Service Innovation: An Empirical Study of Antecedents and Outcome

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Many service industries often build the competitive development of high-quality products and services for reasons of competitive advantage. The objective of this study is to investigate the antecedent factors that affect service innovation, and sustainable competitive advantage of the service industry. These antecedent factors consist of learning capability, customer orientation, and innovation orientation. This study was conducted based on empirical data. The sample used in the study was collected from 124 executives of service industry enterprises in Thailand, who were selected via a simple random sampling. A questionnaire was used as a tool to gather data. Subsequently, the data was analysed, and reliability was checked utilising Cronbach’s alpha, with a value of 0.90. It was confirmed through a factor analysis. In addition, the consistency of the model influence on the performance of the Thai service industry was checked. The research data was analysed using a regression analysis. The results verified the prediction of qualitative relationships to be an essential instrument. In which, it helped the service industry to improve its sustainable competitive advantage with a proposal of efficient learning capability design, and adaptation of innovation and customer orientation models towards the ever-changing evolution of the digital economy. Moreover, the results of this study were executed effectively, starting from participation in the management theory to a discussion of suggestions and conclusion for future research directions.

Keywords: Innovation orientation, Learning capability, Customer orientation, Service innovation, Sustainable competitive advantage.

Introduction

At present, service industries have a vital role in both the global, and Thai economies. The service sector can generate a substantial income among developed countries, and across the
world. Furthermore, the free trade practice has origi-
inated novel services and trades to support trade and investment expansion, resulting in an expenditure surge in the service sector.

According to the World Bank Report in December 2016, the economies of developed countries, such as the United States of America (USA), and European countries, were propelled by the service sector. It accounted for 70–80 per cent of gross domestic product (GDP), wherein product value of the manufacturing sector mostly came from the service sector. In Thailand, the service sector carries great dynamics and growth, which are crucial in driving the national economy forward. The proportion of Thailand’s service sector has remained at approximately 50 per cent over the past two decades, defined mostly by low-productivity industries employing low-skilled labour and having a low share in the export sector or generally, the so-called traditional services. The country’s service sector has not yet maintained a sustainable increase of the business share, as other Association of Southeast Asian Nations (ASEAN) or non-ASEAN economic competitors, as well as the developed countries. Presently, the service sector in Thailand has employed as high as 40 per cent of the total labour force, and made up 50 per cent of the GDP value, compared to the employment ratio of only 15 per cent, and the value creation of 35 per cent of the GDP by the manufacturing sector. Engaging 17 million jobs or 40 per cent of the Thai labour force, the service sector encompasses many industries, including tourism, retail trade, health-related business, communications, and transportation, along with such desirable professions as architects, engineers, lawyers, and physicians. The service industries which are becoming important in the future are medical care, wellness tourism, logistics, and airlines. In addition, other industries dependent upon the industrial sector include robotics, future food, and smart electronics. Education services also provide the training, and enhancement of skills necessary for the modern economy, and innovation.

The Bank of Thailand’s report on economic and monetary conditions for January 2019 stated that service sector indicators expanded continuously from the same period of 2018. After seasonal adjustment, the service sector indicators accelerated from that of December 2018 due mainly to business services of vehicle and machinery rental, and communication services consistent with continually enlarging demand for data usage. However, the merchandise transport business, and trade business remained stable, while public services, as well as the hotel and restaurant business, declined from the previous month in line with the decreasing number of foreign tourists over the same period, as per Figure 1.
Figure 1. Title here

Therefore, services are regarded as economic activities offered mostly within a specified time, and by one party to another. This occurs in order to provide recipients with the desired results or objects or other assets under the responsibility of sellers, in exchange for money, time, and effort of buyers, who expect to derive the value of services from access to goods, labour, professional skills, facilities, networks, and systems. Whereas, the customers do not typically claim ownership of the said physical objects of services (Lovelock & Wright, 2007).

