THE STUDY OF BARRIERS AND BRIDGES IN SUPPLY CHAIN MANAGEMENT TO IMPROVE PROCUREMENT PROCESS IN BANGKOK CHAIN HOSPITAL PLC.

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ABSTRACT

Purpose – For studying factors that facilitate and barrier of an implementation of supply chain implementation in Bangkok chain hospital public company limited. By ranking these bridges and barriers, it is possible to identify the most important bridges and barriers within Bangkok chain hospital public company limited for an effective supply chain collaboration in Bangkok chain hospital public company limited.

Design/methodology – Quantitative research will be studied and researcher questionnaire to gather the information from employees who are working in procurement department in Bangkok Chain Hospital public company limited for 100 sets of questionnaires.

Findings - The results suggest that for the top 3 barriers of supply chain practice implementation in procurement process which are the factors that pullback SCM process in BCH to achieve the best outcomes and results are; lack of support from an organization, Barrier from organization control. For the implementation of bridge to improve supply chain collaboration, which are the factors that help to facilitate the SCM system in BCH to improve overall performance and outcome, for the top 3 bridges are leadership, people management(communication) and customer (patient) management.

- There are the gaps between perception of actual and desired level toward each of all bridge component implementations from perspective of administrator in procurement department at Bangkok Chain Hospital PCL are significant different in mean.

Research limitations – This study is conducted in a very specific group of people, in which the result of this study might be different in other groups of people and respondent might not provide the exact answer from their opinions because he/she might not aware of an advantage of giving his/her opinions

Keywords: facilitated factors/ bridge in supply chain implementation/ barrier supply chain implementation

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CHAPTER I

INTRODUCTION

1.1 Introduction

Supply chain management(SCM) is one of the most discussed topics for business improving. The supply chain management program integrates topics from manufacturing operations, purchasing, transportation, and physical distribution into a unified program. This process of SCM was the step of all process from import raw materials until delivery to customers for continuity and efficiency. This process that contribute to continuity of service creates a flow of information, resulting in a systematic workflow for each department. The SCM process is essential to help organizations leverage the ability to manage and promote the growth of the business therefore, with fully integration of SCM to a firm, a firm will be able to efficiently manage supply and material in order to fulfill customer demand so that customer satisfaction will be increased in a dimension of time and quality of order fulfillment.

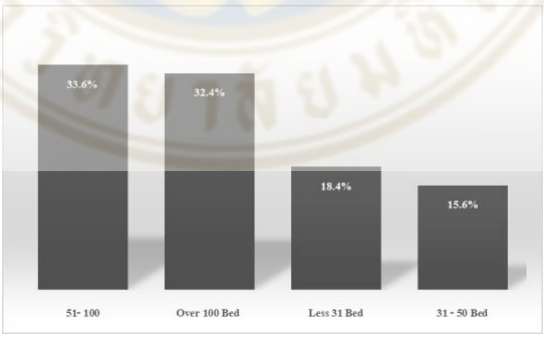

Figure 1.1 Number of hospital business and private hospital in 2012

Source: National Statistical Office (2003)

Nowadays business has high competition, even hospital business, medical service such as medicines, medical supplies and enough equipment, which is ready to use. From statistic toward of hospital business and private hospital in 2012, found that

there are 321 of private hospital in Thailand. Most of the hospitals have 51 – 100 beds, 108 hospitals. Personal department can be classified into 4 kinds, which are executive officer, nursing officer, medical service officer and hospital service officer. 56.2 % of officer is nursing officer such as doctor, specialist, dentist, nurse, nursing officer. The reason that patients choose private hospital is services, which is better and faster, even patient has to pay more.

Supply chain is one of strategic management to drive management of the hospital, which connected to relation management between other hospital's entrepreneur (strategic plan about logistic system development, 2013), which is 40 % of budget from all hospital managing process. To reduce the expenses, using outsourcing strategic by experienced expert can drive work to go faster with fixed cost. The hospital's system and process focus on healthcare and medical care service so patient is a customer. Process on supply chain is servicing process; treatment and work flow in the hospital, which begins with customers who want to take service.

Importantly, healthcare business in today world is more competitive than before. Healthcare products have converted from necessary product into luxury product. Specifically, sets of products offers to customer are used for preventive purpose, such as health examination package, or beauty purpose, such as facial treatment. Moreover, even in cure and treatment fields, a competition is also harsher. Quality becomes a basic requirement for providing business so that healthcare company turns to offer a customer more luxury product, such as superior service and facility, in order to create more customer satisfaction. Hence, it is important that a firm that operates within healthcare business must adapt in order to survive in today business competition. Hence, supply chain management can be an alternative for a firm that would like to improve its business performance.

1.2 Supply chain management

A supply chain may be defined as an integrated process where a number of various business entities; including suppliers, manufacturers, distributors, and retailer, work together in an effort to acquire raw material, convert this material into specified final product and deliver final products to customer (Beamon 1998) A supply chain

management is combined from the production planning and inventory control process and the distribution and logistics process. Specifically, in healthcare industry, the supply chain is the path that products take as they make their way from the raw material state into the hands of clinicians and others where they are finally consumed (Everard 2001). Hospital' s supply chain is applied with managing by creating efficiency in the system which has clear process and easy step that can control all variable in the system (Muangshoo, et al. 2012) . And many hospitals apply supply chain management in their managing such as Srinagarind hospital which connects information between drug storage and big medicine room. It is medicine in the hospital' s flow process and spread to inpatient and outpatient ward. Before doctor prescribes medicine, doctor considers patient' s information from patient profile and save information in the system to connect and send to medicine room.

Process and working step in the hospital which applied supply chain management consist of procurement which provide important thing in health care service such as medicines, medical supplies, medical device, including providing good services such as punctual service, purchasing, storage, distribution. It is managing toward products that we already have, prioritizing and products recalling.

