The Relationship between Service Innovation and Loyalty on Vendor Selection Process

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Declaration

I declare that the work described in this dissertation is, except where otherwise stated, entirely my own work, and has not been submitted as an exercise for a degree at this or any other university. I further declare that this research has been carried out in full compliance with the ethical research requirements of the School of Computer Science and Statistics.

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Abstract

This dissertation investigates the relationship between service innovation and loyalty during the vendor selection process of companies operating in Indonesia. A number of studies examine service innovation, but few refer to firms based in Indonesia or focus on the impact of service innovation when it is implemented at the procurement level. Thus, this study tries to figure out how several types of service innovation affect decision making.

The quantitative data was gathered through questionnaires given to 35 procurement managers, and it is supported by qualitative data from semi-structured interviews with 5 managers. Over the past three years, service innovation has come to be seen as an integrated part of existing criteria for the vendor selection process. The survey reflects that core service innovation is the most common service innovation practice implemented by vendors. According to the survey, 15 of 35 vendors perform core service innovation more than half time, which makes the customer satisfied. Service innovation primarily affects quality, with the highest level of importance ranked at 7.64. Furthermore, managers reported that good core service innovation helps them manage the process, the price, and the delivery speed in order to achieve their company's goals.

This study also found that customer satisfaction significantly correlates with the tendency to endorse and to buy the same product. However, there is insignificant correlation between customer satisfaction and the tendency to buy different products.

According to the research findings, a number of recommendations are proposed to enhance service innovation in the vendor selection process. These include the following: (1) Vendors must be aware of the actions and activities of their current customer, especially regarding their core service, without neglecting opportunities for future innovation, and (2) Indonesian companies should direct more of their capabilities toward promoting products that their customers have never used.

Keywords: Service innovation, vendor selection process, customer satisfaction, loyalty

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ABBREVIATION

AMO	Abbot Medical Optics
CIS	Community Innovation Survey
ECN	Engineering Change Notes
EVA	Economic Value-Added
FMCG	Fast Moving Consumer Goods
GDP	Gross Domestic Product
IPB	Institut Pertanian Bogor (Bogor Agricultural University)
IPR	Intellectual Property Rights
MEAT	Most Economically Advantageous Tender
MVA	Market Value-Added
OECD	The Organization for Economic Co-operation and Development
PCN	Process Change Notes
R&D	Research And Development
SBU	Strategic Business Unit
SCM	Supply Chain Management
SCSS	School of Computer Science and Statistics (SCSS)
SLA	Service Level Agreement
TCO	Total Cost Ownership
VDCS	Virtual Device Contexts
VMI	Vendor-managed Inventory
VOI	Vendor-owned Inventory

Chapter 1. Introduction

1.1. Background and Context

Recent competition in marketing has shifted the focus of company service to consumer needs, especially the job of customer service and its outcomes (Bettencourt et al., 2013, p.13). Collaboration between a company and its customers creates the competitive advantage of value co-creation. In cases of long-term relationships between a company and its customers, loyalty is one of the key aspects currently being explored. According to Wu (2014), service innovation has a positive impact on customer loyalty.

Supplier selection is also one of the strategic decisions that companies must confront. It involves many criteria, and they should be clearly defined and explained. With clear criteria, all suppliers have a fair opportunity to compete for the bid based on their capabilities, including their track record performance. This also supports effectiveness and efficiency as the main goals of the whole process. Positive synergy between the winning tender company and the customer ultimately enhances business performance (Yu & Wong, 2015).

Long-term relationships bring advantages such as cost reduction by eliminating unnecessary expenses (Baily et al., 2015, p.287). The close and good relationship between customers and vendors will lead to productive activity in supporting achieving business goals. Nonetheless, in bidding selection there are also several things that should be considered. Fair competition should be open even though the company have preferred vendors. Management should address their risk and opportunities of the procurement and also clear on the supporting factors behind the decision. The impact includes adjustment in order to maximize longer term relationship benefits (Baily, Farmer, Crocker, Jessop, & Jones, 2015, p. 250). In this case, relevant studies about vendor capabilities and business trends would support the decision (ibid., p. 251).

1.2. Research Question

Service innovation positively affects customer satisfaction (Delafrooz et al., 2013). In addition, Wu (2014) claimed that service innovation has a positive impact on customer loyalty. Although many scholars have conducted research regarding service innovation and vendor selection process, there is a lack research connecting these two aspects of business

development. The theme is challenging because selecting the best vendor must be carefully done in order to maintain or improve effectiveness and efficiency. The consequences of choosing the wrong vendor vary from late deliveries to increased operational costs.

Therefore, the following research question arose: How does service innovation affect loyalty in the vendor selection process? This study aims to analyse the service innovation practices that influence vendor selection processes in Indonesia. The specific objectives of this research are as follows:

a. To explore the current criteria that are used for vendor selection and to measure how service innovation urgency influences the delivery of products or services
b. To understand the correlation between service innovation and customer satisfaction on vendor selection process
c. To understand the correlation between service innovation and loyalty on vendor selection process

1.3. The Significance of the Research

Even though service innovation has been growing as an area of interest, there is still very little research that explores the relationship between service innovation and loyalty, especially in the area of procurement. The hope is that further research into the role that service innovation plays in procurement would enhance the effectiveness and efficiency of companies, especially in Indonesia.

The goal of this study is to contribute to knowledge regarding the relationship between service innovation and vendor selection processes. In addition, it will provide recommendations for business practitioners in terms of future service innovation practices, especially for vendors delivering products to customers.

1.4. Scope and boundaries

The overall scope of this research is to investigate how service innovation has been adapted and integrated into vendor selection criteria and to analyze how it influences loyalty when companies choose vendors. The survey and interviews also provide information regarding the benefits of service innovation and insight into how it affects customer satisfaction. Furthermore, the correlation between customer satisfaction and loyalty is explored.

The survey population consists of purchasing managers from 35 companies in Indonesia. This number of respondents was further analyzed to make accurate observations regarding the role and importance of service innovation in the vendor selection process. Five semi-structured interviews were conducted to support survey findings. The respondents have been found through professional social media networks, such as LinkedIn, and also from educational networks. By conducting the study among Indonesian managers, the result will be more applicable to researcher's work as a project manager at Telkom Indonesia.

The survey and interview process were completed in May 2016 using online tools. The sample of survey respondents was limited to managers with professional social media networks, who were found by searching using the field in which they work as a filter. The other constraint for both the survey and interviews was the limited timeline, which limited the number of respondents. However, in order to get in-depth qualitative research, the interviewees represent managers from different industry segments.

1.5. Chapter Roadmap

The dissertation is presented as follows:
Chapter 1. Introduction.
This chapter introduces background information, the research question, and the objectives of this study. It provides an overview of the research area, the benefit of the research, and how this dissertation is structured.

Chapter 2. Literature Review
This section summarizes relevant literature in the research field. A significant number of sources are textbooks and publications that can be accessed online. The focus of the literature review was based on relevant topics such as definition, categories, and the similarities between two variables of service innovation and loyalty. By reviewing the literature, thorough understanding will be developed in relation to how service innovation practice is managed and adopted in the procurement area.

Chapter 3. Methodology and Fieldwork
Chapter 3 elucidates the philosophies and justification of the appropriateness of the methodologies chosen in this research. The analysis of quantitative data is validated by qualitative data by semi-structured interviews. It also provides ethical implications and validity and reliability issues regarding the research process.

Chapter 4. Data Analysis

This chapter explains how the research was conducted and the data is analyzed and interpreted. Comparison of the quantitative result is presented to see consistency of the result testing using different methods of extracting the central tendency of the data. It also provides a comparison of the responses from managers to support and gives rationale from the quantitative result presented.

Chapter 5. Conclusions

This section sums up the result of the research and identifies areas of commonality with other research. It also lists some potential topics to expand on in future research.

Chapter 2. Literature Review

2.1. Introduction

Recently, companies should adapt faster to customer demand. This issue triggered best support from their vendor. In this stage, vendor selection is a strategic decision that affects business performance. Procurement departments should be adaptive when aligning their job to give value proposition with the company's goal (Capgemini Consulting, 2012). The well-established synergy is believed to improve effectiveness and efficiency in the business process (Yu & Wong, 2015). Satisfaction is an item that could be considered to build strong relationships. Moreover, as fundamental tools to achieve competitive advantage, Wu (2014) highlighted service innovation as the factor that could affect customer loyalty.

This chapter will provide a review of the relevant literature and explain how service innovation can affect the vendor selection process. Therefore, this section begins with an introduction to the characteristics of service innovation that are valuable for customers. The next section reviews the supplier selection process and discusses the process' most commonly used methods. The following section explores issues in the procurement process, especially those related to the bidder's criteria. Finally, it will further explore how, due to its goals, service innovation should be an important consideration in the selection process.

2.2. Service Innovation

2.2.1. Definition

Service economies have grown out of the continuity of manufacturing and industrial societies (Miles, 2003, p.81). They affect economic advancement in three areas. First, service sectors include activities, jobs, and output. Second, "service" has become a critical executive principle in all industries, even those not directly or originally service-based. Last, customized services (especially knowledge-intensive business services) are significant inputs for all business sectors.

Kurt et al., (2013) explained there are different perspectives of innovation terminology. One of the most well-known organization of Innovation is **The Organization for Economic Co-**

operation and Development (OECD) that is referred to as the Oslo Manual. It defines innovation as "*the implementation of new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in Business practices, workplace organization or external relation"* (OECD and Eurostat, 2005, p.46). It divides innovation into four categories which are product innovation, process innovation, marketing innovation, and organizational innovation (ibid, p.47). However, there are concept inconsistencies when scholars are doing research comparisons (Garcia & Calantone, 2002). For instance, service innovation which are discussed in the Oslo Manual (2005) is grouped under product innovation while Miles (2003) defines service innovation as the individual terminology. Rothkopf & Wald (2011) suggested general terminology of innovation can capture service and technological innovation essence. According to this definition, some of the literature in this research refer to studies about service innovation in general and also specific meaning.

According to Bettencourt (2010), service innovation is 'the process of devising new or improved service concepts that satisfy the customer's unmet needs' (p. 189). After identifying customers' unmet needs, organizations need to create value to differentiate their position among their competitors. For example, Commerce Bank improved its service by offering extended business hours, employee hospitality, and an interesting branch atmosphere, while other members of the banking industry focus on competitive finance rates (ibid, p.194). In this case, they acknowledge the toughness of their competitors, and then they try to create a unique service that satisfies customers in a different way.

Supporting this idea, studies from Grawe et al. (2009, p.283) indicated that there is a positive correlation between customer orientation and competitor orientation in regards to service innovation. The study emphasized that strong customer orientation would lead to value creation, while competition encourages companies to be efficient in their activities. Another study from Dmour et al. (2012) also concluded that competitor and customer orientation had the most significant impact on service innovation because competition triggers companies to innovate.

Furthermore, innovation are key competitive elements for all companies (Miles, 2003, p.82). Vermeulen & Aa (2003) divide innovation into two categories: replication and new customer roles. Replication is suitable for firms that specialize in a limited set of services. Replication could be also defined as the way companies adapt to innovation from others while on the opposite side, they do innovation as the pioneer. Another type of innovation, new customer roles involve the customer in the innovation process. These are the points of reference for

companies who are trying to improve their service and increase their productivity by figure out whether they can innovate by imitating or creating new things based on customer needs (ibid, p.51).

2.2.2. Service Dimension

Companies can identify improvements regarding what and how their clients do their jobs (Bettencourt, 2010, p.135). Bettencourt (2010, p. 164) distinguishes the service delivery dimension from the goods dimension. The goods dimension includes the four Ps of traditional marketing—product, price, place, and promotion—while the service delivery dimension requires an additional three Ps—people (employees and clients), physical evidence, and processes.

From the perspective of company functions, these dimensions are mapped as follows (ibid). As the first function, marketing, which stresses satisfying clients and enhancing profits, covers the product and price dimensions. As the second function, operations, which includes quality control and ensures the effectiveness and efficiency of expenses, covers the processes, place, and physical evidence dimensions. Lastly, as the third function, human resources covers the people dimension by addressing organizational goals, such as how people are organized by their work and tasks.

2.2.3. Key Aspects in Developing New Services

Vermeulen & Aa (2003, p. 37) argued that specific aspects influence the development of new services. They defined the following four characteristics of service: intangibility, simultaneous production and consumption, heterogeneity, and perishability (ibid). Moreover, they noted the intangibility of services as the primary aspect in developing new services because the output cannot be seen, felt, or touched. Tether & Bascavusoglu-Moreau (2012, p. 6) suggested that due to this immaterial nature, vendors should work closely with customers in order clearly define the relationship and terms of service and to prevent confusion or accidental misrepresentation. Despite its complexity, new service development is easier because it does not require patent applications. However, new services should be supported by some prototype development. For example, payment system services require investment in infrastructure and applications.

Since innovation plays an important role in supporting the effectiveness and efficiency of a company, management should address intellectual property rights (IPR) (Miles, 2003,

p.83). Even though service is intangible, companies must invest more in research and development that support technological innovation. Fixed asset investment in technology is also needed to compete with other companies. Furthermore, innovation investment often alters the product and the way they deliver it. Thus, innovation may increase customers' perception of quality improvements (Clayton, 2003, pp.119-20). Because innovation becomes a company's asset, it needs to be protected by the IPR system (Miles, 2003, p.83).

According to Bettencourt (2010, p. 8), there are four approaches to discovering Service Innovation Opportunities:

a. New Service Innovation. It aims to discover and meet new customer needs, often those they were not previously aware of needing (ibid, p.10). For example, PetFood Warehouse expanded their service from delivering pet food to becoming a new company, PetSmart, that offers various services for pets. These new services include salon service, clinics, training, daycare, and nutrition advisors. The strategy was effective because it resulted in a 20% increase in annual revenue growth.
b. Core Service Innovation. It aims to improve the accomplishment of core tasks related to outcomes (ibid, p.11). Customers need guidance through the solution process until they are assured that the issue is solved (ibid, p. 70). For example, Priority Traveller resolves travel problems, such as suitcase loss or business equipment loss, and also provides accommodations for passengers who have missed their flights.
c. Service Delivery Innovation. It enhances the customer experience by improving the service delivery process (ibid, p.81). When companies decide to innovate their service delivery process, they should begin by defining criteria for success so that all stakeholders are equally aware of and working toward a shared outcome. In this case, obtaining service job is illustrated to support the core job and find success criteria for the delivery steps. For example, *Abbot Medical Optics* (AMO) improved their service by defining the steps that they take to deliver it (ibid, p.115). As a result, AMO launched dedicated customer advocates and regional customer care teams, which boosted their customer loyalty index (ibid, p. 106).
d. Supplementary Service Innovation. It helps product companies better connect with their customers by offering additional support for current product offerings (ibid, p.132). For example, Lexmark International improved their technical support by identifying customers' ideals and expectations, thus turning customer feedback into a business asset that they could use to enhance customer

satisfaction (ibid., p. 127). Furthermore, they created new self-help documents to help customers resolve problems on their own (ibid., p. 129).

All in all, service innovations trigger companies' productivity and growth (Clayton, 2003, p.113). Even though they are intangible, they represent best practices for innovation because they bring companies closer to their consumers. However, customer concept innovation creates the most dramatic growth and new value (Vandermerwe, 2003, p.59). In terms of loyalty, service innovation is also related to consumer satisfaction, switching costs, and long-term commitment (Wu, 2014). In other words, companies should pay attention to service innovation as a key to their success.

2.2.4. Service Innovation in Indonesia

There is a lack of literature about service innovation practice in Indonesia. One study of innovation is conducted to investigate new idea development and capability-based framework (Hartono, 2015). Despite the lack of innovation research about Indonesia, World Bank predicted that Indonesia could be a new emerging economic leader. In 2012, Indonesia's GDP (Gross Domestic Product) was $ 0.88 trillions and placed on 16th GDP in the world. It also made predictions that in 2050, Indonesia might be the ninth leader of the world's GDP (ibid).

One example of innovation research emphasized intellectual property issues (Payumo et al., 2014, p.22).. As the university goal of becoming an innovative research university, Bogor Agricultural University (Institut Pertanian Bogor, IPB) has concern themselves with their research results. Intellectual Property Right (IPR) Policy should help manage ownership, sharing commercialization results and also documenting any innovation product and activities of the university members (ibid, p.29).

Other studies about innovative national innovation systems have been conducted by Lakitan (2013, p.41). This study focused on the actor role of an innovation system and also challenges in establishing innovation. It was found that the budget of R&D was low because of lack of scientific partnership. R&D activities and local industry's ability to absorb technology are also low. Furthermore, as it is illustrated in Figure 2.1., it divided challenges into three levels namely: core, ecosystem, and anatomy within the innovation system that hampers innovation development in Indonesia (Lakitan, 2013, p.48).