As one of the service industries with a significant role, the hotel industry has undergone pressure from intensifying competition because of the rapid and worldwide growth of the tourism industry. Hence, hotels across the world need to boost their service innovation capacity by means of exploration and improve services by means of appropriate exploitation to bring about multifarious skills that contribute to continual value creation for their customers (Tang, 2014). Other service industries, such as hospitals, commercial banks, and insurance companies, can also face a similar form of pressure under the same circumstances, both external and internal, of drastic changes. In this regard, a corporate leader is the key person who enables an organisation to achieve research execution, concept design, and
alteration, along with innovative inventions through a marketing process to utilise innovations in handling any changes that affect the organisation. Moreover, and to successfully manage the organisation towards the determined objectives. Business strategies must be revised to attain immediate survival in the short run, and to gain competitive advantage conducive to sustainable survival in the long run. This is in accordance with the resource-based view, a competitive advantage concept which considers that internal resources are more important than external factors, in terms of the corporate achievement and retention of competitive advantage, and that organisational performance is determined by the internal resources. As stated by Barney (1991), the four potential components of internal resources for an organisation to earn sustainable competitive advantage are value, rareness, imperfect imitability, and non-substitutability. Many organisations have promoted and supported innovation (Keskin, 2006; Lee & Tsai 2005). Furthermore, the concept is consonant with the idea of some scholars who have focused on the Dynamic Capability Theory and given an overview on the use of resources in dynamic markets (Helfat & Petreraf, 2003). They have proposed that the survival of certain appropriate resources is not adequate to maintain competitive advantage in conditions of an unpredictably changing and volatile market (Teece, Pisano & Shuen, 1997; Eisenhardt & Martin, 2000). These scholars have thus asserted that dynamic capability or potential is a complex process involving identification of constantly turbulent changes, in order to respond to abrupt changes in the business environment at one point of time (Teece, Pisano & Shuen, 1997; Eisenhardt & Martin, 2000; Zollo & Winter, 2002; Teece, 2007). It is therefore concluded that the creation of a competitive advantage in an industry represents the response to changes. Accordingly, dynamic capabilities are referred to as an organisation’s reaction in a rapidly changing environment. There are studies advocating that organisational resources, which comprise innovation orientation, learning capability and customer orientation, are antecedent factors and have positive effects on service innovation (Cheng & Krumwiede, 2012; Tang, 2014; Sheng & Iting, 2015; Jones et al., 2006), and service innovation has positive effects on sustainable competitive advantage. Questions are then raised as to how these antecedent factors affect service innovation, and whether and how service innovation affects sustainable competitive advantage in the context of Thailand’s service industry. Therefore, the objective of this study is to investigate the antecedent factors and outcome variables of service innovation in the service industry in Thailand.

Literature Review

Innovation Orientation

Innovation means a success in introducing a product into the market (Im & Workman, 2004). A successful innovation is significant, not only in aiding an organisation to achieve competitive advantage (Cheththamrongchai & Jermsittiparsert, 2019), but also in facilitating business survival, as well as growth, for financial success (Song et. al., 2015; Grinstein,
Entrepreneurs desiring to develop internal resource potentials for competitive advantage have employed organisational innovation or innovation orientation concepts in adjusting corporate resources to be valuable, rare, imperfectly imitable, and non-substitutable. For instance, Hurley et al. (1997) has defined innovation orientation as the organisation’s openness to or adoption of new ideas or processes for implementation, as well as receptiveness to new products or services, including an inclination towards changes. This is based on new technology, resources, skills, and an internal management system, with innovativeness and capacity to innovate as key components of organisational success. Meanwhile, Lumpkin and Dess (2001) have defined ‘innovativeness’ as the intention and inclination to creatively support the experiment and introduction of new products or services, which arise from the creation of novelty, technological leadership, research, and development of new processes.