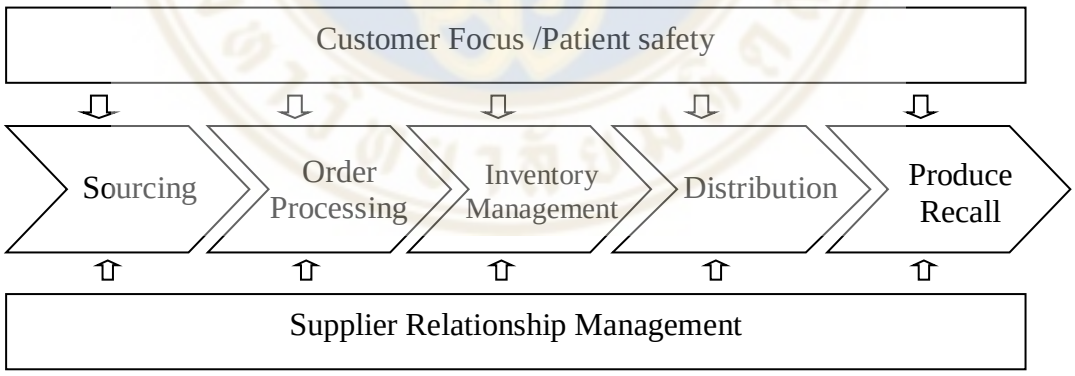

Figure 1.2 Health care logistic process

Source : Muangshoo, et al. (2012).

Supply chain management in health care facility managing process can be beneficial in medicine and medical supply service, which creates more efficiency and quality. It can reduce transportation cost and finding storage for medicines

(Muangshoo, et al. 2012) . In order to use the mentioned system, it requires cooperation from many sections including purchasing and information section to coordinate by supporting each other which is supply chain working flow.

1.3 Advantage of supply chain management

Some advantages of supply chain management can be separated into two categories; profit maximization and efficiency improvement. First, supply chain management allows a firm to increase its profit, which is one of the most important goals for business. Specifically, the principle allows a firm to maximize its profit by generating more revenue and decreasing operation cost, which will lead to higher net profit. In term of revenue, supply chain management allow a firm to have higher value-adding revenue growth and improved profitability through higher gross profit margin (Timme , 2008; Christopher & Ryals, 1999). Timme (2008) also states that supply chain management could create a revenue through increasing in customer satisfaction and speed in product offering to market. In term of cost, the framework can reduce overall operation cost through decreasing in a transportation cost, storage cost, order processing cost and logistics cost (Christopher & Ryals, 1999; LaLonde & Masters, 1994). With a system's ability to increase its profit and decrease cost, a firm will be able to maximize its value, which is a superior objective of a firm (Christopher and Ryals 1999). Additionally, supply chain management can also lead to enhanced competitive advantage, which lead to a positive impact for an organizational performance (Li , et al. 2004). Secondly, supply chain management allow a firm to have superior inventory management system. For example, a firm who adapt the principle would have high inventory velocity, which is a time period from receiving order to delivering order to customer (Closs, et al. 1998). In other word, a firm with good supply chain management system will have high inventory turnover and low cycle time, which lead to ability to maintain a product availability to respond customer need (La Londe and Master 1994). Moreover, Firm with high inventory turnover will be able to decrease its inventory holding cost (Timme 2008). Additionally, good inventory management also allows a firm to maintain an availability of its product to avoid product shortage, which might create an opportunity cost for a firm. For

example, a firm can solve its product shortage through superior vendor-managed inventory system (Waller, Johnson and Davis 1999). Moreover, high accuracy in forecasting customer demand also facilitates a firm to have enough inventories to serve customer need (Closs, et al. 1998).Third, Supply chain management also allow a firm to have greater capital utilization, reflecting by fixed asset utilization, by increasing more revenue generated by one unit of fixed asset (Timme , 2008; Christopher & Ryals, 1999) . Forth, supply chain management also benefit a firm in term of increasing customer satisfaction. Specifically, it increases a firm efficiency in term of providing fast service to customer. Specifically, it allows a firm to provide an on-time service to customer through enhancing its just-in-time capability (Tan, Kannan and Handfield 1998).

1.4 Statement of problem

Although with a lot of advantage from supply chain management, there is no integration in supply chain management within a lot of firm. It is possible that a problem lies in an ambiguity of benefits of supply chain management so that management of any company might not have a vision or commitment to apply supply chain management in an organization. Moreover, even supply chain management is obvious, an implication of a system also difficult to succeed with some barriers. Hence, it is important to understand Barriers and bridge of effective supply chain management implementation. By understand a relationship between factors and supply chain management integration, it will provide a solution for a firm in designing supply chain management integration so that the implementation will be success and allow a firm to fully realize an advantage of supply chain management.

1.5 Research Question

Hence, in order to fully applied supply chain management in an organization, the main question of this research can be explored as “What are the bridges and barriers of effective supply chain collaboration in Bangkok Chain Hospital PCL.(BCH)?

and What are the desired level and current level of implementation of bridge to improve supply chain collaboration?”

1.6 Objective of the study

1. To study barriers of an implementation of supply chain implementation in Bangkok Chain Hospital public company limited.
2. To study factors that facilitate (bridge) a supply chain collaboration in Bangkok Chain Hospital public company limited.
3. To study the gap and the differences in means between the desired and current level of implemented bridges from the perception of employees who are working in procurement department in Bangkok Chain Hospital public company limited.
4. To provide recommendation for supply chain management improvement in Bangkok Chain Hospital public company limited from the perspective of administrator in procurement department.