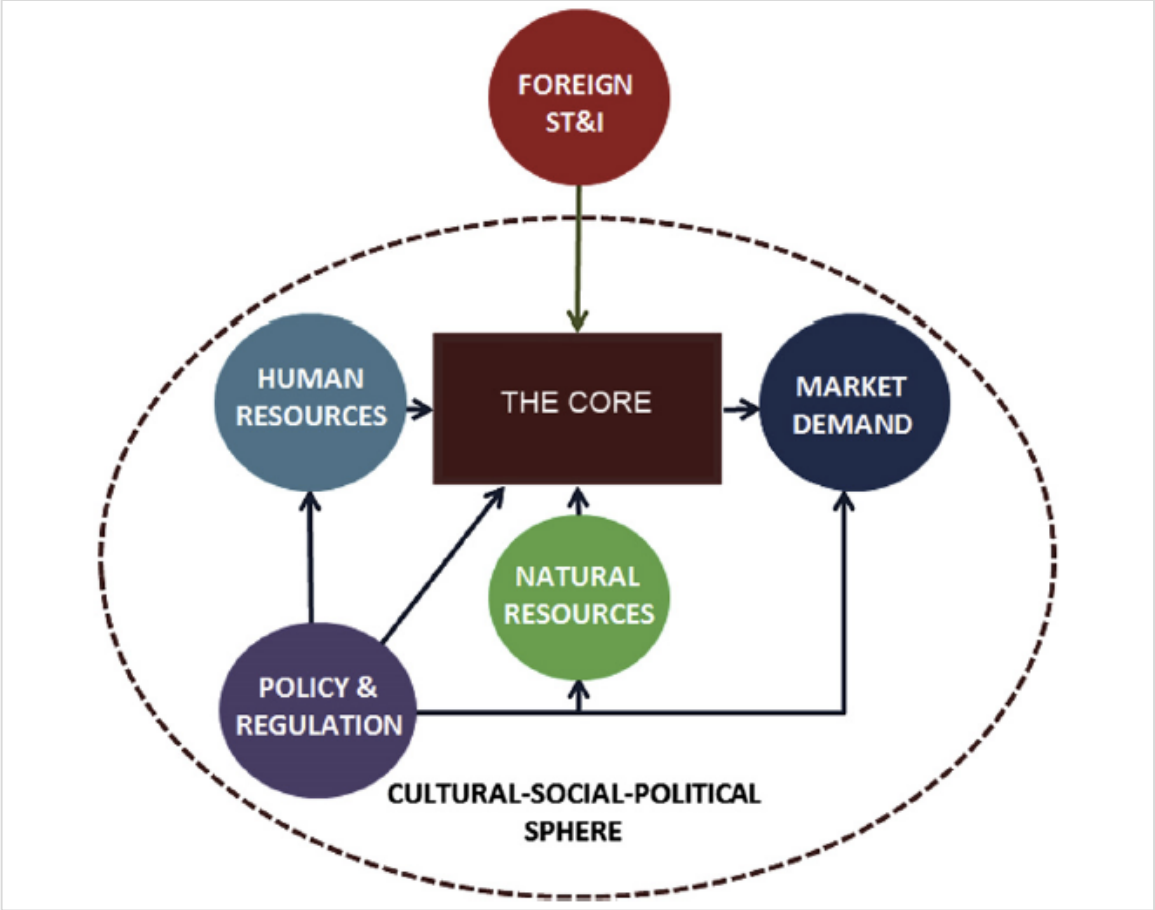

FIGURE 2.1. Ecosystem of innovation: External factors influencing performance of the core.

Ciptono (2006) had focused the study on investigating innovation strategies to the non-financial performance of Strategic Business Units (SBUs). The findings of this study is upstream SBUs depends on external innovation sources such as development of business partnerships while downstream SBUs focused on in- house R&D innovation. The strategies have a positive influence on companies financially and also non-financially. Indeed, it will support economic value-added (EVA) and market value-added (MVA) in the firm.

The figure 2.2. is adapted from analysis model between innovation strategy and company performance for Upstream and Downstream SBUs (Ciptono, 2006). The figure illustrates that leadership orientation had a significant impact with product/service innovation and also has a direct significant impact on the investment level of the company. Furthermore, investment level significantly affects the firm's productivity for Upstream SBUs, and affect the firm's operational reliability for Downstream SBUs.

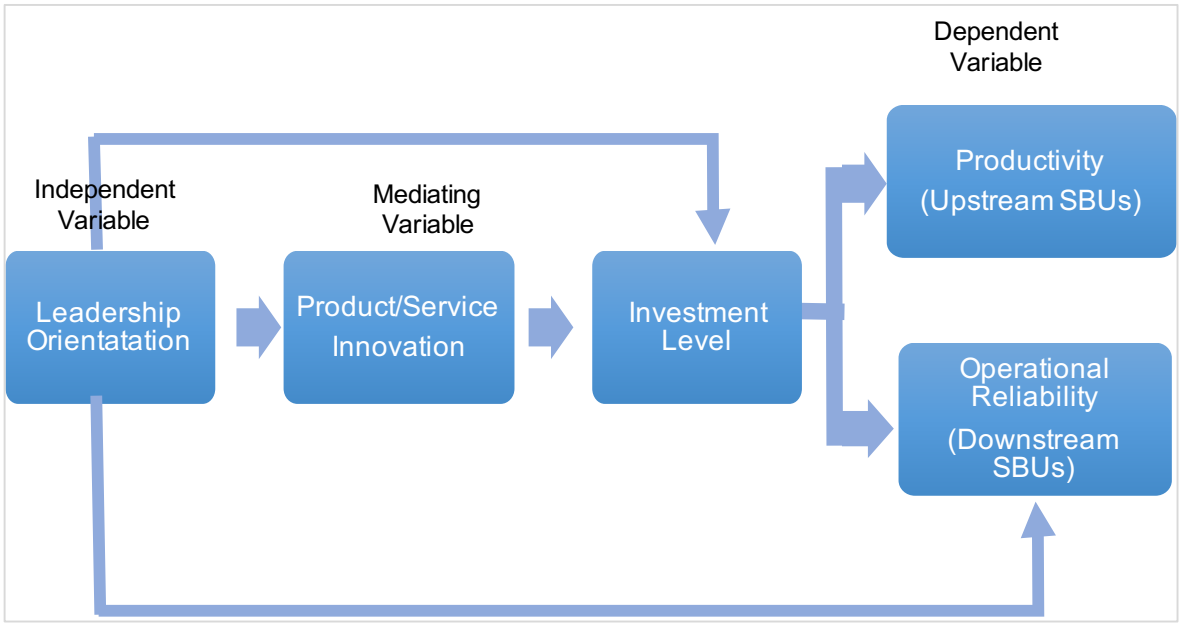

FIGURE 2.2. Relationships between Innovation Strategy and Company Performance

2.3. Supplier Selection

2.3.1. Definition

Companies develop their strategic objectives to provide direction for all business functions, including supply chain management (SCM) (Baily et al., 2015, p.44). Revolutionizing purchasing management can often lead to increased efficiency and effectiveness in the supply chain. This increase will occur not only by reducing short-term costs but also by triggering awareness of the strategic costs of supplies and the total cost of ownership (TCO). The added value is created in collaboration with other functions at the strategic, tactical, and operational levels (ibid., p. 45). SCM is the key to company success by achieving short-term and also long-term strategic objectives (Su & Gargeya, 2012). In a short period, companies can get productivity enhancement and saving of cycle time. In addition, in a long period, they can get market share and revenue rising.

Supplier selection is the process of finding and determining the best vendors to supply customers with the best combination of quality, cost, quantity, and time (Yu & Wong, 2015, p.223). By delegating some production capabilities, companies can focus on their core products or services (Benton, Jr, 2010, p.159). This process should be done carefully in order to obtain the competitive advantage that lead to cost savings and product quality improvement (Zeydan et al., 2011, p.2741). In addition, it also offers supply safety, added

value, and risk reduction (Baily et al., 2015, p.98; Benton, Jr, 2010, p.159). Su & Gargeya (2012) suggests that buyers create a competent vendor network to support them producing quality product with reasonable expense. As a result, incompetent vendors can be the cause of company's failure.

2.3.2. Evolution of Sourcing

Supplier selection is is an element of strategic sourcing (Su & Gargeya, 2012). Strategic Sourcing is *an organized and collaborative approach to leveraging targeted spending across locations with select suppliers that are best suited to create knowledge and value in the customer-supplier interface* (Engel, 2004). In the Evolution of Sourcing Perspective, strategic sourcing is a stage between traditional and global supply management. Figure 2.3 below illustrates the three steps of Sourcing; there are some differences based on its paradigm, focus, reach, technology, and people (Subramaniam, 2009).

FIGURE 2.3. The Evolution of Sourcing

2.3.3. Supplier Selection Method

There are two approaches to competitive tender (Constantino et al., 2012, p.190). The first one uses the *lowest price* when the prior criterion is cost saving which is similar to traditional

purchasing in sourcing evolution. This traditional approach is most suitable when the criterion for the purchased product or service is fixed. For example, purchasing the same item with clear specifications by simply comparing the price is easiest. However, it has some drawbacks. For example, unqualified vendors may not be flexible enough to keep the production costs low (Parente, 2007, p.186). It is hard to build an effective relationship when the supplier is not willing to provide value-added service. In the end, trust and commitment are related to the money that is spent (ibid.).

Nevertheless, most supplier selection processes usually involve multiple criteria as in the process of *Strategic Sourcing* and *Global Supply Management*. In these cases, it is better to award contracts based on the *Most Economically Advantageous Tender* (MEAT) criterion, which classifies the necessity of criteria based on the object of the contract (Piga & Zanza, 2005, p.193; Constantino et al., 2012, p.190). Some of the criteria are quantitative (e.g., price and quality), while the others are qualitative (e.g., service and flexibility). For example, companies can judge suppliers based on a broad set of selection criteria, including net price, quality, delivery, historical vendor performance, capacity, communication systems, service, and geographic location. One supplier may offer a lower price for unqualified products, while another supplier may offer better products but uncertain delivery times and expensive parts. In this case, trade-offs may be necessary (Piga & Zanza, 2005, p.200). The importance of each criterion is complicated and varies according to all of the others.

Some scholars have also connected selection criteria to other criteria. Yang, Chiu, Tzeng, & Yeh (2008, p. 4174) divided criteria into the following four cohorts: quality, price and terms, supply chain support, and technology. Based on their survey, quality included quality performance, quality containment, and *Virtual Device Contexts* (VDCS) feedback. Meanwhile, price has four sub-criteria, which are initial price, terms, responsiveness, lead time, and *Vendor-managed inventory/Vendor-owned inventory* (VMI/VOI) hub set-up cost. Supply chain support includes purchase order reactiveness, capacity support & flexibility, and delivery/VMI operation as sub-criteria. Lastly, technology's sub-criteria are technical support, design involvement and *Engineering Change Notes/Process Change Notes* (ECN/PCN) process.

Despite the criteria issues, all supply chain management, including purchasing, logistics, and inventory, should collaborate under an organization's objectives. According to Benton, Jr. (2010, p. 160), innovation can make a firm more competitive by differentiating it from the competition. Therefore, vendors should be selected based on their ability to adapt to

changing operational needs. A “strategic match” is developed between the customer and the vendor when the selection is based on desired performance in the future rather than history. Haugbølle et al. (2015) proposed the concept of competitive dialogue as a way to drive companies to innovate.

In brief, supplier selection objectives should always remain inline with the desired strategic advantages. The selection should follow specific and intentional methods. The criteria that are usually used are based on price, as well as other factors such as quality and technology, and innovation can help a company reach their strategic objectives. All in all, mutual understanding between the customer and the vendor should be managed carefully so that the company can maximize their effectiveness and productivity.

2.3.4. New Supplier VS Existing Supplier

According to Baily, Farmer, Crocker, Jessop, & Jones (2015, p. 257), existing suppliers can be evaluated based on their historical performance. This performance includes identifying some potential problems that might arise when a customer and a vendor collaborate. The benefit of this approach is that both the vendor and the customer can work together to solve their problem instead of making the vendor solely responsible for solving the problem. This is especially important because service includes both before- and after-sales service. On the other hand, potential suppliers can only be evaluated based on their proposal and capabilities, not by historical performance. In other words, they may be offering better service, but they have no track record to prove it (ibid). Wrong decisions made by companies require extensive assessment regarding costs and consequences (Weber, Current, & Benton, 1991).

Barthelemy (2003, p.89) illustrated that choosing the wrong vendor is one of deadly sins of outsourcing. The vendor’s ability to keep their commitment doing continuous improvement, balancing with its flexible ability may build a high level of trustworthiness between buyer and supplier. One of the aspects that potentially causes conflict is different business goals. The clear contract should be written carefully to avoid misunderstanding. In this case, companies should manage their experience and vendor history performance as first hand experience carefully to decide on the proficiency level of vendor. Second-hand experience could also be a beneficial asset when companies have access to vendor reputation and trustworthiness. Castaldo et al., (2010) clarifies trustworthiness based on vendor competencies, expertise, honesty, integrity, benevolence, etc. As a result, companies could reduce turn their vulnerable and risky position into better performance and build long-term relationships.

Moreover, long-term relationships can be beneficial for both suppliers and customers. Since service innovation is all about defining outcomes and trying to recognize/create value, prices can be reduced when suppliers and buyers work together to drive out unnecessary costs (Baily et al., 2015, p.287). This advantage of innovation can be enhanced when customers and vendors have a good relationship. For instance, service innovation can increase customer loyalty (Wu, 2014).

Positive outcome applies at the larger levels of industry as well, such as when companies are customers. This is related to the concept of “lock-on” in which businesses prefer or tend to choose a sole vendor (Vandermerwe, 2003, p. 56). When loyalty and “lock-on” combine, there is a good chance of generating a productive, long-term relationship. Ultimately, then, this situation meets the one real innovation’s goal: to get and lead in a way that makes it tough for their competitors to catch up (ibid).

Ganesan (1994, p.1) highlighted that long-term relationships establish sustainable competitive benefit for companies. Moreover, Baily et al., (2015, p.286) suggested that there are specific benefits of partnerships in which the customer can work closely with their vendors. These benefits include reducing the number of suppliers in the bidding process and collaborating on new product development (Baily et al., 2015; Haugbølle et al., 2015). It is also emphasized the benefit of long-term relationships such as merchandise, updating information about the best products offered and price available. Noordewier et al., (1990) categorized the benefits into five items which are vendor flexibility, vendor assistance, information to the customer, monitoring of supplier, and expectation of continuity.

On the other hand, long term relationships also have some drawbacks. Ganesan (1994) defined that the buyer should avoid relationships that rely on trust which lead to opportunistic and inadequate contracts. Customers also should consider when the relationship is characterized by low investment but have high unpredictable risk (Thatcher, 2015). The risks that may arise are complacency, pricing, stick levels, communication, and compliance (Colborn, 2016). While the risk aligns with contract importance, customers tend to bargain less and neglect detail (Thatcher, 2015; Anderson, 2010). Personal issues also a challenge to deal with, especially when the negotiators of the contract become close friends (Anderson, 2010). In addition, an unequal voting where one buyer or supplier takes advantage more becomes the next issue of long-term relationship (ibid).

All in all, there are some factors to be considered to when the firm chooses short term or long term partnerships. Short-term contracts are the best option for buyer flexibility to

choose other vendors in the next tender. It can help customer to manage price fluctuation of the items that do not need commitment. Long-term contracts, on the other hand, require careful estimation about future performance and organizations needs. The balance of the two options is believed would take the advantages from the two methods and also minimize the related risks (Fernandopulle, 2015).

2.4. Issues

2.4.1. Similarity

Service innovation and procurement have the same ultimate goal of effectiveness and efficiency for companies (Baily et al., 2015, p.44). Service innovation can help procurement managers better align their practices with business objectives.

In addition, scholars believe that long-term relationships build greater understanding regarding the delivery of products or services. From the service innovation perspective, exploring customer needs by building close relationships is the best way to innovate in ways that enhance business growth and create new value (Vandermerwe, 2003, p.58). From the supplier selection perspective, a strategic match is developed between a customer and a vendor when the relationship is built on mutual expectations about future performance. Thus, managing relationships is key for both service innovation and supplier selection processes.

2.4.2. Procurement Issues

Baily, Farmer, Crocker, Jessop, & Jones (2015, p. 143) defined several key procurement issues as follows:

a. Outsourcing

Outsourcing is the contracting out of non-core activities (ibid, p. 146). Its purpose is to enable companies to focus on their core business by getting others to handle the non-core business. It also leads to cost efficiency (ibid., p. 148).

b. Quality management

Quality is fitness for purpose. To best manage quality, vendors should think innovatively about ways to meet their customers' needs. Standardization is one of the ways in which companies receive assurance about quality (ibid., p. 194).

c. Inventory management

Inventory management is an expense that reduces profit. However, inventory is important to support service continuity and prevent downtime costs. Consequently, in order to maintain profits, management should focus on operational expense reduction, especially inventory control (ibid., p. 196).

d. Lead time and time compression

On-time supply is important to meet procurement objectives (ibid., p. 238). The consequences of late delivery are lost sales, postponed production, and unsatisfied customers.

e. Sourcing strategies and relationships

From the perspective of sourcing strategies and relationships, careful decision making should consider all relevant factors and address their risk and opportunities. This issue also affects the management of competition among providers in relation to buyer departments' need to maximize benefits from longer-term relationships (ibid., p. 250). Consequently, procurement management should include research to determine supplier capabilities and market trends (ibid., p. 251).

f. Price and total cost of ownership (TCO)

Procurement management must evaluate the price and TCO because the best price is affected by various criteria (ibid., p. 284). These criteria include competition, customer's perceived value, production expenses, and strategic concerns.

g. Negotiations

Negotiations are key to any processes that involve mutual demands (ibid., p. 313). Any negotiation involves the following three phases: pre-negotiation phase, the meeting phase, and the post-negotiation phase. It is important that customers engage in this process by skillfully asking and listening in order to ensure that a mutual understanding is reached without any misinterpretation of the agreement (ibid., p. 315).