The researchers have suitably integrated the innovation orientation variable in line with the conceptual framework. In other words, the measuring of organisations that accept, adopt, and implement new ideas, processes, products or services, and are inclined towards changes by employing new technologies, resources, skills, and management systems (Hurley et al., 2005) in the view of organisational innovativeness, overall product innovativeness, and process innovativeness, with an emphasis on products, marketing, and technology. According to prior studies, the innovation orientation will affect the organisational performance (Daniel & Raquel, 2011; Cheng & Krumwiede, 2012). Hence, it was hypothesised that:

**H1:** Innovation orientation positively influences service innovation.

**Service Innovation**

Service innovation is associated with the utilisation of new ideas, new processes, new methods, and new technologies to operate or prepare new services, and to analyse for new methods that create an added service value (Tang, 2014). Service innovation can be founded on the customer needs in the future (Chang et al., 2011), and can clearly examine that customers gain great satisfaction from experience with customer service. Additionally, Verma and Jayasimha (2014) have reviewed recent prior studies on service innovation, and which was divided into two concepts, depending on the theoretical approaches of the resource advantage theory of competition (RA) by Hunt (1995), and the service dominant logic (SDL) by the conceptual framework of Vargo and Lusch (2004). In the evolution tendency of both concepts, they concluded that the RA theory model is the basis for examining the business via its actual performance under the organisational operating resources. Meanwhile, the service dominant logic model becomes the basis for most of the recent published research studies in the context of service innovation, from which empirical test results have detected partial relationships, such as brand logic. In the context of diversified delivery service innovation...
models, the examination has been conducted on three resource groups: technology, collaborative efforts, and the networking of organisational resources.

The service innovation conceptual framework attaches importance to the existing structure of authority, with the learning system being improved according to the necessity for a service upgrade. Thus, business performance can be maintained by the cooperation of the manufacturers of services. Collaborative service shall develop into a learning organisation through the betterment of learning constraints of large-scale business employees, the enhancement of innovative capabilities, and the elevation of employee limitations. Collaborations of customers, manufacturers, and employees are therefore truly beneficial to the business performance (Jermsittiparsert et al., 2019).

**Learning Capability**

Sinkula et al. (1997) reviewed and developed a concept of organisational learning and presented a broad conceptual framework for identifying a specific hypothesis regarding market-based organisation learning. It was concluded from an empirical test result that a learning orientation (a value-based construct) will directly have a highly positive effect in increasing market information generation and dissemination, and pose a direct impact to the extent that an organisation will make changes to its marketing strategies (a behavioural construct), which carries managerial implications. In view of the organisational learning capability, it is regarded as the process aiming to develop a business towards growth through new methods by means of technology, production or sale. Knowledge enhancement helps promote, modify, and improve behaviours (Trisakhon & Jermsittiprasert, 2019).

Moreover, there are studies that the establishment of learning organisation affects organisational innovation capability (Liao & Wu, 2010; Alegre & Chiva, 2008; Noruzy et al., 2013), and that learning orientation has a positive effect on organisational innovation capability (Natalia & Carlos, 2019; Hanny et al., 2011; Elena et al., 2015). Hence, it was hypothesised that:

**H2:** Learning capability positively influences service innovation.

**Customer Orientation**

Customer orientation refers to the organisation-wide gathering of data for inter-functional collaboration, as well as organisational coordinative behaviours on an intellectual basis for customers (Narver & Slater, 1990; Song et al., 2005). Customer orientation helps increase the businesses’ (hotels’) understanding of customers, and redesign or revamp service solutions to fulfil customer needs (Tang, 2014; Grissemann et al., 2013). Consequently, customer
orientation helps improve managerial, and financial performance (Tajeddini, 2010; Tajeddini & Trueman, 2012). From the aforementioned, it can be seen that service capability is assumed to be an unbiassed and reliable mechanism. Therefore, risks can be mitigated by developing new services (Grissemann et al., 2013), and using feedback to improve current services (Lages & Piercy, 2012). In improvement and development, businesses must understand and be attentive to customer needs, in order that service businesses, especially hotels, can capably create services with balanced potentials and make improvements to provide satisfaction according to customer needs. Moreover, it is found upon a review of literature that customer orientation has a positive influence on service innovation (Scott et al., 2009; Colin & Dennis, 2010; Chao-Hung, 2014). Hence, it was hypothesised that:

**H3:** Customer orientation positively influences service innovation.

**Sustainable Competitive Advantage**

Sustainable growth is a measure for assessing the strategic success of an organisation after the utilisation of a learning capability strategy for organisational enhancement by putting learning into practice for the eventual goal achievement of the business. Being a concept, which focusses on long-term problems, sustainable development is difficult to recognise due to private organisations’ disinterest in investments related to sustainable innovation (Van den Bergh et al., 2007). In addition, another definition of sustainability is given as the certification of function in improving business performance or efficiency, in order to continually serve influential markets (Font & Harris, 2004).

Business organisations face a challenge in responding to the issues of accountability of responsibility. Such challenges in the globalisation era arise as limited resources make organisations become socially responsible, which is a key spur for dialogues between the business network, and the Government. In the dialogue on corporate social responsibility in the western world, many supporters confirmed and assured that corporate social responsibility does not mean that an organisation must be non-profitmaking. This is quite an essential logic of business operation for extensive, medium, and small-scale enterprises, in order to acquire a comparative advantage and sustainable business efficiency in numerous companies. Many studies have proven that social responsibility plays a crucial role in enabling an organisation to attain a sustainable competitive advantage (Rajiani & Pypłacz, 2018; Filho et al., 2010), which is in harmony with the notion that social responsibility, values, and beliefs are equally significant in attaining a sustainable competitive advantage (Haseeb et al., 2019).

Various concepts regarding sustainability literature should be considered for comprehensive application, in order to ensure thoroughness. For example, in the context of management and
economy for sustainable development, an effort is made to promote paradigms of the sustainability management system, and corporate social responsibility, which are usually restricted to environmental protection activities. Therefore, the social dimension, and economic dimension must be included. Some researchers (Hockerts & Wüstenhagen, 2010) have suggested that possible organisational sustainable development or sustainable entrepreneurship can be described by the organisation’s clear demonstration of fast-changing or productively destructive activities, rather than of gradually-changing innovation, routine processes in a gradually changing environment or social process innovation through adoption of sustainable management systems or ecological efficiency or social responsibility projects. From this literature review, it can be concluded that the ability of entrepreneurs in building both organisational systems, and activities suitable to support knowledge transfer and learning is the key to growth towards sustainability (Macpherson & Holt, 2007).

A paradigm that propels sustainable growth refers to the adjustment of opportunities to the current influential paradigm in response to growth. However, there are limitations relevant to public engagement in a more interesting environment. In view of the dynamically related sustainability management systems present as guidelines in other practices, low-risk sustainable resource management includes activities such as recycling, hazardous substance disposal and reduction, and energy efficiency (Weaver, 2007; Lawton & Weaver, 2009). Corporate social responsibility is an expectation from a trade utilising resource management innovation in an organisation to generate sustainability (Jones et al., 2006). From literature in other fields, such as science or engineering, some scholars suggest that the cycle between fair technological diversification and increasing operating income to sales can be a source of the sustainable growth trend (Watanabe et al., 2004).

Business growth is a foremost aspect of business administration because it reflects market acceptance, which leads to business success. In reality, it is difficult for an organisation to maintain consistent growth (Park & Jang, 2010). These scholars give a view that the growth patterns (size of business class and internationalisation) of an industry are important for examining the sustainable growth strategy. Moreover, studies have been conducted on the sources of change in profitability and growth, as well as the impacts of the manufacturing business, including industrial countries, and conglomerates (Goddard, Tavakoli & Wilson, 2009). The research hypothesis can be formulated as follows:

**H4:** Service innovation positively influences sustainable competitive advantage.
Research Method

Population and Sample

The population in this service industry study came only from executives in two service industries in Thailand, comprising 9,514 hotel industry enterprises (source: list of hotels with tax reduction, 2016), and 14 financial institutions (source: The Bank of Thailand, 2016). A simple random sampling technique was employed, with the sample group being composed of 400 respondents from the hotel industry (Yamane, 1973), and 14 from 14 financial institutions, totalling 414 respondents. The number of questionnaires which were returned from the sample group and examined for initial completion and accuracy by the researchers were 124, equal to a response rate of approximately 30 per cent against a suitable response rate for questionnaires of approximately 20 per cent (Aaker, Kumar & Day, 2001).

Data Collection Method

A questionnaire survey was used as an instrument of data collection by both postal, and electronic mail during the period of April 2016 to May 2018. The questionnaire comprised of 48 questions, divided into five questions on the innovation orientation variable integrated from the works of Verma and Jayasimha (2014), and Sheng and Iting (2015); five questions on the learning capability variable integrated from the work of Sheng and Iting (2015); nine questions on the customer orientation variable applied from the work of Verma and Jayasimha (2014); eight questions on the service innovation variable integrated from the work of Verma and Jayasimha (2014); and seven questions on the sustainable competitive advantage variable integrated from the work of Verma and Jayasimha (2014).

The questionnaire was tested for instrument quality by means of the internal consistency reliability technique using Cronbach’s alpha values for the collected questionnaire data. Cronbach’s alpha coefficients were 0.891–0.954, which indicated that the questions in the questionnaire are reliable or uniformly consistent (Hair et al., 2006). The convergent validity was also assessed by confirmatory factor analysis (CFA), with factor loading values ranging from 0.762–0.922 40, which were statistically significant (Hair et al., 2006).

Data Analysis Method

A linear regression analysis was the statistical tool used for testing the hypotheses of this study. A correlation coefficient analysis was also conducted.
Research Results

Table 1: Correlation Coefficients of All Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>IO</th>
<th>LC</th>
<th>CO</th>
<th>SI</th>
<th>SCA</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovation Orientation (IO)</td>
<td>3.467</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Learning Capability (LC)</td>
<td>0.821**</td>
<td>3.497</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer Orientation (CO)</td>
<td>0.774**</td>
<td>0.763**</td>
<td>2.853</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Service Innovation (SI)</td>
<td>0.827**</td>
<td>0.765**</td>
<td>0.778**</td>
<td>1.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sustainable Competitive Advantage (SCA)</td>
<td>0.849**</td>
<td>0.806**</td>
<td>0.733**</td>
<td>0.853**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>3.92</td>
<td>3.80</td>
<td>4.19</td>
<td>3.97</td>
<td>3.98</td>
<td></td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>0.0735</td>
<td>0.762</td>
<td>0.625</td>
<td>0.761</td>
<td>0.730</td>
<td></td>
</tr>
</tbody>
</table>

** p< 0.01

According to Table 1, the correlation coefficient analysis of innovation orientation, learning capability, customer orientation, service innovation, and sustainable competitive advantage variables was conducted prior to a hypothetical regression analysis. It was found that correlation coefficients between four independent, and one dependent variable presented four pairs of relationships, with values between 0.733–0.853, and at a statistical significance level of 0.01. All four relationship pairs showed positive values, indicating same directional relationships. All the independent variables showed correlation coefficients between 0.763–0.827, and entirely positive values, thus having same directional relationships. The VIF values ranged between 1.000–3.646, which did not exceed ten, thus indicating no issue of multicollinearity (Hair et al., 2006).