1.7 Scope of the Research

In this study, the target audience is administrator of the hospital Bangkok Chain Hospital public company limited.

1.8 Benefit

This research will provide a possible solution to management team in BCH’s procurement department to improve the effectiveness of SCM system in order to overcome the barrier in SCM by enhancing bridges implementation in the department.

1.9 Definition

Supply chain management in healthcare is linkage work in various systems of health service systems consists of medicine, medical supply, medical equipment and general goods. It is the flow of materials and flow of information for the provision of treatment services to customers through the service process leading to quality of service and satisfaction.

1.10 Limitation in this research

1. The respondent might not provide the exact answer from their opinions.
2. The respondent might not aware of an advantage of giving their opinions.
3. Time limitation for collecting data.

CHAPTER II
LITERATURE REVIEW

This Chapter presents literature review provides a valuable principle, result and methodology that important to create the research objective and research design.

2.1 Supply Chain and Supply Chain Management

Supply Chain and Supply Chain Management have played a significant role in corporate efficiency and have attracted the attention of numerous academicians over the last few years. Academic literature review discloses an important spurt in research in practice and theory of Supply Chain (SC) and Supply Chain Management (SCM). Connecting and informing on Supply Chain, Supply Chain Management and distribution Management characteristics have contributed to the Supply Chain integration. This integration has generated the approach of extended corporate and the supply chain is nowadays manifested as the cooperative supply chain across inter-corporate borders to increase the value across of the whole supply chain.

2.1.1. Definition of Supply Chain and Supply Chain Management

Supply Chain

The development and functioning of Supply Chains have become important subjects for academician with a resultant increase of definitions and phrases. Beamon B. (1998) stated that a Supply Chain is "a structured manufacturing process wherein raw materials are transformed into finished goods, then delivered to end customers". Also, Supply Chain as "a chain starting with raw materials and finishing with the sale of the finished good", Tecc.com.au (2002). On the other hand, Bridgefield Group (2006) and Pienaar W. (2009) defines Supply Chain as "a connected set of resources and processes that starts with the raw materials sourcing

and expands through the delivery of finished goods to the end consumer" and "a general description of the process integration involving organizations to transform raw materials into finished goods and to transport them to the end-user". The above definitions centralize on the core determinants of an effective Supply Chain. They connote the need for a provenance and a destination within which goods flow and accept the approach that overall Supply Chains start with resources (raw materials), combine a number of value adding activities and finish with the transfer of a finished goods to consumers. The following definitions are more complicated. They include an extended view of a Supply Chain and integrate extra activities in the function of the Supply Chain. In 1999, Little, defined a Supply Chain as "the combined and coordinated flows of goods from origin to final destination, also the information flows that are linked with it". According to Chow & Heaver (1999), supply Chain is the group of manufacturers, suppliers, distributors, retailers and transportation, information and other logistics management service providers that are engaged in providing goods to consumers. A Supply Chain comprises both the external and internal associates for the corporate. Moreover, Supply Chain as life cycle processes involving physical goods, information, and financial flows whose objective is to satisfy end consumer requisites with goods and services from diverse, connected suppliers, Ayers(2001) and Mentzer, et al.,(2001) defines Supply Chain as a set of entities (e.g. organizations or individuals) directly involved in the supply and distribution flows of goods, services, finances, and information from a source to a destination (customer).

Supply Chain Management

The connections and nodes in a Supply Chain achieve functions that contribute to the value of the goods transporting through the chain and thus its achievement. Any connection that does not carry out well reduces the overall effectiveness of the whole Supply Chain. The notion of Supply Chain management as used in many research is usually linked with the globalization of producing and the penchant for manufacturers to source their inputs planetary, which necessitates management of profitable ways of regulating worldwide flows of inputs or outputs. The principal focus of market competition in such situations is not only between goods, but between the Supply Chains delivering the goods. As competition in

international markets is progressively dependent upon the of arrival time of goods as well as their quality, coordination between suppliers and distributors has become an important characteristic of the Supply Chain. As the customer satisfaction is a crucial benchmark of the success of the Supply Chain, effective management of the linking processes is crucial (Trkman, Stemberger and Jaklic 2005). Additionally, market uncertainty necessitates Supply Chains to be easily flexible to changes in the situation of trade. Such flexibility in supply requires effective Supply Chain Management. Supply Chain management is aimed at examining and managing Supply Chain networks. The rationale for this concept is the opportunity (alternative) for cost savings and better customer service. An important objective is to improve a corporate's competitiveness in the global marketplace in spite of hard competitive forces and promptly changing customer needs (Coyle, et al. 2008).

Numerous supply chain management definitions have been presented in the academic literature. Alberta E-Future Centre (2004) asserts that Supply Chain Management (SCM) is the act of optimizing activities across the Supply Chain. Ayers(2001) reported that Supply Chain management is the maintenance, planning, and Supply Chain processes activity for the satisfaction of consumers' needs.

2.2 SCM strategic adoption within organization

The process of Supply Chain Management is process in every step of administration from raw material import to production, purchasing process, and customer delivery, which has to be continuous and gain the most, benefits. Also creating workflow system that happened through organization, which makes process go easier, and faster for product's quality and efficiency. So strategic SCM vision is important in supply chain management collaboration. Specifically, supply chain management need to be recognized as a multiple process rather than individual function (Lambert and Cooper 2000). Specifically, the strategies must be integrated with production, marketing and total corporate strategy (La Londe & Masters, 1994). Moreover, strategic thinking for supply chain management should include categorization of supply chain power type and linkage between its parties (Cox 1999).

Additionally, in order to successfully adopt strategic SCM vision, top management must have an explicit knowledge and understanding in a configuration of supply chain network and structure (Lambert and Cooper 2000). However, in order to fully adopt SCM strategic vision within an organization, the following characteristic of an organization should be in effect.