2.4.3. Service Innovation on Vendor Selection Process

In order to win the bidding, the chance of the vendor depends on how they offer competitive advantages, especially compared to the option that they choose other vendor or they produce themselves. The supplier should be aware of globalization, technology, and innovation without neglected reasonable expenses (Rajagopal & A. Rajagopal, 2009,

p.313). This option has a direct impact on how companies define the supplier selection criteria.

Even though vendor selection criteria vary depending on the industry, but service innovation can be an important part of service that vendors offer to win bids. For example, when vendors are similar in regards to efficiency, offering other forms of service innovation may set them apart from their competitors. Although service innovation does come with some risks, it should, nevertheless, be part of any proposed offer because it can help to build better relationships with customers. Moreover, service innovation can be a stand-alone item or a part of the existing selection criteria. Hence, examining service innovation proposals from several vendors, rather than only one, is challenging.

Generally, service innovation may be categorized under service and quality, but it could also be categorized under technology. This research aims to explore how customers weigh service innovation in relation to other criteria when they are selecting vendors However, since it is assumed that service innovation will be an especially difficult criterion to assess with new bidders, developing a fair bidding process is very important.

Fair bidding should always treat each bidder equally. As previously mentioned, every vendor should consider procurement issues when offering their product or service. Negotiations are a way for them to further explain their offerings and clarify extra or additional services. Although this can be quite difficult for new suppliers, the key to developing a successful service strategy is using negotiations to determine each customer's unique needs (Bettencourt, 2010, p. 15; Baily, Farmer, Crocker, Jessop, & Jones, 2015, p. 315).

2.5. Summary

Measuring service innovation is challenging because it is based on customer satisfaction outcomes, which are very subjective, difficult to measure, and vary according to the customer. Understanding customers by working closely with them is the best way to create value through innovation. It also enhances consumer satisfaction, reduces switching costs, and helps build long-term commitments (Wu, 2014). Despite there are several pitfalls of long-term relationship, loyalty is still considered an important thing that could be triggered by service innovation. Furthermore, service innovation is the key to many companies' successful survival.

Procurement is critical to delivering service since selecting the wrong vendors will lead to economic issues. The selection process should follow specific, defined methods. The typically used criteria include quality, price and terms, supply chain support, and technology. While literature review indicated service innovation can support the strategic goals of a company, understanding how service innovation impacts the vendor selection process is crucial for both managers and researchers. All in all, each supplier selection process should be managed to align with a company's objectives.

Chapter 3. Methodology and Fieldwork

3.1. Introduction

Service innovation and vendor selection processes share the same purposes and goals, which are effectiveness and efficiency. A review of the related literature was conducted to identify the different variables, define contemporary issues, and clarify concepts (Sagar & Singh, 2012). Despite its importance, researchers have not yet fully explored how service innovation impacts loyalty as a factor in vendor selection processes. Therefore, the aim of this study is to explore and better understand how service innovation affects loyalty as a factor in businesses' vendor selection process.

This chapter reviews several factors that need to be considered to do the research, including research philosophies, methods, and strategies. Furthermore, the most appropriate approach will be chosen to discover how service innovation impacts loyalty in vendor selection processes. This chapter will begin by explaining the selected methodology, the study population, the sampling method, and the collection of data. The next section will address related validity and reliability issues.

3.2. Research Methodologies

3.2.1. Philosophical Approaches

A research philosophy develops a conceptual framework that contains research questions (Quinlan, 2011, p.104). Furthermore, it establishes knowledge based on the researcher's perspectives and assumptions about the world (Saunders et al., 2009, p.107-108). Researchers should choose the philosophies that are most related or most critical to answering the research question (Sekaran & Bougie, 2013, p.30). Well-designed methods and perspectives increase the quality of the research findings (ibid).

A number of research philosophies can be chosen when a researcher conducts a research project. According to Saunders et al. (2009, p.109), the most important perspectives for contemporary research in business are positivism, realism, interpretivism, and pragmatism.

a. Positivism

Positivism is the way researchers adopt a scientific approach to understand the world (Saunders et al., 2009, p.113). A deductive approach is used when researchers want to follow certain laws of cause and effect (ibid, p.29). Hypotheses are established based on existing theories, and they are analyzed through observation and determined to be valid or non-valid phenomena, which can be the foundation for further research (ibid, p.113). Generally, the positivist researcher aims only to describe objective measurable phenomena. However, even excluding emotion and feelings from their research, researchers still tend to have a value stance regarding their hypotheses (ibid, p.114).

b. Realism

In realism, researchers acknowledge that the existence of objects is independent from human perception (Saunders et al., 2009, p.114; Bryman & Bell, 2015, p.29). Similar to positivism, however, realism also requires researchers to collect and understand external reality through scientific conceptualization (Bryman & Bell, 2015, p.29).

Realism has two major types: Empirical and critical realism (ibid). Empirical realism argues that the truth can be explained by using structured, positivist methods. The second type is critical realism, which asserts that there are understandable structures in the social world that can be identified by practical and theoretical work (ibid). Critical realists, unlike positivists, assert that reality is conceptualized by scientists, rather than being directly accessible through observation. In addition, critical realists admit causal/generative mechanisms to uncover correlations between variables. This observation is not allowed in positivism.

c. Interpretivism

A contrasting position to positivism, interpretivism emphasizes how human differences influence roles as social actors (Saunders et al., 2009, p.116). Generally, interpretivists use case studies or ethnographic investigations, while the positivist uses experiments and surveys, which are easier to quantify (Weber, 2004, p.x). Unlike in other methodologies, the interpretivist researcher employs their empathetic understanding and point of view. This approach is suitable for business, management, and human research because it helps researchers recognize and define the complexity and uniqueness of business circumstances (Saunders et al., 2009, p.116).

d. Pragmatism

From a pragmatist perspective, it is difficult to choose one philosophical stance to answer a research question (Saunders et al., 2009, p.109). There is no specific position that generates valuable findings; instead, researchers should choose whatever positions or methods can best be applied to the specific problem (Sekaran & Bougie, 2013, p.30). The important feature of pragmatism is that truth is conditional, as it can change (ibid). Researchers can mix methods and be flexible in their approach by ignoring the differences among the paradigms they're employing (Collis & Hussey, 2014, p.54). Furthermore, it allows researchers to modify their assumptions (ibid).

3.2.2. Conceptual Model

The goals of this study are to explore how service innovation as criteria on the vendor selection process, to discover the relationship between service innovation and customer satisfaction, and, lastly, to understand how customer loyalty is impacted when the customer considers service innovation as a criterion for selecting a vendor.

The service innovation measurements come from the Servqual model that was introduced by Parasuraman in 1985. By adopting the Servqual model, this study uses the contract *Service Level Agreement* (SLA) as the standard expectation of customers compared to the perception of the service that they received. Furthermore, the innovation practices survey was adapted from the *Community Innovation Survey* (CIS) that was initially established in Europe in the early 1990s (Arundel & Smith, 2013, p.60).

3.2.3. Purpose and hypothesis

According to the literature, service innovation has a significant impact on customer satisfaction and loyalty. This study aims to discover the impact of service innovation on loyalty in vendor selection processes. In order to compare the impact of service innovation on the processes in Indonesian companies with those considered in previous studies, the following three hypotheses are presented:

H.1. Every company has different categories of distinguishing criteria. Service Innovation, as a new approach, are included in existing criteria.
H.2. Service innovation increases customer satisfaction.
H.3. Customer satisfaction enhances loyalty

3.2.4. Statistical Approach

The data in this research is ordinal data, in which the levels can be ranked, but the data has no value (Lund Research Ltd, 2013b).

H1 will be answered with descriptive statistics that provide survey results in graph and table form. Stevens (1946) (as cited in Draper (2012) & Boone, Jr. & Boone (2012)) recommended median and mode as the best methods to report the central tendency of the data. The data will be summarized by grouping it using tabulated and graphical descriptions (i.e., tables and charts) that were completed through additional statistical reviews (Lund Research Ltd, 2013).

H2 and H3 will be discussed using inferential statistics. The data that is gathered will be processed so as to make generalizations about the population. Since the data collected is ordinal in type, the test that will be used is the Spearman Correlation, as it is the most suitable. Spearman's correlation coefficient, (ρ, also signified by Rho) indicates how strong the association weight is between two ranked variables (Lund Research Ltd, 2013). It has values from +1 to -1. A Rho of +1 points is an excellent association between ranks, a Rho of zero illustrates no association between ranks, and a Rho of -1 shows a superb negative association between ranks. The further Rho is to zero, the stronger the association between the ranks (ibid).

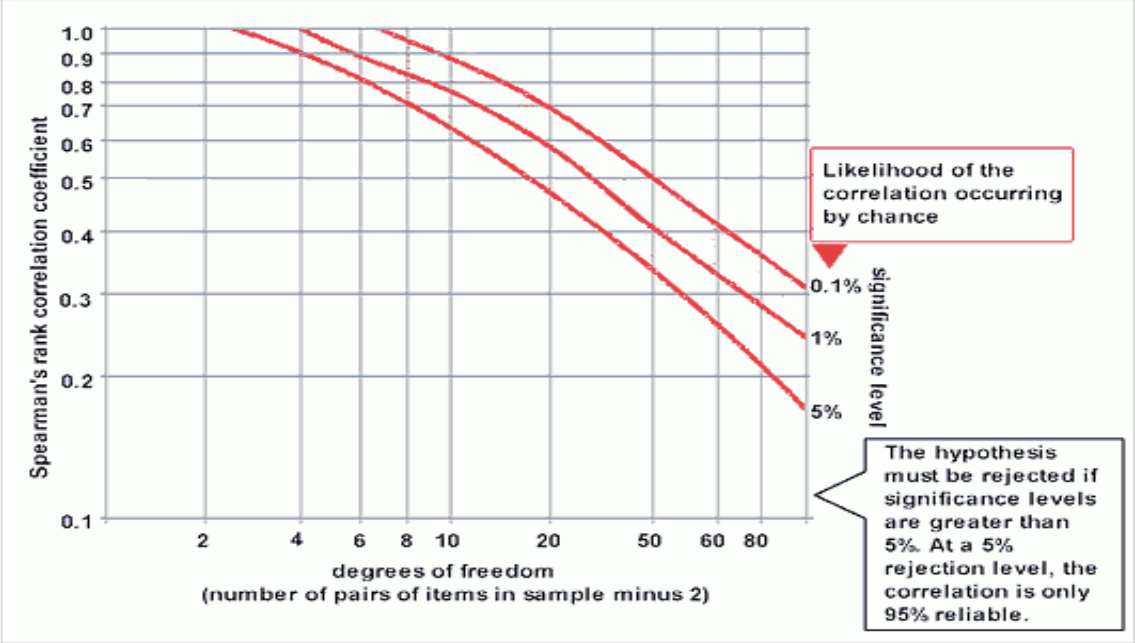

FIGURE 3.1. Significance of Spearman's Rank Correlation Coefficient

To proof the hypothesis, Spearman's rank is used to check the significance level of the results (Barcelona Field Studies Center, 2013). The Figure 3.1 above shows how the number of items affects whether or not the result should be accepted or rejected. Thus, this chart is used in chapter 4.

3.3. Research Strategy

Many scholars distinguish between quantitative and qualitative research strategies to identify issues in practical fields (Bryman & Bell, 2015, p.37). Quantitative methods use a deductive approach, in which positivist philosophy is employed to understand social reality as objective facts.

In contrast, qualitative methods use an inductive approach and adopt interpretivist philosophy to explain how changes in social phenomena are dynamically related to individuals' roles (ibid, p.38). Quantitative methods help researchers to develop ideas about kinds of phenomena that are happening, while qualitative approaches can clarify reasons and processes by supplying rich contextual data (Buckley, 2015, p.16).

Vendor selection criteria vary from one company to another. In order to gain insight into how companies develop and order their criteria, this study used a mixed-method pragmatist approach. In addition, this study took the assumptions and conclusions from previous studies and tried to prove whether or not the same result can be replicated. In this way, it is also related to a positivist approach. A specific data collection process was undertaken to collect quantitative and qualitative data. Interpretivism is required to understand the correlation between the manager as decision maker and their circumstances.

This research project was developed using the following data collection methods:

a. An online survey of procurement managers in order to understand the best practices for vendor selection and service innovation in their company.
b. Semi-structured interviews with chosen procurement managers. Quantitative data from online surveys was further explored and expanded upon through semi-structured interviews to better understand current practices and future developments in service innovation. These also explored expectation and barriers in service innovation practices.

The section below will explore both methods further:

3.3.1. Online Survey

The quantitative data was used to identify key issues that needed to be explored deeper. As cited in the literature review, every business decision, including choosing a vendor, should align with a company's objectives (Benton, 2010, p.160). Some questionnaire results, such as factors that affect the decision to choose bidding or other methods, are better explored through qualitative explanations. In addition, customer satisfaction can be explored in more depth since the items on the survey were limited due to the length of the questionnaire. The interview process explored complex issues and as it employed the interpretivist approach, the researcher could benefit from exploring subjective considerations about decisions or any other circumstances that could not be obtained from the online questionnaire. This was essential to get at the meanings behind some of the quantitative data.

In the first phase, primary data was collected through an online survey on Qualtrics in order to generate quantitative data (Quinlan, 2011, p.322). Answers to the online questionnaire were scaled and measured to get factual and structured data. The main objective of survey research is to accurately summarize data by collecting, quantifying, and analyzing it from a sample of the population being studied (Berger, 2014, p.254).

An online platform was chosen for the survey because it was the easiest way to accomplish the survey goals (Walt et al., 2008, p.5). It was easier for the respondents, especially in the digital age when people can easily access the Internet from not only their desktops and laptops but also their tablets and mobile phones (Callegaro, 2010, p.1). From the researcher's perspective, the cost for distributing the questionnaire was low (Moss & Hendry, 2002, p.584). Furthermore, the data could be analyzed faster because the collection process is more efficient and helps to minimize the human errors that can occur when data is transferred from paper to an to electronic database (Walt et al., 2008, p.5).

a. Sample Population

The survey population was comprised of procurement managers in Indonesia. The research aimed for a minimum of 30 purchasing managers from 30 different companies in Indonesia. This number of respondents provided the study with an appropriate amount of data to make accurate observations regarding the role and importance of service innovation in the vendor selection process.

These managers were surveyed by an online questionnaire. The self-structured questionnaire was developed, pre-tested, and then applied to gather information about the impact of service innovation on vendor selection criteria. The respondents have been found through professional social media networks, such as LinkedIn, and also from educational networks. By conducting the study among Indonesian managers, the result should be more applicable to the researcher's work as a project manager at Telkom Indonesia.

b. Survey Design

A review of the literature produced some criteria that are generally used as vendor selection criteria, namely quality, price and terms, supply chain support, and technology (Yang, Chiu, Tzeng, & Yeh, 2008, p.4174). The other main point garnered from previous literature is the four approaches to discovering service innovation opportunities, which are new service innovation, core service innovation, service delivery innovation, and supplementary service innovation needs (Bettencourt, 2010, p.8).

Furthermore, these criteria were combined with the Questionnaire of *Community Innovation Survey* (CIS) that was developed by the European Union (Gault, 2013, pp.22-26) and also the results of previous research regarding retail customers' loyalty (the assumption being that this may be similar to the company-vendor relationship). This survey of CIS was established several years ago in Europe in order to measure innovation practices (ibid, p.4). The survey contained questions regarding the company's circumstances, how they approach service innovation, and their point of view regarding what factors might affect customer satisfaction and loyalty.

After the draft questionnaire was written, it was piloted to ensure that the questions could be understood by the respondents. Online questionnaires was the most effective way to collect data due to the distance between the researcher and the respondents. The pilot survey also detected some issues that might arise when the real survey was conducted (Quinlan, 2011, p.339). Saunders et al. (2009, p.144) emphasized that researchers should consider respondents' goodwill when deciding on the question.

The pretest for this survey included 5 respondents, both procurement managers and non-procurement practitioners. The feedback from the respondents varied from noting unclear questions to clarifying some definitions. Based on the feedback, the researcher reworked the assumptions from the literature review into practical language (Quinlan, 2011, p.341). The pretest also helped the researcher determine the average time that it would take a respondent to complete the survey.

The revised questionnaire was uploaded and checked by the Research Ethics Committee to be distributed to the real participants. The online survey was available during the data collection time frame in April and May. The materials are included in the Appendix.

c. Survey Execution and Analysis

The information sheet and the link to the survey for online survey were distributed to the respondent via email. The participant indicated their consent on the consent form before they do the survey. Respondents completed an online questionnaire via Qualtrics, and data were analyzed using MS Excel software in order to determine whether or not the survey findings support the hypothesis. The complete survey is attached in the document that has been imported from the Qualtrics application.

Regarding Data Protection Act, 1988 compliance, each survey results and audio recording were transferred, encrypted and stored on the researcher's laptop for the duration of the research project. The coded data also was backed up on secure online storage and destroyed after research completion. Researcher used Google Drive that have already complied with Safe Harbor.

3.3.2. Interviews

Qualitative data was gathered from semi-structured interviews to explore current practices and identify personal or company considerations that were applicable to the manager's decision-making process. Semi-structured interviews allowed the researcher to get more detail regarding initial research data from the interviewees' perspectives (Bryman & Bell, 2015, p.480). Participants were interviewed about specific topics according to previously prepared questions. However, the interview guide was flexible in order to be able to add to or omit questions depending on participants' individual answers. Therefore, there was no standardization in how each participant responded (ibid, p.481).