Table 2: Results of Multiple Linear Regression Analysis for the Innovation Orientation, Learning Capability, and Customer Orientation Variables Influencing Service Innovation

<table>
<thead>
<tr>
<th>Variables</th>
<th>Unstandardised Coefficients</th>
<th>Standardised Coefficients</th>
<th>t</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-0.036</td>
<td>0.242</td>
<td>-0.151</td>
<td>0.880</td>
</tr>
<tr>
<td>Innovation Orientation</td>
<td>0.488</td>
<td>0.092</td>
<td>0.471</td>
<td>5.287</td>
</tr>
<tr>
<td>Learning Capability</td>
<td>0.154</td>
<td>0.087</td>
<td>0.154</td>
<td>1.765</td>
</tr>
<tr>
<td>Customer Orientation</td>
<td>0.360</td>
<td>0.096</td>
<td>0.296</td>
<td>3.750</td>
</tr>
</tbody>
</table>

Dependent Variable: Service Innovation

R = 0.859, R² = 0.738, R²adj. = 0.732,** p<0.01

The results of the testing of the hypotheses one, two, and three were shown in Table 2, which presented the results of the multiple linear regression analyses. The results showed that the
innovation orientation variable ($\beta=0.471$, $p <0.01$), and customer orientation variable ($\beta=0.296$, $p <0.01$) significantly influenced service innovation, while the learning capability variable did not influence service innovation ($\beta=0.154$, $p >0.01$).

**Table 3: Results of Simple Linear Regression Analysis for Service Innovation Variable Influencing Sustainable Competitive Advantage**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Unstandardised Coefficients</th>
<th>Standardised Coefficients</th>
<th>t</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>0.725</td>
<td>0.183</td>
<td>3.951</td>
<td>0.000</td>
</tr>
<tr>
<td>Service Innovation</td>
<td>0.819</td>
<td>0.045</td>
<td>0.853</td>
<td>18.057</td>
</tr>
</tbody>
</table>

**Dependent Variable: Sustainable Competitive Advantage**

$R = 0.853$, $R^2 = 0.728$, $R^2\text{adj.} = 0.725$, ** $p<0.01$

The results of the hypothesis four testing was shown in Table 3, which presented the results of a simple linear regression analysis. The results showed that the service innovation variable significantly influenced sustainable competitive advantage ($\beta=0.853$, $p <0.01$).

**Conclusion and Discussion**

The testing results conclude that hypotheses one, and three are true, which means the independent variables — consisting of the innovation orientation, and customer orientation variables — have a significantly positive influence on the service innovation variable, except for learning capability, which has no influence on service innovation. Hence, hypothesis two is false. Furthermore, hypothesis four is true, which means service innovation has a significantly positive influence on sustainable competitive advantage.

Administrative implications are drawn for any organisation capable of differentiating the services better than other organisations. It is difficult for those other organisations to imitate the services as easily as they can imitate the products. Accordingly, distinctive service values help an organisation to achieve a greater competitive advantage over other organisations (Colin & Dennis, 2010; Scott et al., 2009).

In building service innovation, a firm should create a corporate culture that facilitates customers, with a focus on the sharing of credible information for organisational service enhancement. Consequently, the firm can formulate distinctively better customer-oriented strategies over its competitors, thereby affecting the creation of organisational service innovation (Colin & Dennis, 2010).
Innovation orientation, customer orientation, and learning capability are influential variables affecting sustainable competitive advantage for such service industries as hotels, and financial institutions, including commercial banks. These variables may be further applied to service industries outside the aforementioned sample group. This research produces new findings, in that a typical study on the effects of the service innovation variable has been developed into a study on the sustainable competitive advantage variable. Studies on such a subject are scarce in number, especially those tested on the service industrial sector in Thailand. In this regard, the results of this research are in accordance with hypothesis four. Meanwhile, much of the prior reviewed research are studies on the service innovation variable affecting the organisational performance — probably in financial, economic or marketing terms (McDermott & Prajogo, 2012; Colin & Krumwiede, 2010) — and/or may be continuity studies on the organisational performance variable affecting the sustainable competitive advantage variable.

The limitation of this research lies in its data collection. That is, being conducted on an organisational level, and via a questionnaire. The data gathering was fairly time-consuming (approximately two years) due to a low response rate in the first data collection, and thereby necessitating the second, and third data collections.
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