2.2.1 Organization structure and culture

Corporate culture and its compatibility to supply chain is also facilitate an implementation of supply chain management. Specifically, corporate culture must allow an employee to fully implement the system for every single task in a process (Lambert and Cooper 2000). Moreover, an organization structure also plays an important role in supply chain collaboration. Specifically, organization structure should be designed to support it by allowing a flow of open communication throughout an organization (Neuman and Samuels 1996). The supply chain management is greatly enabled by information technology and enterprise resource planning systems and specially developed supply chain management systems (Christos, Vicky and Constantinos 2014) so coordination of members in the organization and efficiently collaborative work creates trust between each other.

2.2.2 Strong organizational network building and maintaining

Organizational network involves interconnectedness, which is an internal network within organization, and system openness, which is an external network outside an organization (Russell and Hoag 2004).

2.3 Healthcare Organization and supply Chain management

The healthcare sector in its broader context does not only include clinics and hospitals but wholesale distributors, pharmaceuticals manufacturers, medical supplies enterprises, pharmacies, government regulatory agencies, private health insurance companies, technology providers and information technology (Christos, Vicky and Constantinos 2014). For example, in terms of complexity, five major categories of supplies were identified in the hospital environment with significant

differences in terms of product portfolio range, cost contribution, delivery frequency patterns, size of supplier base, lead time, inventory management and distribution tactics and replenishment control and decision So the operation of supply Chain management in Healthcare importance to management Organization is vital to the effective operation and quick response to customer needs.

Under hospital' s supply chain' s structure, it consists of many sub-supply chains, information from the beginning to the end. Information on hospital' s supply chain' s structure will be connected by hospital information system. Each hospital has different management toward information.

From Tang (2012) studies about patient' s satisfaction in China toward medical services, medical service assessment and trust in health delivery system. In the research mentions about medical service system in China, that customers have opinion toward medical services as expensive service and hard to access, which reduces patient's satisfaction in China.

Wantaisong) 2012(has developed process to reduce waiting time and process lateness for outpatient. Paoin) 2014(has studied overall image of medicine' s supply chain between public hospital and private hospital, medicine distribution between public hospital and private hospital and analyzing toward medicine distribution system between public hospital and private hospital. Research found that purchasing system of both hospitals have to be checked by audit committee. Arranging medicines by alphabets and category. For medicine' s distribution, after medicine is checked, it will be sent to dispensing area. About time, found that waiting time is reduced.

2.3.1 Nodes & Links management

Supplies transportation and transportation for healthcare service department from link to node for hospital, offer services to customer efficiently. Node is hospital and suppliers. Link is business process between hospital and suppliers such as purchasing, production, storage **(**Muangshoo and Kritchanchai 2012**)** which consists of outpatient service work and service supporting work.

2.3.2 Material Management

Material management is product and service management which is management of person, materials that flow in the process in the hospital or support hospital' s service in its scope. It is classified as patients, both outpatients and inpatients. Products in this place, covers medical supplies or supplies which is not medicines, durable medical goods, sterile medical supplies, office equipment and garbage.

2.3.3 Information Management

It is information which involve in products flow and the process in the hospital. It is classified into 2 types. It is information of patients such as medical record, laboratory results, prescribe detail and information about products such as balance, products quality, requisition detail, medicine or medical supplies prescription or delivery note.

So we can see supply chain as management which connects related department in the hospital, connects movement of information supplies that increase efficiency toward quickness and increase customer satisfaction.

2.4 Barrier of supply chain collaboration

Despite a lot of benefit from supply chain management, some firms may not implement the framework into an organization because there are some barriers that prevent a firm from effectively framework implementation.

2.4.1 Barrier at Problem in SCM framework

A barrier could lie into a complex of supply chain management system, which lead to difficulty in implementing a framework. La Londe & Master) 1994(state that supply chain management has some barriers because it has high complexity and require high level of trust among division of a firm, such as between production and distribution department and between sales and distribution department. Due to a complex system, it might cause an employee a resistance to change because it is

difficult to follow a procedure so that it might affect their performance (La Londe, 1998).

2.4.2 Barrier at top management and organization level

Barrier is caused by top management and organization structure. Akkermans, Bogerd & Vos) 1999(show that if the top management have a lack of strategic vision in supply chain management issue and does not have enough commitment to successfully implement a framework it will lead to failure in SCM implementation. Moreover, Lambert & Cooper) 2000(found that top management provide insufficient effort to determine specific supply chain members, key processes and action that require for the implementation. This could lead to an inability of top management to generate an effective plan to implement supply chain management (Lonsdale 1999). Moreover, although top management is able to design a system to implement, the designed system might not be effective enough to generate a result (Groves and Valsamakis 1998). Additionally, Lambert & Cooper)2000(also point out that organization structure might not allow a firm to implement supply chain successfully. Specifically, divisions that sharing cost and benefit might not want to implement a new system due to an ambiguity in potential benefit they will get or additional cost that might occur (Groves and Valsamakis 1998).

2.4.3 Barrier at Misalignment among SCM member

A barrier might involve a misalignment among involves parties in the process. Akkermans, Bogerd & Vos)1999(state that a lack of common goal, caused by insufficient communication between supply chain partners, force parties to see only sharing potential risk and does not realize any sharing benefit from information sharing. Moreover, Neuman & Samuels)1996(also stated that a lack of relationship building also blocks the implementation. Specifically, they pointed out that firms tend to focus on customer relationship but lose interest in creating a relationship with supplier. Additionally, an integration of information sharing, which is one of the most important element of supply chain management, might contain a sensitive issue that make parties feel frustrate to integrate information system (Towill and McCullen 1999).