Zaltman (2003, p.272) argued that one-on-one interviews are better than focus groups because they enable respondents to freely use their imagination. The positive side is that there is no need to worry about the influence of social dominance from other participants (ibid, p.123). However, interviews are time-consuming because it can take a while to cover each participant's opinion.

a. Interview Participant

The managers who agreed to participate in the interview process were contacted further to arrange the interview process. They were invited via email. Participants were interviewed in person via online meeting software. This was a practical decision made due to geographical distance from the researcher.

In order to account for ethical considerations, participants were informed via email about their rights during interview process. Their signature on the survey consent form covered their willingness to contribute to this study. Moreover, they were aware that the goal of the study were to explore the current criteria to select vendor and also to seek the relationship between service innovation, customer satisfaction and loyalty in that process.

b. Interview Execution and Analysis

Once the managers had read about the process and agreed to it, the interview process was conducted based on their availability and with the most comfortable access that they could have. Five online interviews were conducted by Skype and took approximately thirty minutes each.

The interview process was administered and recorded so that there would be verbatim transcripts. The audio recordings were transcribed in Word files. Individual files were coded and stored in a secured laptop. These recordings was kept until the completion of the research. The transcribed interviews were beneficial because they can be evaluated deeper, especially if they include visual information (Berger, 2014, p.162). Berger (2014, p.169) suggests using a transcription machine or voice recognition program. In the end, the material should be rechecked to fix any errors. Transcribed interviews should be categorized for further analysis (ibid., p.170).

The interviews were prepared to last for up to 30 minutes, and the audio was recorded. The following information that were explored:

a. The types of service innovation the respondent expected
b. How they measure the service innovations of their vendors
c. Procurement challenges to developing/selling service innovation
d. Opportunities to explore more service innovation

3.4. Research Lesson Learnt

a. Survey Lesson Learnt

The online survey was conducted with the managers that were contacted in May 2016. LinkedIn as professional social media was quite effective to find the respondent since the position and their field was stated on their profile. The practitioners were effectively contacted by personal approach rather than by a request in a community group or mailing list, especially for respondents who were not known to the researcher.

b. Interview Lesson Learnt

During interview sessions, the challenge was finding ways to keep the respondents engaged with the process. Surprisingly, none of the respondents felt comfortable being interviewed by video call. The preparation of alternative media helped the keep the process going well, as it helped manage the difficulties of busy schedules and time differences between the researcher and participants. Sending the material to the respondents before the interview also effectively helped keep the interview to a reasonable length of time.

3.5. Ethics Approval

Ethical concerns are substantial in the research process in order to ensure that the participants feel safe providing information (Quinlan, 2011, p.197). The ethics application was granted by the TCD School of Computer Science and Statistics (SCSS) Research Ethics Committee on 3 May 2016 before the distribution of the survey and the interview process. In the first stage of the survey, participants were provided the information sheet and a link to the survey through email. The survey was intentionally designed to be anonymous and voluntary so that participants could decide whether or not they wanted to complete the process. They were also informed that any illicit activity would be reported to the appropriate authorities.

3.6. Issues of Validity and Reliability

Issues of validity require that the study measure the right concepts with well-developed instruments (Sekaran & Bougie, 2013, p.225). It is suggested that researchers obtain measurements from instruments that are already well acknowledged by the research community (ibid, p.226). As this study of service innovation has been conducted by CIS from 1992 until 2010, the questionnaire is proven. In addition, the ServQual parameter is a

proven method of measurement, as it has been widely used. Based on the literature review, some modifications were made to align the concept of service innovation with the previous studies.

Reliability focuses on the stability and consistency of measurements (ibid, p.225). According to Saunders et al. (2009), reliability relates to how data collection techniques provide steady findings, as well as the transparency of data interpretation. Verbatim transcriptions of audio recordings were made for each participant in order to minimize error and verify information.

3.7. Summary

This chapter summarized several common research philosophies and methodologies in technical, social and business disciplines. The most appropriate methods for addressing this research question was mixed method of and quantitative and qualitative data collection with pragmatism philosophies approach. The data was gathered both by online tools, both for survey and semi-structured interview due to distance and time constraint of this research.

Chapter 4. Findings and Analysis

4.1. Introduction

This chapter outlines data findings gathered from an online survey and semi-structured interviews. The analysis provides qualitative and quantitative data collected from Indonesian procurement managers.

Both the quantitative and qualitative results are presented in the following five sections:

a. Profile of respondent
b. Vendor selection criteria
c. Service innovation practice
d. Customer satisfaction and loyalty
e. Factors that hamper service innovation

Quantitative findings are structured using a questionnaire, and the data has been tested approximately normally distributed. The confidence level is 95% where the z value is -0.24. The service innovation and the satisfaction results were reached using the Spearman rank-order correlation. The data that supports the hypotheses will be explored in section 4.2.

4.2. Quantitative Research Findings

4.2.1. Profile of Survey Respondents

From 84 questionnaires that were distributed, the 44 managers that participated in the survey were based in Jakarta, Indonesia, and 35 participants completed the survey. The response rate of the survey was 41.67%. The participants mostly came from manufacturing (31 %) as is shown on the Figure 4.1. The purchased items varied from machine and hard tools to goods produced daily, such as tea and fabrics. Other industries that participated include IT&Telco, Mining and Power, FMCG (Fast Moving Consumer Goods), Banking, and others that consisted of Government and Health industries. The completed profile of the respondents is shown as follows:

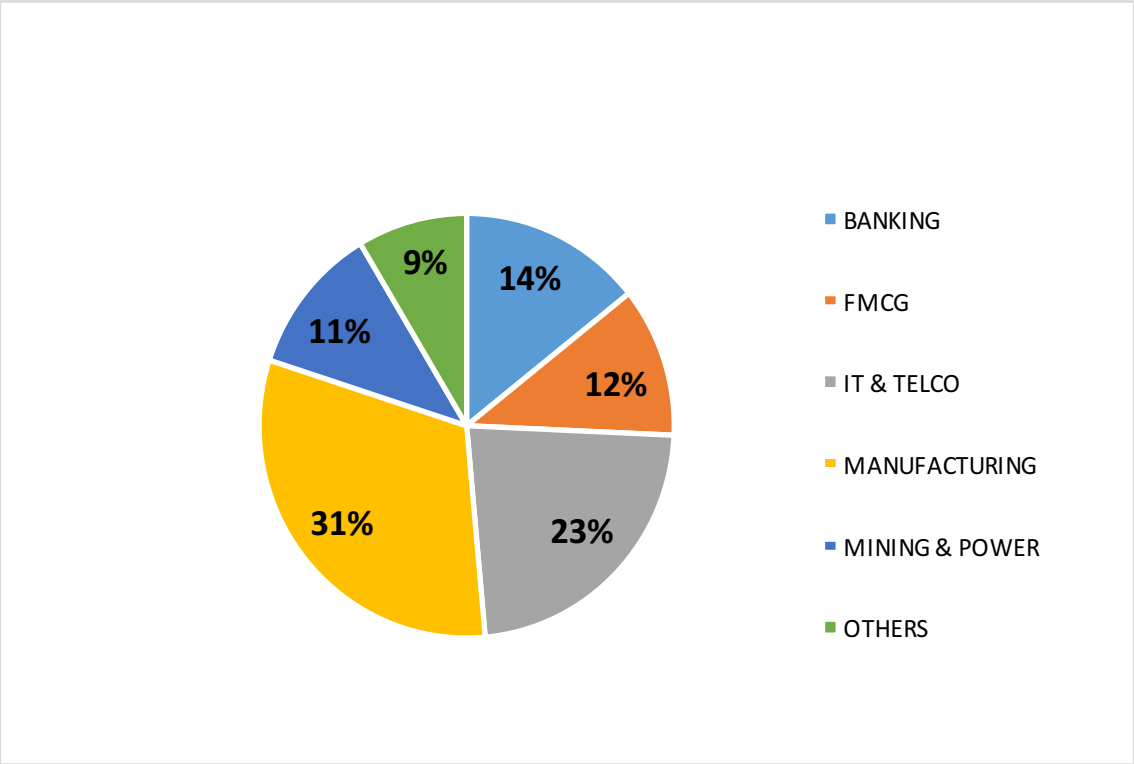

FIGURE 4.1. Profile of Survey Respondent based on Industry segmentation

As can be seen in Table 4.1, the majority of the companies (74%) adopted not only a bidding selection process but also a supplier partnership. For the rest of the respondents, 5 respondents used only a bidding process, and 4 respondents used only a supplier partnership.

TABLE 4.1. Selection Method Preferences based on Industry Segmentation

INDUSTRY SEGMENTATION	Selection Method		
	Bidding Process	Supplier Partnership	Bidding Process & Supplier Partnership
BANKING	1		4
FMCG (Fast Moving Consumer Goods)		2	2
IT & TELCO	1		7
MANUFACTURING		2	9
MINING & POWER	1		3
OTHERS	2		1
Total	**5**	**4**	**26**
PERCENTAGE	14%	11%	74%

4.2.2. Vendor Selection Criteria

In this section the respondents were asked to prioritize by rank four common major vendor selection criteria. The Figure 4.2 below illustrates that 50% of the respondents thought that quality was the most important factor in deciding on a vendor. Supply Chain Support, Price and Terms, and Technology were considered as the main factors by 24%, 21%, and 10% of respondents, respectively. Similar conclusions can be reached by viewing the data reversely; starting with the least important criteria, the respondents chose Technology, Price and Terms, Supply Chain Support and Quality, respectively, as the least important criteria.

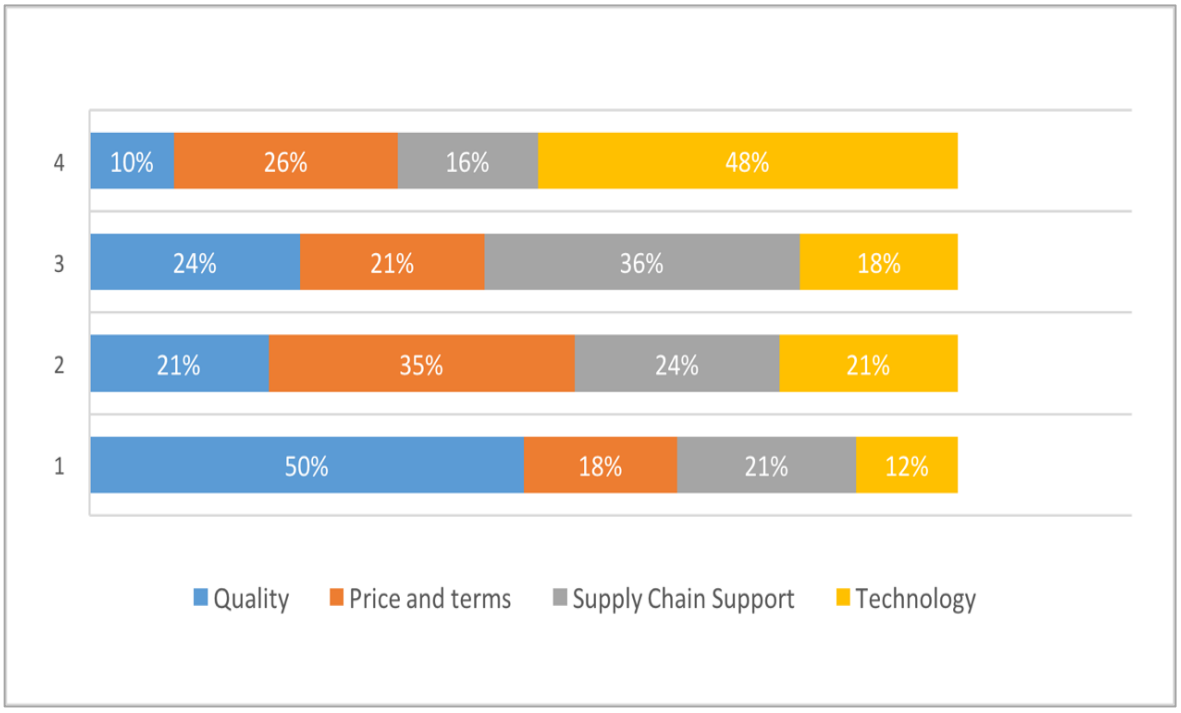

FIGURE 4.2. Vendor Selection Criteria Rank

In order to prove H1, the survey questionnaire explored how the managers ranked the service innovation among other criteria. The respondents who included service innovation on available criteria weighted it high in the existing criteria. Refer to Figure 4.3. below, the majority of respondents (60%) agreed that service innovation should be included with other criteria, which are Quality (31 %), Price & Terms (14 %), Supply Chain Support (9%), and Technology (6%). Forty percent of the respondents were divided into 31% of companies

that made service innovation an independent criterion in supplier selection and only 9% of companies who did not make service innovation a part of the vendor selection criteria.

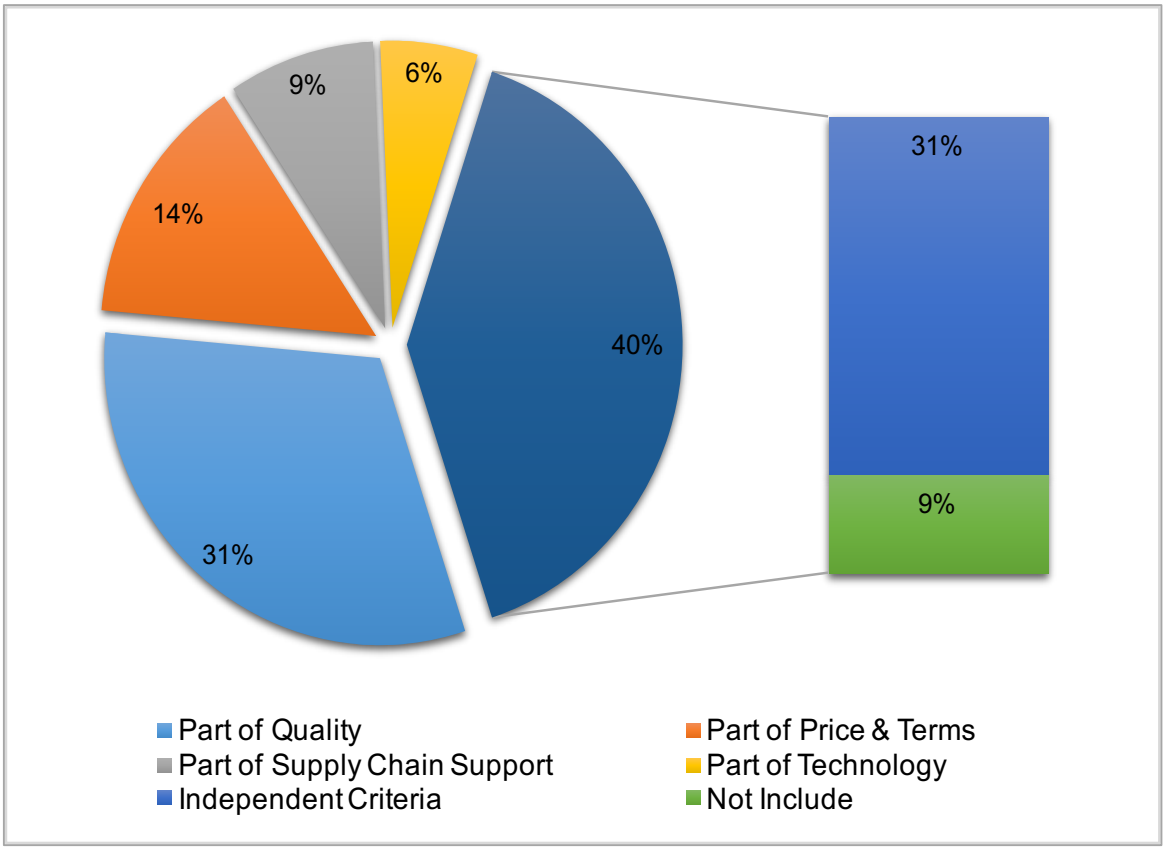

FIGURE 4.3. Service Innovation on Vendor Selection Criteria

4.2.3. Service Innovation Practice

Service innovation practice was explored by asking the respondents about the four types of service innovation from Bettencourt. For each type of service innovation, respondents measured in a 5-point Likert scale their perspectives about their vendor's service innovation frequency and whether these vendors do this as pioneer or non-pioneer. The following chart shows that as a pioneer (Figure 4.4), service delivery innovation is the most frequent activity done by the vendor where 14 of the respondents chose the TOP 2 BOX of the option (most of the time and always) in their responses. As a non-pioneer (Figure 4.5), the most frequent service innovation type that was identified by the customer was core service innovation where 15 of the respondents chose the TOP 2 BOX in their responses to this question. The least number of service innovation practices as a pioneer was new service innovation where 7 respondents chose that their provider never provided new service innovation. Moreover, as a non-pioneer, 4 respondents also felt that they never got new service innovation.

