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