2.4.4 Barrier from organizational control

A lack of measurement for potential benefit created by the framework might act as a barrier because top management, who determine a vision of a firm, might not see a benefit from implementing a system and then lose interest of implementing it (Akkermans, Bogerd and Vos 1999). Moreover, poor internal control might also create a supply chain management barrier (Groves and Valsamakis 1998).

2.4.5 Lack of support from an organization

A barrier might cause by a lack of support from organization. For example, a lack of resource used to support a system will restrict an employee to fully implement a system, especially information system and information technology (Groves and Valsamakis 1998). Moreover, insufficient training for supply chain management also acts as a barrier by making an employee to have a poor understanding of a framework (New 1997).

2.5 Conceptual Theory of Bridge of supply chain collaboration

2.5.1 Level of trust

One of the importance bridges for achieving effective supply chain is high level of trust between trading partner. Without high level of trust, supply chain collaboration can' t be achieve even all essential information system is in placed (Vijver, M.A.R. and Vos 2004). Specifically, this trust among supply chain partners also allows information transparency, which is another bridge for effective supply chain collaboration (Vijver, M.A.R. and Vos 2004). A trust among buyer and supplier relationship will facilitate a creation of relationship among supply chain parties (Zaheer, McEvily and Perrone 1998). Specifically, relationship that facilitate an implementation of supply chain is a relationship between major suppliers and customers (Groves and Valsamakis 1998). Moreover, collaborative planning is also facilitate a supply chain implementation, which can be processed through allowing multiple independent companies take part in decision, especially on production and shipment (Vijver, M.A.R. and Vos 2004).

2.5.2 Information system

IT resource would provide an essential support for making supply chain collaboration (Vijver, M.A.R. and Vos 2004). Importantly, technology needs to support multiple level of decision-making and allow a user to have a clear view of a flow of products, services and information (Anderson et al. , 1998; La Londe & Masters, 1994(. As a result, an information technology would permit advanced replenishment and better manufacturing (Neuman and Samuels 1996).

To combine with IT resource, firms must have an information transparency within an organization)Anderson et al., 1998; Basnet et al., 2003; Towill and McCullen, 1999). In order to create supply chain collaboration, information transparency in involved external parties are also required. Specifically, information involving volume, specification and range of item purchased would allow purchasers to rationalize their expenditure and increase efficiency in inventory management (Croom 2001). However, information flow must have a low lead time in order to provide necessary information to parties in a timely manner, which lead to an increase in an accuracy of decision making process (Towill and McCullen 1999).

2.5.3 People management(communication)

A firm should pay attention to human resource management, which is one of the most important element in supply chain management (Akkermans, Bogerd and Vos 1999). In order to effectively manage human resource. Such as service for customers' satisfaction from correct product delivery, correct quantity, correct place and time by decided condition with fixed cost, which cannot be predicted customers' satisfaction, but by good process would satisfy customers. Moreover, communication is the beginning of business and people management which creates communication within organization in logistic process such as communication with customers, communication with related organizations so

Managing communication and information diffusion about a supply chain innovation is important for implementation process of supply chain collaboration by using holistic approach (Russell and Hoag 2004). Consistent application of appropriate information technology (Zigiaris 2000). However, good communication gains advantages for organization in competition because of connected working flow in

process of the information. So process is efficient which information and connection is very necessary.

2.5.4 Information Transparency

Transparency is often understood as a matter of disclosing timely and publicly available information for purposes of openness, accountability, and the generation of trust (Schnackenberg and Tomlinson 2014). The underlying logic is that if companies, organizations, and public institutions establish transparency measures, they enable "the public to gain information about the operations and structures of a given entity" (Etzioni 2010). Along these lines of thinking, information produces insight, and insight creates accountability and better conduct (Christensen and Cheney 2015). With the ubiquity of digital technologies and the massive growth of and access to digital data (Mayer-Schönberger and Cukier 2013), increased transparency in organizational and societal affairs seems more possible and straight forward than ever before.

2.5.5 Perception management

User perception on supply chain management practice is also important on supply chain collaboration. Perception can be separated into three categories; relative advantage of supply chain practice, compatibility with the value of supply chain e. g. customer service and reliability and complexity perceived as low for users who do an everyday job (Russell and Hoag 2004).

2.5.6 Leadership at all level

Top management should support a creation of leadership in all level of a organization in order to create an active management and enthusiastic team member, which allow higher success rate of supply chain collaboration (Russell and Hoag 2004).

2.5.7 Alliance design

Alliance in supply chain management involved both suppliers and customers. Superior alliance design will facilitate effective supply chain collaboration.

Some of the following actions are required for effective alliance design. In choosing and managing the supply chain partnerships, Top executives must trust each other. The product must be consistent and meet the customer's current needs. Must have similar technology, have consistent operational planning, Due to the need to exchange information with each other. By doing so requires the integration of supply chain partners at the management level (Russell and Hoag 2004). Operating level Integration of information systems. By linking and sharing the white data, the substance has an impact on the operation.

2.5.8 Performance Measurement

Supply chain performance indicators are key tools for monitoring and improving the supply chain performance to gain competitive advantage (Taylor 2004). According to Wang, Heng and Chau (2007), performance indicators support supply chain management (SCM) goals and provides useful information on long-term decisions. It effectively links supply chain partners to achieve breakthrough performance in satisfying end-customer needs and provide feedback regarding customers' needs and the supply chain's capabilities (Wisner, Tan and Leong 2008; Aramyan, et al. 2007).

Aramyan, et al. (2007) asserted that performance indicators are the criteria with which performances of products, services and production processes are evaluated. Indicators of supply chain performance have an important role to play in setting objectives, evaluating performance, and determining future courses of actions (Lee, Kwon and Severance 2007).