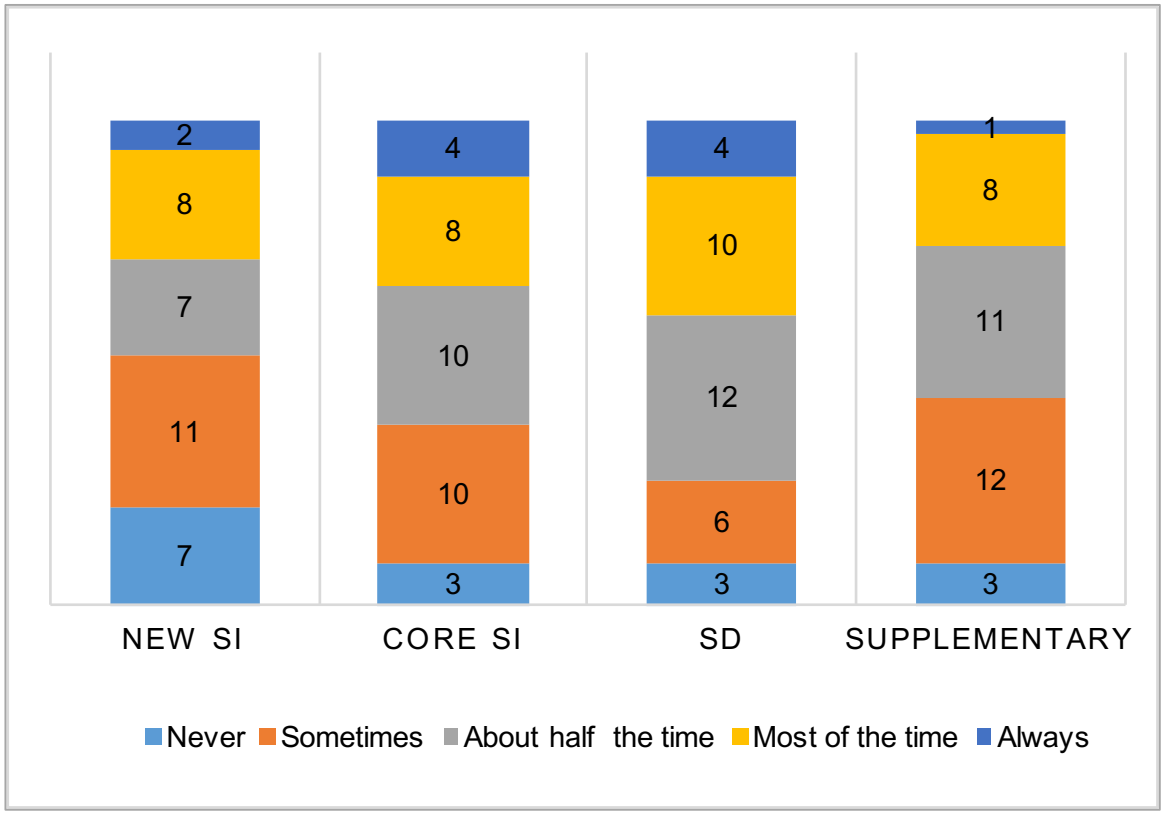

FIGURE 4.4. Service Innovation Practice Frequency by Vendor as Pioneer

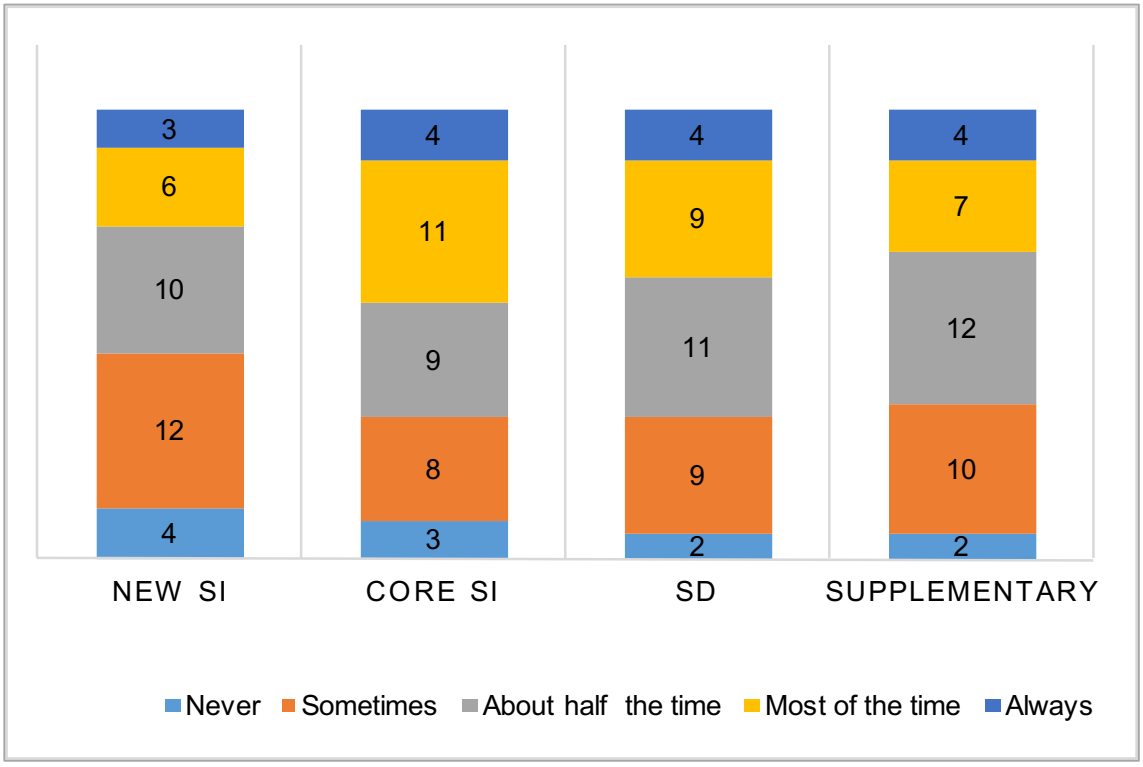

FIGURE 4.5. Service Innovation Practice Frequency by Vendor as Non-Pioneer

This section shows how service innovation brings advantages to an organization. This importance level is measured on a scale of 0-10, where the number reflects the degree of importance from not at all important to extremely important. As shown in Figure 4.6, the survey shows that the most important impact on products and services is Quality Improvement with the level of importance ranked at 7.64. The highest importance rank for the production process is Flexibility Enhancement with an index of 7.21, while the additional impact on companies is Health and Safety Improvement, which is ranked at a level of 6.93. Improvements in those areas could help organizations better achieve their goals.

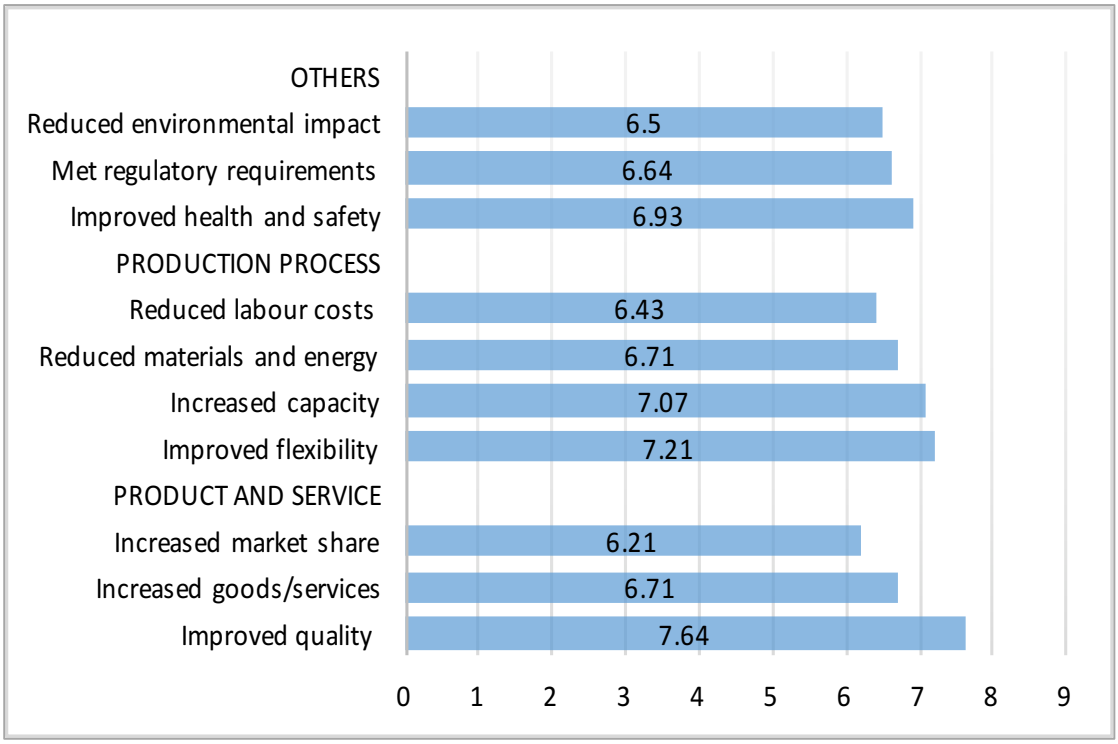

FIGURE 4.6. Importance Level of Service Innovation

4.2.4. Customer Satisfaction and Loyalty

After quantifying the frequency of service innovation practices, the data was further explored in order to establish the relationship between customer satisfaction and loyalty. By investigating four types of service innovation, this study assumed that customers got at least one kind of service innovation, whether the vendor provided it as pioneer or non-pioneer.

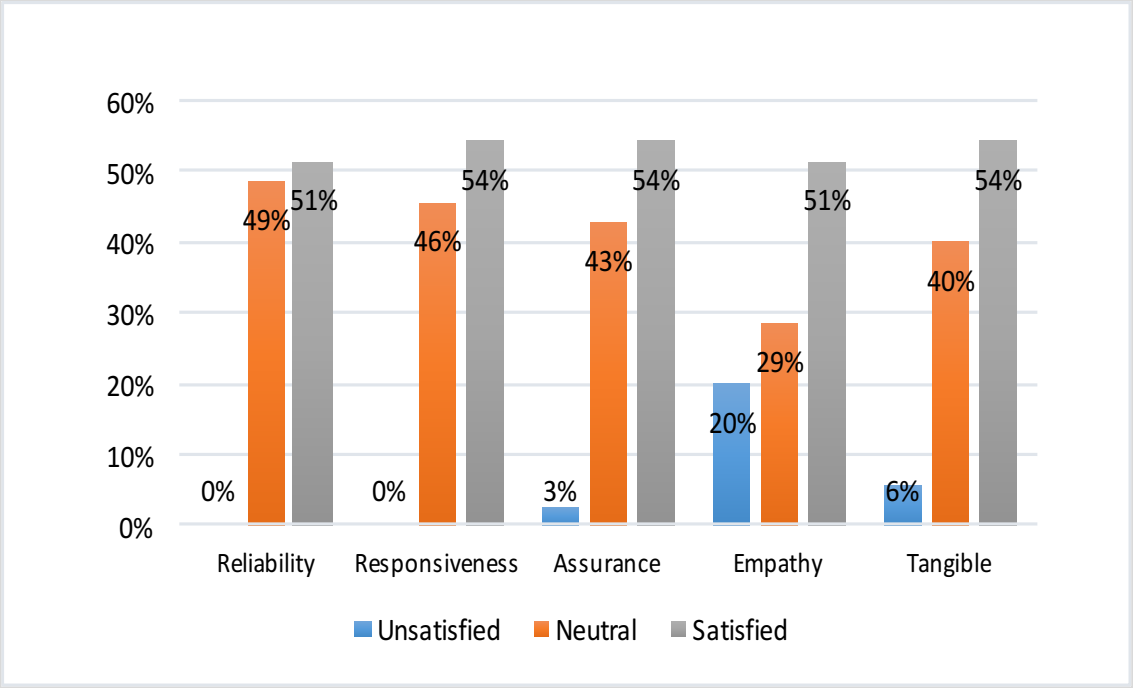

FIGURE 4.7. Satisfaction Level of Respondent about Service Innovation

The respondents were asked about their satisfaction with vendor service innovation. The 5-point Likert scale was squeezed into three cohorts, as shown in the Figure 4.7 below. The unsatisfied group consisted of responses for “somewhat likely” and “extremely likely unsatisfied” to be unsatisfied. The neutral group consists of responses of “neither likely nor unlikely” to be satisfied. And, the satisfied group represents “somewhat likely and extremely likely” to be satisfied. The majority of respondents felt satisfied, in other words, that their vendor provides service innovation over and above the SLA. However, in some categories, satisfied respondents differed only slightly from neutral respondents who felt that the provided service innovation matched the SLA. For example, the gap between satisfied customers and neutral customers in reliability and responsiveness was 2% and 8%, respectively.

Furthermore, the managers were asked about their tendency in regards to loyalty. The three main categories of loyalty, which include their willingness to recommend their vendor to colleagues, their tendency to order the same product/service, and the possibility of purchasing another product from the vendor, were explored. The Figure 4.8. shows that the majority of respondents tend to recommend their vendors to colleagues, order the same product again, and are likely to order other products in the future. Only 3% of managers reported that they were unlikely to recommend the vendor to others, and 9% would not order another product sold by the vendor.

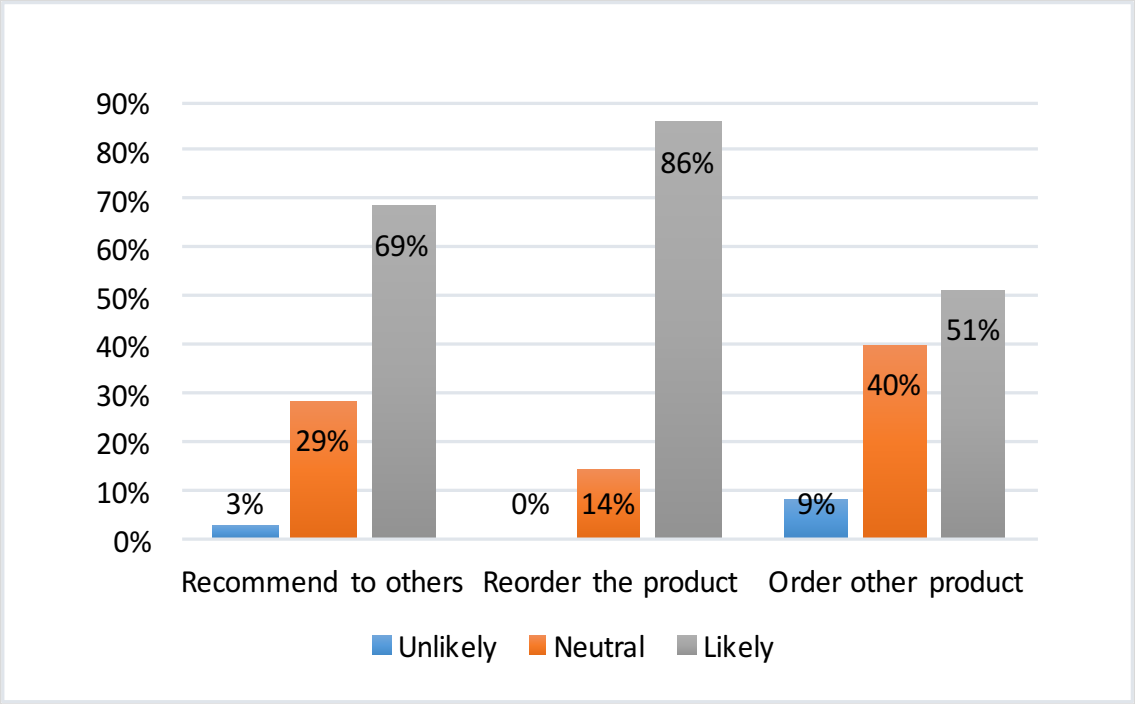

FIGURE 4.8. Loyalty Tendency of Respondent

4.2.5. Factors that Hamper Service Innovation from Customer Perspective

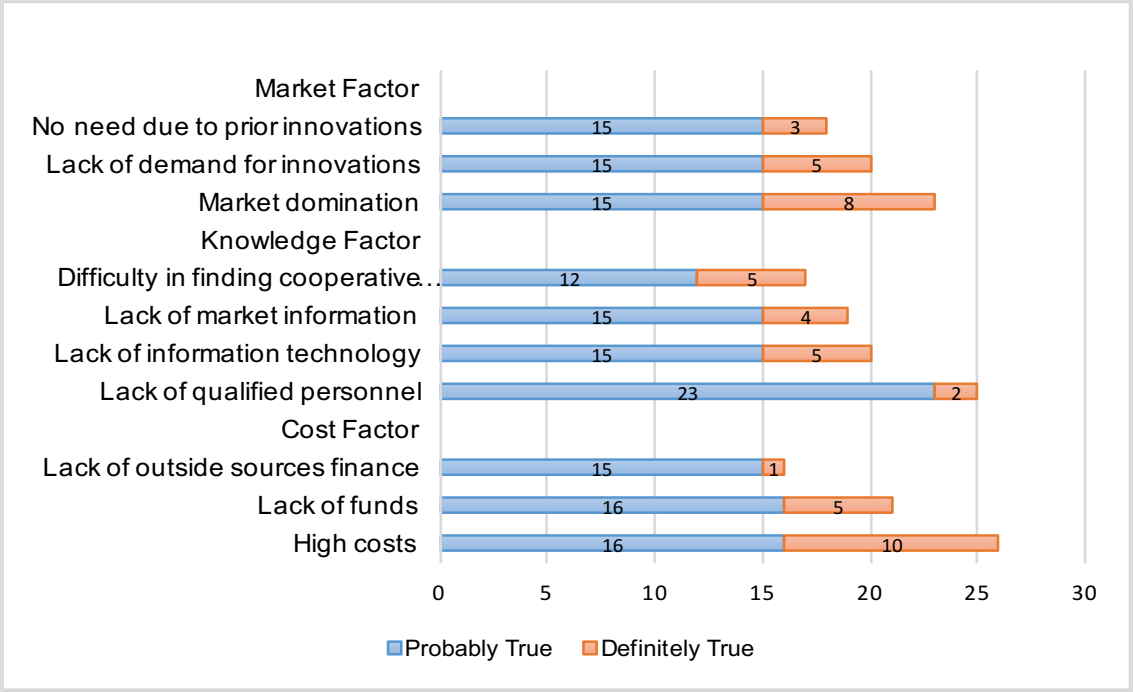

FIGURE 4.9. Barriers to Service Innovation Implementation

The figure 4.9. above indicates the results to the question about factors that hamper vendors from providing service innovation. In general, the barriers are grouped into three categories which are cost, knowledge, and market factors. The chart determinants on each bar are presented based on two values of response - probably true and definitely true. The top cost factor that prevented vendors from providing service innovation was the fact that innovation is very expensive, as seen by the 26 managers whose responses indicate this to be true. The top knowledge factor was a shortage of competent personnel, which was chosen by 25 respondents. Last, the most imposing market factor was the dominance of settled companies in the market, which 23 managers selected.

4.3. Qualitative Research Findings

4.3.1. Profile of Interview Respondent

The interviewees come from three different industries which include manufacturing, IT, and resource and energy. One of the participants has experience in the automotive industry and FMCG (Fast Moving Consumer Goods). These various types of industry represent different kinds of procurement practices. The interviewees received the same questions, which were distributed before the interview process began. Additional questions were raised in order to clarify some issues and solicit feedback from the interviewees.

TABLE 4.2. Interview's Respondent Profile

Respondent	Experience	Number of companies	Certification	Industry	Main Criteria	Bidding Type
A1	10 years	3	Yes	Manufacturing	Quality	Open bidding
A2	4 years	1	No	Mining	Quality	Open bidding
A3	10 years	4	No	FMCG	Price and term	Close Bidding
A4	5 years	2	No	FMCG	Supply Chain	Close Bidding
A5	16 years	2	No	IT – Telco	Technology	Open bidding

Table 4.2. shows the profile of interview's respondent. Four of the respondents have educational backgrounds in procurement, and one of them possesses professional certification. The amount of experience varies from three years to sixteen years in the field. The interviewees handle procurement for several different companies. As managers each participant directs the procurement process for their employer, and each bears responsibility for their respective team. Ideally, the team should make decisions; however, purchase amounts in many cases need approval from higher levels of management.

4.3.2. Vendor Selection Criteria

The major criteria for vendor selections in the literature review were discussed. Specific discussion focused on the rationale and reason for the choices made. The main criteria are different depending on the industry. Technology is the primary consideration for IT and Telecommunications, while other industries consider quality as the major consideration. One respondent from the FMCG industry highlighted the supply chain as the most important consideration because this component has to take account of the production demand fluctuation. Another respondent determined the price and terms as the main factors because the material that has been purchased already has a standard. Consequently, savings from purchasing leads to significant levels of cost efficiency.

However, most of the respondents agreed that price should be counted as TCO. One of the respondents shared his experience with a company that used price and terms, which resulted in inconvenience when the machinery underperformed. In addition, other interviewees shared that their companies believed that using the best technology was the best option because wasting machinery will significantly raise cost as well. Further analysis is needed to determine whether repairing machinery with spare parts is more or less cost efficient than purchasing new machinery. It was clear that the TCO must be counted carefully when preparing for bidding offers.

During the bidding process, the methods used depend on how strategic the product is compared to other products available, as well as how critical it is to the company's operations. One respondent referred to the Kraljic Matrix to analyse what purchasing needed to be completed before the bidding process and what purchasing could be done using a strategic partnership. Kraljic (1983) created a matrix called the Kraljic portfolio (Figure 4.10) shown purchasing model that can be used to analyse a company's purchasing portfolio. This matrix helps a company gain insight into the working methods of the purchasing department and how they spend their time and money on various products. By

using the matrix, partnerships can be employed to maximize the quality of products and ensure continuous innovation by establishing the development of transparent costs and R&D.

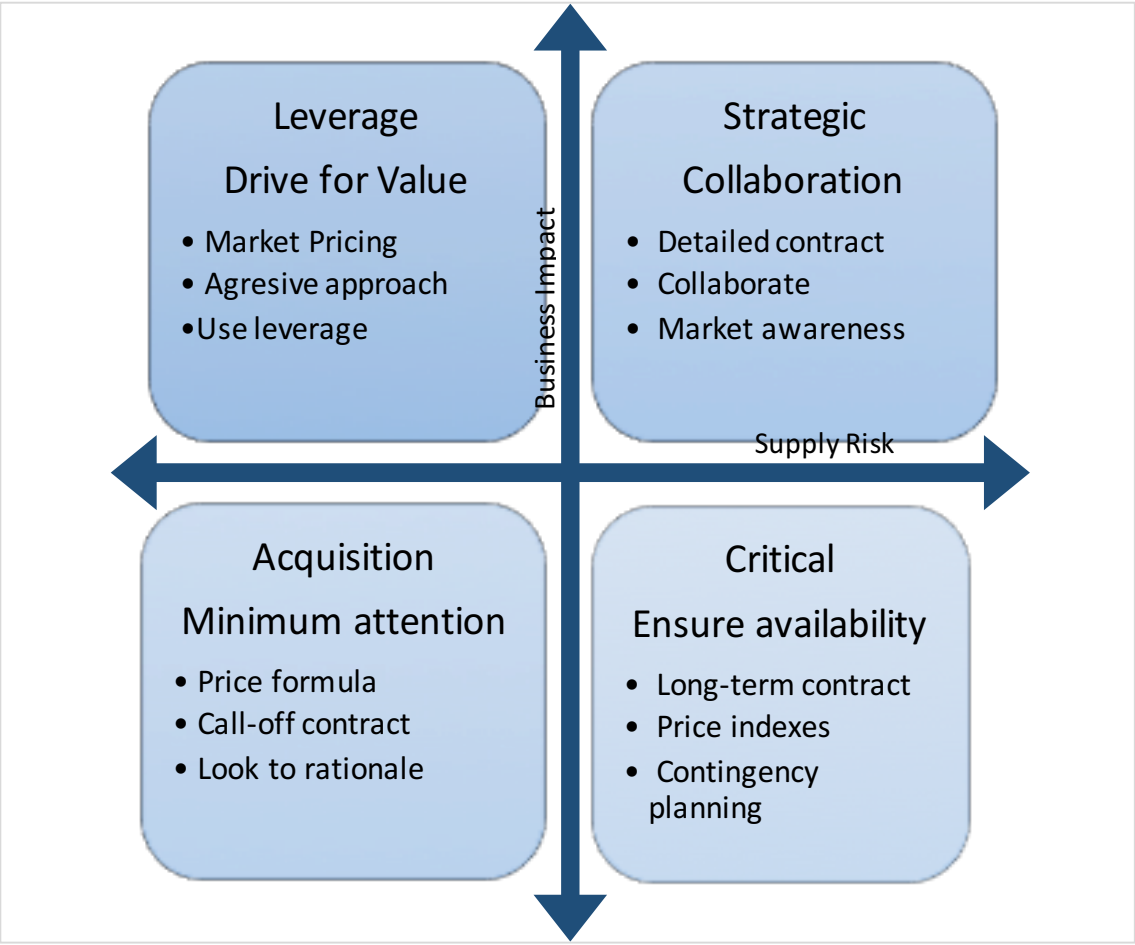

FIGURE 4.10. Adapted Kraljic Matrix (Kraljic, 1983)

Experiences recorded in the vendor evaluation document were valuable resources to be used when determining the most appropriate method. One of the respondents had an unsatisfying experience that influenced his preference for using strategic partnerships to minimize risk. Thus, incumbent vendors who are trustworthy and competently deliver their products and services have more opportunities in the industry.

Another interviewee had a different opinion about vendor preference. This participant indicated that fair bidding should be conducted using clear policies and preferences, which should be managed very carefully. Policy will provide boundaries to subjectivity, even tough there were the incumbent vendors. The assessor should give reasonable and solid arguments when choosing one vendor over another, especially if this decision relates to the

bid threshold which includes dollar amounts in the millions and has a direct impact on the business. Occasionally a bid waiver is performed if the team has a reasonable argument to justify their judgement. When procurement and policy is weak, a company may lose its competitiveness due to a lack of knowledge about the market. Therefore, these decisions are often disseminated and then reviewed by upper management.

4.3.3. Service Innovation Practice

The interviewees' definition of service innovation closely parallels the definition presented in the literature review. Generally, service innovation indicates a service that has never been performed before which leads to inflated amounts of time and cost efficiency. One of the interviewees asserted that service innovation directly impacts customer satisfaction. He pointed out that the aftersales service is obscured by technology. By using modern technology, there will be cost saving opportunities for both the seller and the buyer. Other respondents from additional national companies described service innovation as strongly related to service quality and delivery speed. When companies want to enhance their service innovation, they should improve the quality of their service and the service delivery speed.

The interviewees had different opinions about service innovation in procurement. One respondent said that service innovation is an integrated item that has been added to existing criteria. This consideration is covered by other criteria, particularly technology. Technology is a basic primary need that will affect other criteria including service quality and price. During the next step when several vendors are offering the same technologies, the price of the technology becomes the second priority in the decision making criteria. Service innovation can also include independent criteria depending on which product is being offered. For example, for daily, clearly-defined, further innovations are not explored, especially when the product is in mass production and can be easily purchased. Service innovation is needed for goods/service that are not commonly produced.

However, another manager had different opinions on this issue. She asserted that service innovation is not important if it is not aligned with the goal, especially the strategic goal of the company. One way to strategically prioritize the criteria is to determine the impact that the purchase will have on the organization. The materials which are used directly by the company's customers should receive special attention. This perspective argues that service innovation is a high priority when it involves the buyer's need to save money as well as maintain productivity. Even when dealing with a sole supplier, the buyer will always

communicate their goals, and the company must qualify this under vendor considerations by establishing their ability to meet said goal. Vendors should engage customers and communicate what can be explored, from basic services to service delivery or any variations within.

While the managers do consider service innovation as part of existing criteria, several respondents had different opinions regarding service innovation's impact on the vendor selection process. They asserted that service innovation is not a part of their criteria. Instead, additional scoring and bonuses are used to communicate what they can offer and why their choice is preferable. On the other hand, one respondent made innovation an independent criterion when selecting vendors. The factors that affect the innovation offer include R&D input and input from the laboratory. They weigh innovation at approximately 15% of the assessment's total score.

4.3.4. Customer Satisfaction and Loyalty

The impact of service innovation on customer satisfaction was explored by asking the interviewees about their various experiences with managing procurement. Additionally, the correlation between customer satisfaction and loyalty were explored using the following questions.

The interviewees shared their experiences regarding how vendors managed their services. Service innovation can be difficult to present in a business proposal because companies tend to be more concerned with basic needs and what they have already determined they want. The tangible items, such as R&D staff and quality certification, have become common practice in selection assessment. The approach is different in the retail industry because they tend to have very individualized preferences which heavily value the decisions made by their customers. However, incumbents still have to maintain the quality of their product.

Service innovation is considered important because it maintains the organization's high standards regarding quality. This is because service innovation affects the process, the price, and the delivery speed. This is especially true in emergency cases when the company requires the vendor to be responsive so that the situation can be resolved. Another example of when customers buy a high-quality machine that will often last longer than expected. Therefore, it can be counted as a tangible item that can be used to determine levels of satisfaction. FMCG managers also discussed that a vendor who can successfully support the supply chain and be flexible in doing so is also an impressive factor that affects service

satisfaction. Vendor flexibility is especially important because it is defined and prioritized with relation to customer demand. When vendors contribute to maintaining stock and inventories, they help fulfil market demand and elevate cost efficiency. For example, vendors can offer solutions to problems related to inventory while the buyer is holding the goods, which allows for real-time resolutions to problems therein. This saves inventory time, delivery time, and storage cost. Another example of satisfying service innovation is when a vendor provides a new system for tracking orders that are out of SLA contract. This shows a vendor's willingness to help their customers align with their strategic goals.

Standard service innovation was discussed by one of the respondents. He felt that services that are offered only to fulfill the SLA were not overly impressive. Unsatisfactory experiences occur when a vendor fails to distribute their product in a timely fashion and fail to take further action to fix the problem. Services that only cover circumstances outlined in the contract also produce disappointing results in relation to customer satisfaction. However, the specific example discussed was an issue that involved internal processes which were not released to the public. The worst consequence for them is to be blacklisted from future opportunities.

From those shared experiences, discussion then engaged the issue of loyalty with regards to the bidding process. Different companies used different approaches. National companies who have had bad experiences with vendors in the past tend to hold on to reliable vendors for as long as possible so that they can keep services to a minimum. A Supplier partnership is a successful way to maintain trust and minimize the risk of having a vendor who underperforms. Moreover, close bidding gives new players a far less chance of success. In this this case, service innovation should be maximized when the opportunity presents itself.

One respondent gave a different opinion about preferences. One respondent from a multinational company used bidding as a way to encourage incumbents to provide better service. Tender should be as fair as possible. Policy will provide boundaries to subjectivity. Even though there are incumbent vendors, an assessor should give a strong and reasonable argument when choosing one vendor over another, especially if the choice will affect the company directly or involve bids that cost millions of dollars. Bid waivers are sometimes used if the team has sufficient reasons to do so. These choices are often directives given by upper management to lower management because if procurements and the polices associated with them are weak, the company risks losing their competitiveness due to a lack of knowledge about the market.

Some basic negotiation techniques are needed when a new player attempts to sell a product. A discount is one attractive method that will often get a customer's attention. However, two respondents shared their experiences with vendors who used unethical practices. They agreed that unethical practices should not be a part of service innovation practice. Even if a contract has already been signed, unethical practice such as incentives from the vendor should be done carefully because such interactions are not considered service innovations; it is likely that they are considered to be some form of bribery.

4.3.5. Factors that Hamper Service Innovation from Customer Perspective

The biggest challenge in offering service innovation is a supplier's mind-set regarding how each effort directly impacts price. How to manage a company's need to offer services at a low cost is a significant challenge. Respondents reported wishing that vendors would engage more with their buyers about the most appropriate approach. For example, it is evident that vendors offer more ongoing services to companies that purchase a lot versus companies whose orders are smaller. It is common for vendors to serve their high-dollar customers better. However, the best practice is to offer more services to all customers so as to secure future benefits. Another manager explained that the factors that affect the decisions are based on specific requirements presented in SLA. This possibly reflects the interviewee response that explained service innovation that does not directly impact a company's strategic goals should not be a factor when calculating potential impact.

4.4. Service Innovation Impact on Customer Satisfaction and Loyalty

Based on the literature review and the current study, service innovation can enhance customer loyalty. This research will testify the hypotheses in chapter 3 as follows:

4.4.1. Hypothesis 1

H1. Every company has different categories of distinguishing criteria. Service innovation, as a new approach, is included in existing criteria.

H1 was verified by descriptive statistics. As explained in section 4.2.2, there are several common criteria that are traditionally used in the vendor selection process. The Table 4.2. represents data from Figure 4.3.

From the Table 4.3., it can be seen that the majority of respondents treat service innovation as part of their existing criteria. Surprisingly, service innovation is not totally new for most managers in Indonesia. Thirty-one percent of respondents have already made service innovation an independent criterion for selecting a vendor. Only 9% thought that service innovation was not a determining factor in selecting a vendor.

TABLE 4.3. Service Innovation as Vendor Selection Criteria

No	Answer	Response	Total response	%
1	Include with previous criteria		21	60%
	Part of Quality	11		
	Part of Price & Terms	5		
	Part of Supply Chain Support	3		
	Part of Technology	2		
2	Independent criteria		11	31%
3	We don't need service innovation		3	9%
	Total		35	100 %

To support these findings, the respondents that chose service innovation as part of other criteria also weighted the selection process criteria. Figure 4.11 below shows how service innovation affects other criteria. Even though quality is the criteria most influenced by service innovation, the distribution of how service innovation affected other criteria is quite evenly the same among all of the criteria. All in all, H1 was proven to be true because every company has different categories of distinguishing criteria, and service Innovation, as a new approach, is included in existing criteria.

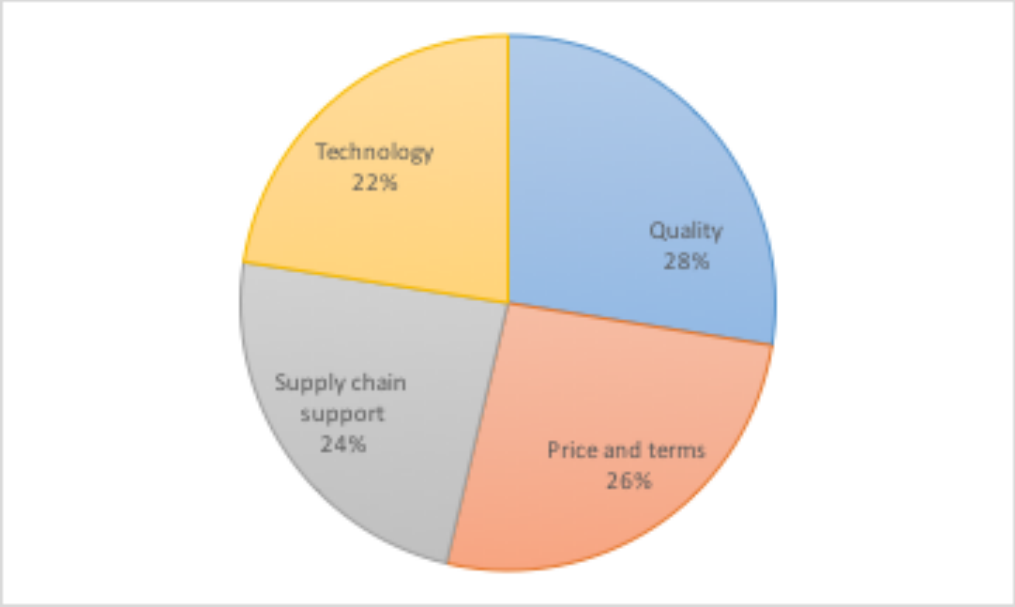

FIGURE 4.11. Service Innovation Weighting to Other Criteria

4.4.2. Hypothesis 2

H2. Service Innovation increases customer satisfaction.