2.5.9 Customer (Patient) management

Dividing customer into group would allow a firm to customize its supply chain practice to fit each segment of customers, who have different and unique need, in order to effectively serve their needs (Anderson, Varnhagen and Campbell 1998).

A firm should pay attention to human resource management, which is one of the most important element in supply chain management (Akkermans et al., 1999). In order to effectively manage human resource. Such as service for customers' satisfaction from correct product delivery, correct quantity, correct place and time by

decided condition with fixed cost, which cannot be predicted customers' satisfaction, but by good process would satisfy customers. Moreover, communication is the beginning of business and people management which creates communication within organization in logistic process such as communication with customers, communication with related organizations so

2.5.10 Collaborative Planning

Collaborative planning, forecasting and replenishment (CPFR) is aimed at improving collaboration between buyer and supplier so that customer service is improved while inventory management is made more efficient (Harrison, et al. 2008). According to (Simchi-Levi, Kaminsky and Simchi-Levi 2003), forecasts are always wrong, thus it is impossible to predict the precise demand for a specific item, even with the most advanced forecasts techniques. While this expression is quite true, but a very effective method which company may able to alleviate inaccuracy in the forecasts is collaboration. It is quite obvious that each a company have more information available regarding the customer demand the better the forecast may be. Therefore, in CPFR which was oriented first time in 1995 by Wal-Mart, it was seen that collaboration is used to solve the errors in forecasts.

2.6 Conceptual Framework of Supply Chain Implementation within an Organization

Ramesh, Banwet and Shankar (2010) developed a contingency framework for understanding supply chain implementation within an organization. Specifically, the framework involves a force that driving supply chain collaboration in an organization, a bridge to facilitate an effective supply chain management, a barrier that prevent an organization from effectively applying supply chain management and benefit of supply chain management. This model provides a usefulness for supply chain management in order to stimulate an appliance of supply chain while giving a recommendation on how to fully implement supply chain management. The framework of understanding supply chain implementation within an organization is shown as follow

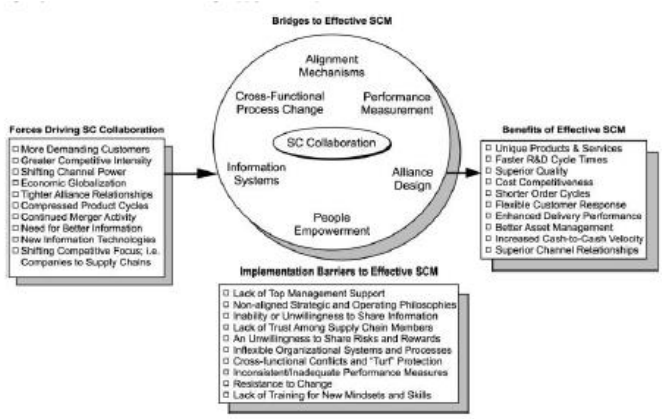

Figure 2.1 Conceptual frameworks of understanding supply chain implementation within an organization

Source: Ramesh, Banwet and Shankar (2010)

This study will study on 2 main components, which are the bridges and barriers in SCM. The main aim of this research is to investigate the perception of administration on factors that are known as bridges and barriers in SCM in Bangkok Chain Hospital PCL and to understand the current level of implemented bridges from the perception of employees who are working in procurement department. Then, the difference between means in the perception of actual and desired level toward each of bridge component implementations from perspective of administrator in procurement department at Bangkok Chain Hospital PCL will be examined as it is shown in frame work below