H2 was verified by inferential statistics. The research data collected about several variables of service innovation is shown in section 4.2.3. The gathered data was tested using the Spearman correlation test. This study is using median and modus data as the measurements of central tendency (Draper, 2012). This study also generated results by using maximum data with the assumption that when customers receive unexpected service innovation, they will be satisfied. While vendor initiative could come from any kind of service innovation, this study will observe whether only the most frequent form of service innovation received satisfies customers.

The results for the Spearman test for the variables considered in H2 are as follows:

TABLE 4.4. Spearman Test for Service Innovation and Customer Satisfaction

Variabel	Rho	P	RESULT
MEDIAN-MEDIAN	0.556	0.00053	Significant
MODUS-MODUS	0.473	0.0041	Significant
MAX-MAX	0.351	0.0386	Significant

The table 4.4. shows that the Spearman-coefficient Rho is 0.556 and the P value is 0.00053. Statistically, both variables have a positive relation with customer satisfaction, as well as a P value of less than 0.05. By normal standards, the association between the two variables would be considered statistically significant (Barcelona Field Studies Center, 2013). Nonetheless, the weakest relationship is shown for the max data, where the Rho value is 0.351 and the P value is 0.0386. This may indicate that managers consider service innovation as a complete process that includes core service delivery, new service innovation, and service delivery innovation, as well as supplementary service innovation.

In conclusion, the results prove that H2 is true: service innovation does increase customer satisfaction.

4.4.3. Hypothesis 3

H3. Customer satisfaction enhances loyalty

H3 was also verified by inferential statistics. The study collected data about five variables of customer satisfaction and loyalty, as described in section 4.2.4. Spearman's correlation was run to determine the relationship between customer satisfaction and three categories of loyalty. The complete results are presented in the following table. There was a moderately positive monotonic correlation between customer satisfaction and the tendency to recommend to other colleagues and to repeat orders. For all of the data tested, the results were Rho value > .5, n = 33, and P < .0015).

Comparing customer satisfaction with the tendency to buy other products yielded different results. The table indicates that they have a weak correlation. The Rho value of customer satisfaction and loyalty is < 0.25, and the P value is > 0.05. By normal standards, the association between the two variables would be considered not statistically significant. In conclusion, customer satisfaction does not correlate with the tendency to buy other products.

The complete results of the Spearman test for the H3 variables areas follows:

TABLE 4.5. Spearman Test for how Customer Satisfaction Correlates with Loyalty

Hypothesis	Variable	Rho	P	RESULT
H3.a	MEDIAN - L1	0.517	0.0015	Significant
	MODUS - L1	0.519	0.0014	Significant
	MAX -L1	0.522	0.0013	Significant
H3.b	MEDIAN - L2	0.657	0.00002	Significant
	MODUS - L2	0.578	0.0003	Significant
	MAX - L2	0.526	0.0012	Significant
H3.c	MEDIAN - L3	0.228	0.1869	Not significant
	MODUS - L3	0.156	0.3707	Not significant
	MAX - L3	0.175	0.3137	Not significant

Figure 4.12. below illustrates the result of H2 and H3 Hypothesis testing.

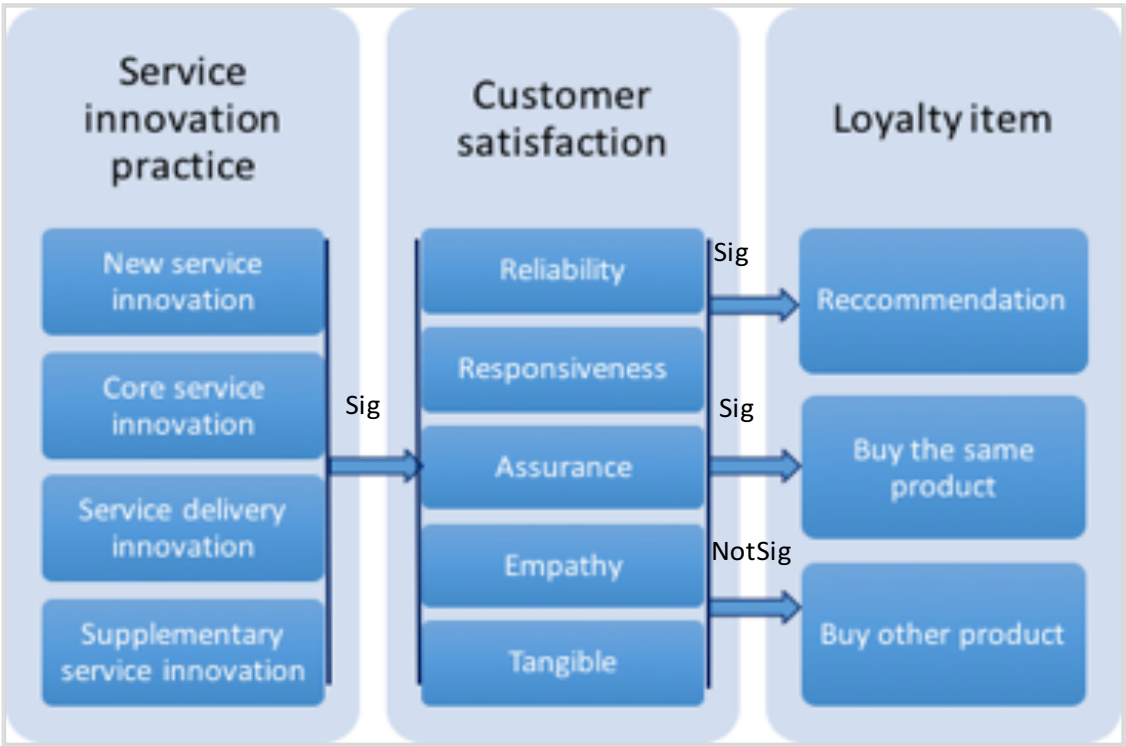

FIGURE 4.12. Result of H2 & H3 Hypothesis Testing

4.5. Critical Analysis and Discussion of Findings

a. Service innovation in vendor selection criteria is mostly seen as part of existing criteria, while some companies make service innovation an independent criterion. The prioritization of the criteria depends on industry segmentation. For example, in manufacturing and FMCG industries, the supply chain is the most important criteria that should be fulfilled by vendors. Another example is the telecommunication industry: while they buy machine and network components, technology and quality become the most crucial criteria by which they assess vendors. Once they are satisfied with the basic service, new ideas will be easier to implement.
b. Pure price consideration is adopted as a traditional way for purchasing products with clear quality requirements. TCO is another approach to price consideration since it will lead to efficiency over the product's lifetime and in terms of maintenance costs, especially for machines and just-in-time products. Nonetheless, based on the interviews, respondents clearly believe that vendors usually connect increasing costs with additional services. The survey also revealed that cost could be the factor that prevents vendors from providing service innovation.
c. There are several factors that influence loyalty in the vendor selection process. They are as follows:
    i. Type of company. Multi-national companies tend to open up competitive opportunities for all that join the bidding. In this case, service innovation plays the role of convincing customers that the vendor is ready with new ideas.
    ii. Type of material. Strategic items tend to be purchased through a bidding process, while non-strategic items are more often managed through partnerships, especially when these partnerships involve flexibility and responsiveness.
    iii. Company culture. Vendor evaluations are the main reference to decide whether or not bidding is needed. When existing vendors can provide their product exactly as it is depicted in the contract, companies will be more likely to engage in supplier partnerships to reduce bidding costs and to minimize risk.
d. One respondent referred to the Kraljic matrix as a method for determining the strategic decision of choosing a vendor. Generally, it could be used as a standard for choosing a vendor, but it was not mentioned by any additional respondents. However, whether or not it is a special case or could be a commonly used tool was not within the scope of this study; thus, it remains to be explored.

e. Even though respondents stated that service innovation was a bonus, the quantitative results cannot produce absolute results through the comparison of the maximum value of service innovation to the reports of customer satisfaction. This may reflect the fact that customers see service innovation as part of a complete process that includes innovations in new service, core, and delivery, as well as other, supplementary innovations.
f. From three responses regarding loyalty, only purchasing other products is not correlated with service innovation. This may be so because they do not need other products or they want to share the market with other vendors. Spreading products across several vendors is one way to spread risk among vendors rather than centralizing it with one.

Chapter 5. Conclusion

5.1. Introduction

This chapter will draw conclusions about whether or not service innovation has an impact on loyalty during the vendor selection process. Both general and noteworthy findings are provided, along with recommendations for service innovation practices. Furthermore, this chapter also outlines the limitations of the current research and the possibility for further studies in this field.

5.2. Conclusions

The vendor selection process includes a crucial set of decisions that are aligned with a company's strategic success. Companies use fair bidding and strategic partnerships to make vendor decisions. In the vendor selection process, the fair bidding method gives existing vendors and new players the same chance. In contrast, strategic partnerships limit the competitiveness of the selection process. To decide on one of the methods, companies assess how strategic the purchased items are. The strategic product should be treated more carefully, especially when they are more expensive or have greater impact. TCO represents how procurement teams consider not only buying price but also maintenance costs. The other consideration when choosing a vendor is experience, which is usually documented on vendor evaluation reports. Strategic partnerships with existing vendors minimize potential risks from choosing the wrong vendor.

Nonetheless, the challenges and opportunities are more widely open by fair bidding. There are several criteria used to choose a vendor. Even though there is not a significant amount of research about service innovation in Indonesia, service innovation is not totally new and has been seen as an important criterion in the vendor selection process. The majority of respondents (60%) said that service innovation is included with other criteria, and only 9% of respondents excluded service innovation from the vendor selection criteria entirely. Surprisingly, 31% respondent suggested that service innovation is an independent criterion.

Furthermore, despite the intangibility of service innovation, customers have measured and feel its effects. In this study, customers were asked to measure the service innovation success of their vendor according to several items, including five dimensions of service quality. In this case, incumbent players have a better opportunity to engage customers in service innovation. From four service innovation types, vendors mostly offer innovation in

core service and delivery process. The benefits of service innovation include improving the quality of a product, enhancing provision flexibility, and improving health and safety.

Gaining any of these benefits consequently enhances customer satisfaction. This research found that most of the respondents were aware of basic service. An interesting quantitative finding from this research is that the maximum correlation between service innovation practice and customer satisfaction is achieved by extracting median and modus data. In general, this may indicate that customers consider service innovation as a whole process, rather than something that is accidentally achieved. Getting deep into the data, the correlation coefficient of new service innovation, core service innovation, and service delivery innovation is significant to the satisfaction data. Only supplementary service innovation has a weak relationship with satisfaction. This finding is explained further in the survey, as the respondent explained that as the main focus of the procurement process, vendors should have already covered basic service. Additional service is seen as a bonus and does not have a direct impact on satisfaction. It is important for vendors to provide their product as it is described in the SLA.

As service innovation enhances customer satisfaction, the continuous effect of increased satisfaction is improvements in some aspects of loyalty. Practically, buying the same product is the most common practice of a satisfied customer. Endorsing and recommending the vendor is the other practice that is done by a customer, but it has a smaller correlation coefficient. According to the results of this survey, customer satisfaction is weakly correlated with a customer buying another product.

5.3. Recommendations

According to the previously presented results and analysis, the researchers can recommend the following:

a. The correlation between service innovation, customer satisfaction, and customer loyalty was reasonably significant and positive. From a managerial perspective, the study provides strategic contributions to service innovation management. It suggests that in order to increase their levels of customer satisfaction, organizations should be concerned with different types of service innovation.
b. For some tender processes, customers should be aware of service innovation practices. Among the four types of service innovation, core service innovation is the most common practice of vendors. Some respondents also stated that service

innovation is a bonus and is not the main criterion of the vendor selection process, as long as they can provide the service as it is described in the SLA. However, the empirical results indicate that the tendency toward satisfaction correlates with two other types of service innovation practices, namely new service innovation and service delivery innovation. Consequently, Indonesian companies should be aware of the whole process when they deliver their products.

c. Even though incumbents have greater opportunities, competitiveness is quite open for new players in many industries. To compete successfully, the best approach is to study the strategic goals of the company so that vendors can make offers based on what companies want. Some companies also explored distinguishing specific service innovation parameters from others—for example, R&D team and IP. These should be maximized to win open opportunities.

5.4. Commonality in Findings

a. This survey generalizes the buying process circumstance from the previous study by Wu (2012). It is proved that retail and tender are similar in regards to service innovation's effect on loyalty. Another similarity is that branded items represent established companies. Incumbent vendors have opportunities to engage customers with many types of service innovation. The different aspects are location and the product that is assessed. Wu only assesses personal decisions, while the vendor selection process includes team decisions.
b. Another similarity is the finding that technology is the criteria most affected by service innovation. Wu (2012) found that technology leadership was a major differentiation strategy in the digi-service market. Consequently, companies should be aware that technology could represent better service in such a way that enables them to become market leaders.
c. In comparison with the previous study by Wu (2014) and Delafrooz et al., (2013), marketing in vendor selection has different characteristics than retail does because individual preferences are relatively easy to change rather than vendor selection. The previous research also puts service innovation as one variable while this research differentiates service innovation into three aspects. Service innovation still however has positive effects on customer satisfaction and loyalty.
d. Grawe et al., (2009) and Dmour et al., (2012, p.241) findings that there are some aspects of market orientation such as customer orientation and competitor orientation have a positive impact on service innovation. This research strengthens these findings because in order to serve suitable service innovation to the customer,

the vendor should engage with their customer, exploring what they need and also build their competitiveness by either offering the innovation as pioneer or adapted from their competitor.

e. In a qualitative sense, competitive dialogue as it proposed by Haugbølle et al.,(2015) should be applied to achieve efficiency. The practitioners in this study also emphasized the need to understanding the business needs through dialogue between customer and vendor.

5.5. Limitations and Future Research Opportunities

a. First, the study attempts to serve the data quantitatively and is supported by qualitative study in the interview. For further research, vendor record data from customers could strengthen the findings of how service innovation impacts the vendor selection process.
b. The data scale item is using ordinal type data that further analysed by median and modus. It might be interesting if the future research explored more by changing the type of data into nominal, interval, or ratio to be compared with this study. The comparison will then enhance the validity and reliability of service innovation scale items and their ability to a develop service innovation survey.
c. The sample may not be population representative since it only recruited through the educational and professional network of the researcher. The sample size also is quite minimal and that might affect the findings. The possibility for future study is in the professional community or by opening company databases and exploring more about different types of companies. The respondent is limited to Indonesian procurement managers that may have finite generalization to other countries and other industry segmentation.
d. This research found that customer satisfaction has significant correlation with endorsing and repurchasing product, but has weak correlation with the tendency of buying other products. Regarding this issue, this study has not investigated the reasoning of those findings. Future research could explore more about the qualitative findings about reasoning for this choice.
e. From three responses of loyalty, only purchasing other product does not have any relation with service innovation. It may happen because they do not need other products or to share the market with other vendor. Deriving products from several vendors is one way to spread risk among vendors. Future studies could investigate the reasoning of the findings or it could also explore other aspects of loyalty.

f. From three types of data, modus and median is the most common to show central tendencies for ordinal data. However, even though it is assumed that service innovation could be presented only once (covered by max value), the best value comes by considering all of the service innovation (covered by central tendency of data). Even though their main consideration is the basic service, the best correlation is not found by considering only one maximum aspect of service innovation. Future study may explain specifically about the categories that related to the customer satisfaction. However, the result also finds that by accessing different types of service innovation, the best relationship regarding customer satisfaction is by accessing all types of service innovation to all items of satisfaction, even though they already get service innovation in single type of innovation. Future research could investigate reasoning whether their preferences have any correlation with the satisfaction level.
g. Kraljic Matrix as the tools that are referred to by one of interviewee's participants has not been explored in this study. It opens the opportunity for future research where they can explore specific product preferences that are purchased by tender or bidding. It also relates to the research findings that company types affect how they manage the vendor selection process. This study may be applied within specific industry segments or by focusing on companies that only do bidding, in addition to evaluating result generalization. The future studies could also involve additional variables such as company size and structure to seek their relevance on considering service innovation.
h. Service innovation is seen to be identical with additional costs and viewing it as such is seeming to be the factor that hampers service innovation. While innovation needs funding support, customers will measure whether the service innovation is worth for the increasing cost. Other factors such as knowledge and market factor could also be explored, in consumer or company markets. The future studies also could follow up the benefit of service innovation in companies. By exploring causal and effects of service innovation, service innovation could support practitioners in market competition.

5.6. Summary

The research explores the implication of service innovation on customer loyalty, especially on vendor selection process. The study examines four types of service innovation practice namely, new service innovation, core service innovation, service delivery innovation, and

supplementary service innovation. The different types of these service innovations construct responses to customer satisfaction and loyalty in the literature. The research findings empirically indicate positive relationships for customer satisfaction, which leads to a chance to be promote these benefits to their colleagues and obtain continuity through buying the same product. The empirical results both quantitatively and qualitatively confirm that companies should offer service innovation in order to get their loyalty.

However, there are chances for new players to win the bid. Both incumbents and new players could win the competition if they can approach the customer through strategic goals. Knowing the strategic direction of customers will lead to satisfaction when the vendor could provide the product in a way that is better than in the contract.

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APPENDICES

APPENDIX A: ETHICS APPROVAL

School of Computer Science & Statistics
Research Ethics Application

CHECKLIST

The following documents are required with each application:

1	SCSS Ethical Application Form	OK
2	Participant's Information Sheet must include the following:	OK
	a) Declarations from Part A of the application form;	OK
	b) Details provided to participants about how they were selected to participate;	OK
	c) Declaration of all conflicts of interest.	OK
3	Participant's Consent Form must include the following:	OK
	a) Declarations from Part A of the application form;	OK
	b) Researchers contact details provided for counter-signature (your participant will keep one copy of the signed consent form and return a copy to you).	OK
4	Research Project Proposal must include the following:	OK
	a) You must inform the Ethics Committee who your intended participants are i.e. are they your work colleagues, class mates etc.	OK
	b) How will you recruit the participants i.e. how do you intend asking people to take part in your research? For example, will you stand on Pearse Street asking passers-by?	OK
	c) If your participants are under the age of 18, you must seek both parental/guardian AND child consent.	OK
5	Intended questionnaire/survey/interview protocol/screen shots/representative materials (as appropriate)	OK
6	URL to intended on-line survey (as appropriate)	OK

School of Computer Science and Statistics
Research Ethical Application Form

Part A

Project Title	: **Service Innovation Impact on Loyalty on Vendor Selection Process**
Name of Lead Researcher (student in case of project work)	: Desi Tri Widyaningrum
Name of Supervisor	: Brian O'Kane
TCD E-mail	: widyanid@tcd.ie
Contact Tel No.	: +353-89-2112-000
Course Name and Code (if applicable)	: -
Estimated start date of survey/research	: 15 April 2016

I confirm that I will (where relevant):

- Familiarize myself with the Data Protection Act and the College Good Research Practice guidelines http://www.tcd.ie/info_compliance/dp/legislation.php;
- Tell participants that any recordings, e.g. audio/video/photographs, will not be identifiable unless prior written permission has been given. I will obtain permission for specific reuse (in papers, talks, etc.)
- Provide participants with an information sheet (or web-page for web-based experiments) that describes the main procedures (a copy of the information sheet must be included with this application)
- Obtain informed consent for participation (a copy of the informed consent form must be included with this application)
- Should the research be observational, ask participants for their consent to be observed
- Tell participants that their participation is voluntary
- Tell participants that they may withdraw at any time and for any reason without penalty
- Give participants the option of omitting questions they do not wish to answer if a questionnaire is used
- Tell participants that their data will be treated with full confidentiality and that, if published, it will not be identified as theirs
- On request, debrief participants at the end of their participation (i.e. give them a brief explanation of the study)
- Verify that participants are 18 years or older and competent to supply consent.
- If the study involves participants viewing video displays, then I will verify that they understand that if they or anyone in their family has a history of epilepsy then the participant is proceeding at their own risk
- Declare any potential conflict of interest to participants.
- Inform participants that in the extremely unlikely event that illicit activity is reported to me during the study I will be obliged to report it to appropriate authorities.
- Act in accordance with the information provided (i.e. if I tell participants I will not do something, then I will not do it).

Signed: Desi Tri Widyaningrum Date: 23 March 2016

Lead Researcher/student in case of project work

Part B

Please answer the following questions.		Yes/ No
Has this research application or any application of a similar nature connected to this research project been refused ethical approval by another review committee of the College (or at the institutions of any collaborators)?		No
Will your project involve photographing participants or electronic audio or video recordings?		Yes
Will your project deliberately involve misleading participants in any way?		No
Is there a risk of participants experiencing either physical or psychological distress or discomfort? If yes, give details on a separate sheet and state what you will tell them to do if they should experience any such problems (e.g. who they can contact for help).		No
Does your study involve any of the following?	Children (under 18 years of age)	No
	People with intellectual or communication difficulties	No
	Patients	No

Part C

I confirm that the materials I have submitted provided a complete and accurate account of the research I propose to conduct in this context, including my assessment of the ethical ramifications.

Signed: Desi Tri Widyaningrum Date: 21 March 2016

Lead Researcher/student in case of project work

There is an obligation on the lead researcher to bring to the attention of the SCSS Research Ethics Committee any issues with ethical implications not clearly covered above.

Part D

If external ethical approval has been received, please complete below.

External ethical approval has been received and no further ethical approval is required from the School's Research Ethical Committee. I have attached a copy of the external ethical approval for the School's Research Unit.

Signed: Date:

Lead Researcher/student in case of project work

Part E

If the research is proposed by an undergraduate or postgraduate student, please have the below section completed.

I confirm, as an academic supervisor of this proposed research that the documents at hand are complete (i.e. each item on the submission checklist is accounted for) and are in a form that is adequate for review by the SCSS Research Ethics Committee. Signed: Brian O'Kane Date: 24 March 2016 Supervisor

Completed application forms together with supporting documentation should be submitted electronically to research-ethics@scss.tcd.ie Please use TCD e-mail addresses only. When your application has been reviewed and approved by the Ethics committee hardcopies with original signatures should be submitted to the School of Computer Science & Statistics, Room F37, O'Reilly Institute, Trinity College, Dublin 2.

APPENDIX B: SURVEY QUESTIONNAIRE

Service Innovation On Vendor Selection Process Questionnaire

Page 3.

(Note : You may refuse to answer any question and withdraw at any time without penalty.)

1.1. In which industry does your current company operate?

- ❍ Manufacturing
- ❍ Banking
- ❍ Health
- ❍ Other (please specify) _____

1.2. Which method does your company consider the best approach for Vendor Selection?

- ❍ Traditional Approach (based on Bidding Selection Process)
- ❍ Supplier Partnership
- ❍ Both

For the following questions, please choose one product/service that you purchase from one of your vendors.1.3. What kind of product/service do you purchase?

1.4. How long have you used this product/service?

- ❍ < 1 year
- ❍ < 3 years
- ❍ more than 3 years

1.5. How often do you use this product/service?

- ❍ Daily
- ❍ Weekly
- ❍ Monthly
- ❍ Other (please specify) _____

Page 4.

(Note : You may refuse to answer any question and withdraw at any time without penalty.)

2.1. Please Rank the following vendor selection criteria in order of preference (1 = most important, 4 = least important):

_____ Quality

_____ Price and terms

_____ Supply Chain Support

_____ Technology

2.2. Please weight the criteria below according to their importance in your vendor selection process (0-100%):

_____ Quality

_____ Price and terms

_____ Supply Chain Support

_____ Technology

2.3. How does your company approach service innovation as criteria in vendor selection?

- ❍ Include with previous criteria (if yes, go to 2.4)
- ❍ Independent criteria (if yes, continue to number 3)
- ❍ We don't need service innovation (if yes, continue to number 3)

2.4. On a scale of 1-100%, please measure how service innovation affects other criteria: Include with previous criteria (if yes, go to 2.4)

_____ Quality

_____ Price and terms

_____ Supply chain support

_____ Technology

Page 5.

(Note : You may refuse to answer any question and withdraw at any time without penalty.)

According to Bettencourt, there are four approaches to discover service innovation opportunities which are: New Service Innovation, Core Service Innovation, Service Delivery Innovation and Supplementary Service Innovation.

3.1. New Service Innovation. During the last three years (2013 to 2015), did your vendor introduce new or significantly improved services to complete newly discovered tasks or other tasks related to market outcomes: (1 = never – 5 = always)

	1	2	3	4	5
before their competitors (it may have already been available in other markets)?	❍	❍	❍	❍	❍
that were already available from their competitors in the market?	❍	❍	❍	❍	❍

3.2. Core Service Innovation. During the last three years (2013 to 2015), did your vendor introduce a new or significantly improved service to accomplish the core task related to the market outcome: (1 = never – 5 = always)

	1	2	3	4	5
before their competitors (it may have already been available in other markets)?	❍	❍	❍	❍	❍
that were already available from their competitors in the market?	❍	❍	❍	❍	❍

3.3. Service Delivery Innovation. During the last three years (2013 to 2015), did your vendor enhance advantages for you to support the core job of delivery by improving their service delivery process: (1 = never – 5 = always)

	1	2	3	4	5
before their competitors (it may have already been available in other markets)?	❍	❍	❍	❍	❍
that were already available from their competitors in the market?	❍	❍	❍	❍	❍

3.4. Supplementary Service Innovation. During the last three years (2013 to 2015), did your vendor help you by supporting current product offerings: (1 = never – 5 = always)

	1	2	3	4	5
before their competitors (it may have already been available in other markets)?	❍	❍	❍	❍	❍
that were already available from their competitors in the market?	❍	❍	❍	❍	❍

Page 6.

(Note : You may refuse to answer any question and withdraw at any time without penalty.)

4.1. How important to your products and services were service innovations introduced during the last three years (2013 to 2015)? (1 = Not at all important – 5 = extremely important)

	1	2	3	4	5
Increased goods or services	❍	❍	❍	❍	❍
Entered new markets or increased market share	❍	❍	❍	❍	❍
Improved quality of goods or services	❍	❍	❍	❍	❍

4.2. How important to your production process were service innovations introduced during the last three years (2013 to 2015)? (1 = Not at all important, 5 = Extremely important)

	1	2	3	4	5
Improved production or service provision flexibility	❍	❍	❍	❍	❍
Increased production or service provision capacity	❍	❍	❍	❍	❍
Reduced labour costs per unit output	❍	❍	❍	❍	❍
Reduced materials and energy per unit output	❍	❍	❍	❍	❍

4.3. How important to other aspects were service innovations introduced during the last three years (2013 to 2015)? (1 = Not at all important, 5 = Extremely important)

	1	2	3	4	5
Reduced environmental impact	❍	❍	❍	❍	❍
Improved health and safety	❍	❍	❍	❍	❍
Met regulatory requirements	❍	❍	❍	❍	❍

4.4. Customer satisfaction. Please think about the service innovation that your company receives compared to the minimum service level agreement of the contract. For each of the following statements, check the number that indicates how well your company compares to SLA: (1 = Much worse, 2 = Somewhat worse, 3 = About the same, 4 = Somewhat better, 5 = Much better)

	1	2	3	4	5
Reliability	❍	❍	❍	❍	❍
Responsiveness	❍	❍	❍	❍	❍
Assurance	❍	❍	❍	❍	❍
Empathy	❍	❍	❍	❍	❍
Tangible	❍	❍	❍	❍	❍

4.5. Customer Loyalty. According to your experience, are you satisfied with your vendor's service? (1= extremely unlikely, 2 = somewhat unlikely, 3 = neither likely nor unlikely, 4 = somewhat likely, 5 = extremely likely)

	1	2	3	4	5
I will recommend my vendor to colleagues	❍	❍	❍	❍	❍
I will order the same products/services from my vendor	❍	❍	❍	❍	❍
I will order different products/services from my vendor	❍	❍	❍	❍	❍

Page 7.

(Note : You may refuse to answer any question and withdraw at any time without penalty.)

Factors hampering service innovation

5.1. In your opinion, what are the cost factors that prevent your vendor from providing service innovation for purchased products/services? (1 = Definitely false – 5 = Definitely true)

	1	2	3	4	5
Lack of funds	❍	❍	❍	❍	❍
Lack of finance from sources outside their enterprise	❍	❍	❍	❍	❍
Innovation costs are too high	❍	❍	❍	❍	❍

5.2. In your opinion, what are the knowledge factors that prevent your vendor from providing service innovation for purchased products/services? (1 = Definitely false – 5 = Definitely true)

	1	2	3	4	5
Lack of qualified personnel	❍	❍	❍	❍	❍
Lack of information technology	❍	❍	❍	❍	❍
Lack of market information	❍	❍	❍	❍	❍
Difficulty in finding cooperative partners for innovation	❍	❍	❍	❍	❍

5.3. In your opinion, what are the reasons that prevent your vendor from providing service innovation for purchased products/services?

	1	2	3	4	5
No need due to prior innovations	❍	❍	❍	❍	❍
No need because of lack of demand for innovations	❍	❍	❍	❍	❍

Would you like to submit your answers?

❍ Yes (1)

❍ No, Exit without submitting (2)

APPENDIX C: INTERVIEW QUESTION

Service Innovation On Vendor Selection Process
Interview Question

I. Initial / Setup Questions

1. How long have you been working in this procurement area?
2. Who is the main decision-maker on deciding vendor (team/personal)?
3. What kind of goods/services do you order the most frequent from your vendor?

II. Service Innovation On Vendor Selection Criteria

1. Which one of the following criteria has the biggest impact on Vendor Selection Criteria, and why? (Quality, Price and terms, Supply Chain Support, Technology)
2. What do you know about service innovation?
3. Do you think service innovation can be one of the important factors for vendor selection criteria? Please describe your reason. And how is it compared to the traditional approach (switching cost, price, total cost of ownership as the criteria)

III. Comparison with the Vendor's Competitor

1. How did you measure the service innovation that has been offered by your vendor?
2. Do you feel satisfied with the service from your current vendor? Would you share your experience with others (for example in practitioner's community/social media)
3. Do they give their best effort on service? How would you value the vendor's contribution to your company's process?

IV. Effect of Innovation

1. What kind of service makes you impressed with your vendor in service innovation? (for example: manage inventory management, lead time and time compression)
2. Did you have any preferred vendor before the bidding commenced in building sourcing strategies and relationship?
3. Would you give a chance for a new vendor, what would make you change your decision when your current vendor's performance is satisfying?
4. Were there any elements of the marketing and negotiating process that could affect your decision?

V. Factors that hampering Service Innovation

1. According to your opinion, what would be the biggest challenges for a vendor in offering service innovation?
2. What service innovations could be explored more by your vendor? (for example, about service that you expect by your vendor)

APPENDIX D: SURVEY RESPONDENT PROFILE

No	Industry	Selection Process	Purchasing Product/Service	Duration Using	Frequency of Using
1	BANKING	Bidding Process	Generator set	more than 3 years	Daily/Monthly
2	BANKING	BOTH	Sparepart IT	more than 3 years	Daily
3	BANKING	BOTH	Computer	more than 3 years	Daily
4	BANKING	BOTH	IT software	more than 3 years	Daily
5	BANKING	BOTH	Network Equipment	more than 3 years	Daily
6	FMGC	BOTH	Raw material tea	more than 3 years	Daily
7	FMGC	Supplier Partnership	Raw Material	more than 3 years	Daily
8	FMGC	BOTH	Packaging	more than 3 years	Daily
9	FMGC	Supplier Partnership	transportation service	more than 3 years	Daily
10	IT & TELCO	BOTH	CPE	< 1 year	Project based
11	IT & TELCO	BOTH	CPE	more than 3 years	Project based
12	IT & TELCO	BOTH	Free Space Optics (Telco Equipment)	more than 3 years	Daily
13	IT & TELCO	BOTH	network equipment	more than 3 years	Daily
14	IT & TELCO	BOTH	CPE	more than 3 years	Project based
15	IT & TELCO	Bidding Process	Cable installation	more than 3 years	Daily
16	IT & TELCO	BOTH	installation materials for local vendor, installation service, Civil Mechanical Engineering service	more than 3 years	Daily
17	IT & TELCO	BOTH	IT software	more than 3 years	Daily
18	MANUFACTURING	BOTH	spare parts for cars	more than 3 years	Daily
19	MANUFACTURING	BOTH	transportation service	more than 3 years	Daily
20	MANUFACTURING	BOTH	calibration Service	< 1 year	every 3 months
21	MANUFACTURING	BOTH	Flexible Plastic Packaging	more than 3 years	Daily
22	MANUFACTURING	BOTH	specialty material	more than 3 years	Weekly
23	MANUFACTURING	BOTH	Fabrics	more than 3 years	Daily
24	MANUFACTURING	BOTH	Flexible Packaging	more than 3 years	Daily
25	MANUFACTURING	BOTH	Raw Material	< 1 year	Monthly
26	MANUFACTURING	BOTH	part shock absorber	more than 3 years	Daily
27	MANUFACTURING	Supplier Partnership	Indirect material and equipment	more than 3 years	Project based
28	MANUFACTURING	Supplier Partnership	Oil Lubricant	more than 3 years	Daily

29	MINING & POWER	BOTH	Heavy equipment	more than 3 years	Yearly
30	MINING & POWER	Bidding Process	Heavy equipment	more than 3 years	per project
31	MINING & POWER	BOTH	CPE	< 1 year	Daily
32	MINING & POWER	BOTH	Indirect material and equipment	more than 3 years	Daily
33	OTHERS	Bidding Process	PC Unit	more than 3 years	Others
34	OTHERS	BOTH	General supplies	more than 3 years	Monthly
35	OTHERS	Bidding Process	Router	more than 3 years	Daily