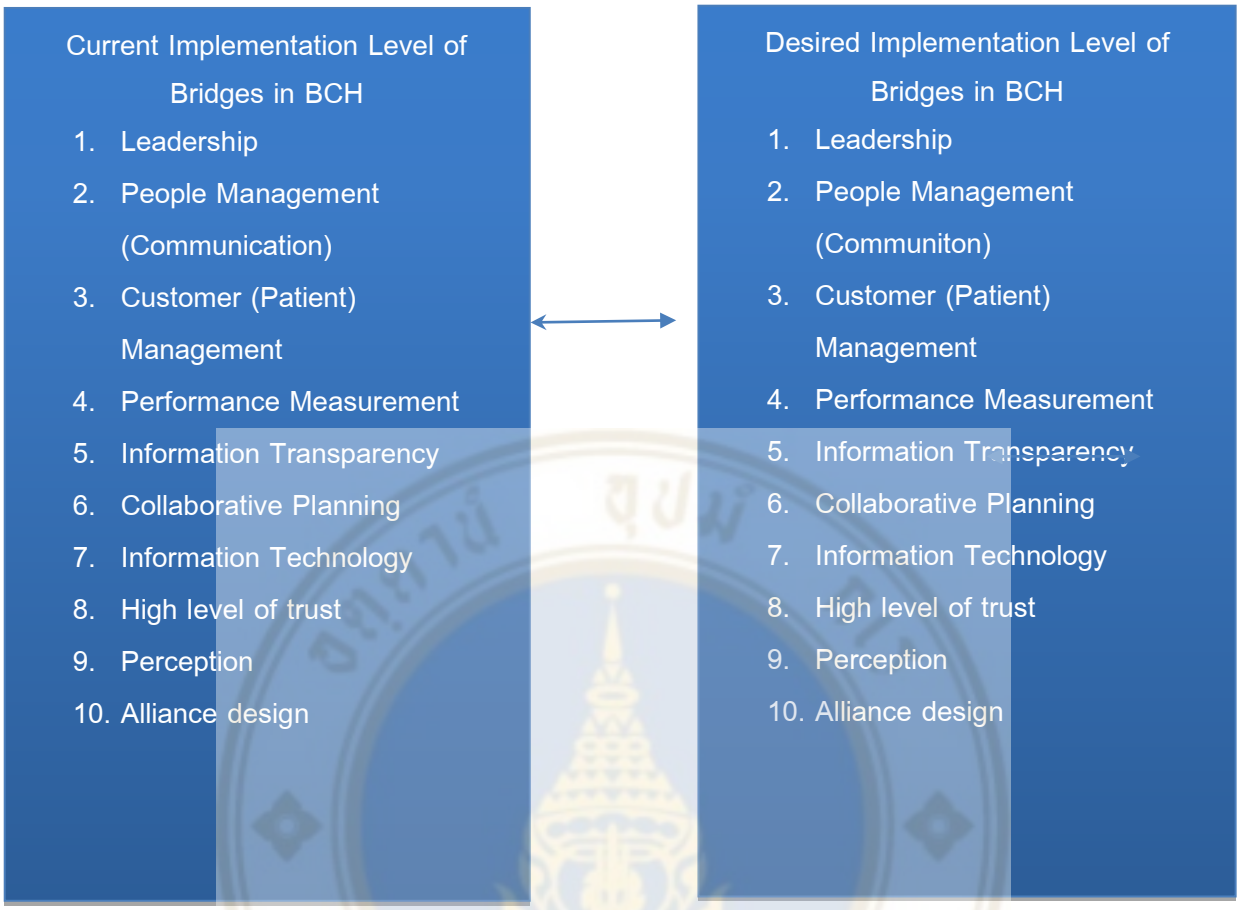

Figure 2.2 Conceptual frameworks for studying a perception current and desired bridges in supply chain management to improve procurement process in Bangkok Chain Hospital Plc (BCH).

2.7 Research Hypotheses

To examine the difference between means in the perception of desired and actual level toward each of bridge component implementations from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL (Hypothesis number 1-10)

H1: There is difference in mean between desired implementation level and current implementation level of trust of bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL.

H2: There is significant difference in mean between desired implementation level and current implementation level of collaborative planning of bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL.

H3: There is significant difference in mean between desired implementation level and current implementation level of information system of bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL.

H4: There is significant difference in mean between desired implementation level and current implementation level of information transparency of bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL.

H5: There is significant difference in mean between desired implementation level and current implementation level of people management(communication) of bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL.

H6: There is significant difference in mean between desired implementation level and current implementation level of perception management of bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL.

H7: There is significant difference in mean between desired implementation level and current implementation level of leadership of bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL.

H8: There is significant difference in mean between desired implementation level and current implementation level of alliance design (supplier management) of bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL.

H9: There is significant difference in mean between desired implementation level and current implementation level of Customer(patient) management of bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL.

H10: There is significant difference in mean between desired implementation level and current implementation level of performance measurement of bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL.

CHAPTER III

RESEARCH METHODOLOGY

This chapter describes the research methodology used in this study. The aim of this chapter is to illustrate the methods and techniques used collect and analyze the data. It includes research design, sample selection, research questionnaire, data collection and data analysis.

3.1 Research design

Research design is the framework or plan of research study, which is used in collecting and analyzing data by (Malhotra 2003). Generally, there are three types of research design: exploratory, descriptive, and causal research design.

This paper concentrates on descriptive research design, which can influence quantitative research designs. These type of research designs can lead the researcher to know and clearly understand the perspective of the perception of employees who are working in procurement department in Bangkok Chain Hospital public company limited. For studying factors that facilitate and barrier of an implementation of supply chain implementation in Bangkok Chain Hospital public company limited. By ranking these bridges and barriers, it is possible to identify the most important bridges and barriers within Bangkok Chain Hospital public company limited. Questionnaire will be used to gather information of barriers of supply chain management implementation in procurement process, desired level and current level of implementation of bridge to improve supply chain collaboration.

3.2 Sample Selection

The population for this research is all employees and staff members in procurement department in Bangkok Chain Hospital public company limited. The questionnaire would be distributed to all staff members in procurement department under 4 hospital brands of BCH company including World medical hospital, Kasemrad Hospital, Kasemrad International Hospital and Karunvej Hospital which is 100 people, who are required to fill in all information.

Table 3.1 Summary of all employees and staff members in procurement department in Bangkok Chain Hospital public company limited

Hospital /Position	**Head of Pharmacy**	**Head of General Goods**	**General staff**
1. World Medical Hospital			
1.1 Chaengwattana branch	1	1	5
2. Kasemrad Internation Hospital			
2.1 Rattanatibeth branch	1	1	5
3. Kasemrad Hospital			
3.1 Bangkae branch	1	1	5
3.2 Sriburin branch	1	1	5
3.3 Saraburi branch	1	1	5
3.4 Prachachuen branch	1	1	5
3.5 Rattanatibeth branch	1	1	5
3.6 Chachoengsao branch	1	1	5
4. Karunvej Hospital			
4.1 Sukhapiban 3 branch	1	1	3
4.2 Pathum Thani branch	1	1	3
4.3 Ayudhya branch			2
5. Central purchasing	1		31
Total	**11**	**10**	**79**

Therefore, the size of the sample, according to the total of sample size is 100 people which is equal to the total population size of this study.

3.3 Instrument & Measurement

3.3.1 Research Questionnaire

This A quantitative approach allows will be conducted by using mainly on primary method, which is questionnaire, to survey and investigate the key perspective on preference that facilitate a supply chain collaboration and barrier of an implementation of supply chain implementation in Bangkok Chain Hospital public company limited. A survey is developed from Supply Chain Management in the Healthcare sector (Bialas, Manthou and Stefanou 2014) and Supply Chain Management (Zygiaris 2000) to provide a tool to a systematically collect data from a sample representative of the target population. The researcher also add open-ended question to study on the Supply Chain Management in the Healthcare. Data was collected using paper- based questionnaires, the questionnaire consisted of 3 parts was developed and creating a question from a collected research from research textbooks, relevant research papers, research questions and define the scope and structure of the content, cover the objectives and assumptions of research to meet the criteria correctly from Supply Chain Management in the healthcare sector (Bialas, Manthou and Stefanou 2014) and Supply Chain Management (Zygiaris 2000).

The questionnaires have 3 parts and consist of 57 questions in total as follows:

Part I: Personal factors which include information about demographic age, gender, status, education level, position, average income and work experience.

In this part, it is to study and describe the demographic profiles of a respondents in term of age, gender, status, education, position, average income and work experience to use to be one part to analyze the data for Supply chain collaboration in Bangkok Chain Hospital public company limited

Part II: An employee's perspective on existing barriers of supply chain practice implementation in procurement process in Bangkok Chain Hospital Plc

Part III: Employee's perspective on a current and desired level of implementation of bridge to improve supply chain collaboration within Bangkok Chain Hospital Plc.

3.3.2 Measurement

In part I and part II in the questionnaire which ask about of barriers of supply chain management implementation in procurement process, desired level and current level of implementation of bridge to improve supply chain collaboration:

The most important factor (indicated as 1)	represented by five points.
A very important factor (indicated as 2)	represented by four points.
Moderate (indicated as 3)	represented by three points.
A less important factor (indicated as 4)	represented by two points.
The least important factor (indicated as 5)	represented by one point.

The summary section will gather as an average score of the comment and varied by average score range. By setting evaluation criteria at each level use the formula to calculate the width of the class as follows (Ketsing 1995):

Score = (highest score - lowest score) / score range

= (5 - 1) / 5

= 0.80

Conclusion of the criteria for the definition of points.

4.21 - 5.00	the most influential factor.
3.41 - 4.20	very influential factors.
2.61 - 3.40	moderate factors.
1.81 - 2.60	less influencing factors.
1.00 - 1.80	the least influential factor.

3.4 Reliability Analysis

Cronbach's alpha is the most commonly used measure of reliability (i.e., internal consistency). It was originally derived by Kuder and Richardson (1937) for

dichotomously scored data (0 or 1) and later generalized by Cronbach (1951) to account for any scoring method.

Strength of Reliability

Value	Strength of Reliability
0.90 to 1	Very Strong
0.80 to 0.89	Strong
0.60 to 0.79	Moderate
0.40 to 0.59	Moderate to Weak
0.20 to 0.39	Weak
0.00 to 0.19	Very weak (no relationship)

3.5 Data Collection

This research study has objectives to find perspective on preference that facilitate a supply chain collaboration and perspective on preference that barrier of an implementation of supply chain implementation in Bangkok Chain Hospital public company limited. The total of 100 questionnaires will be completed by distribute the questionnaire during department meeting which is the most important meeting that all staff members of BCH procurement departments has to attend on the second week of every month. All questionnaires have to be completed and sent back to research with in 5 days after distribution by hand on hand. This process will start at the second week of February 2018.

3.6 Data analysis

Statistical Package for Social Sciences (SPSS) and Microsoft excel will be used to analyze statistics (percentage, means, SD), cross tabulations to study the most impact factors for both barrier and bridge from the result gathering through the questionnaires and analyzed data descriptive respectively. The researcher has implemented the tools to analyze all data, both via descriptive statistics and by using

Pair Sample T-test to study the differences in means between various factors in this research paper, which are the perception of actual and desired level toward each of bridge component implementations from perspective of administrators in procurement department at Bangkok Chain Hospital PCL. Descriptive statistics in used with the data from part 1,2 and 3 while Pair Sample T-test analysis is used in the part 3 only as framework described, which has used the five-point Likert scale to rate the implementation level of bridges from 1 to 5, as represented by ‘strongly agree to strongly disagree. Therefore, researcher can come up with the posible solution to improve SCM in BCH.

CHAPTER IV

DATA ANALYSIS AND RESULTS

This chapter is an analysis for quantitative information. The sequence of this chapter will be as the follows,

4.1 Respondent Profiles for all procurement staffs in Bangkok Chain Hospital PCL.

4.2 Descriptive Statistic for barrier and bridge factors which includes maximum, minimum, mean and standard deviation.

4.3 The Quantitative Analysis in this study contains two parts; the first part is the reliability and the second part describe factors impacting Bridge factors in supply chain management.

4.1 Respondent Profiles

For a profile of procurements administers in Bangkok Chain Hospital PCL, all of staffs in procurement department are participated in this study. Most of them (83% of respondents) are female and only 17% is male. Nearly 50 percent were in the age group between 20-30 years old. and more than 90% of all respondents have an education higher than undergraduate. Half of them are single,50%, and 48% are married and main proportions of their salary are lower than 15,000 baht per month which is 32%, and 15,001-20,000 baht per month and 20,001-30,000 baht per month with the percentage of 31 and 22 respectively. For working experience in Bangkok Chain Hospital PCL, 27% of them have 0-1 years working experience, 40% of them have been working in Bangkok Chain Hospital PCL for 1-3 years, 19% of them have 3-5 years working experience and the rest are working in Bangkok Chain Hospital PCL for more than 5 years which consists of 79 procurement officers, and 21 department chiefs of Procurement.

Table 4.1 Summary of gender

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	17	17.0	17.0	17.0
	Female	83	83.0	83.0	100.0
	Total	100	100.0	100.0	

Table 4.2 Summary of age

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20-30	48	48.0	48.0	48.0
	31-40	30	30.0	30.0	78.0
	41-50	17	17.0	17.0	95.0
	51-60	4	4.0	4.0	99.0
	60+	1	1.0	1.0	100.0
	Total	100	100.0	100.0	

Table 4.3 Summary of education

Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Undergraduate	8	8.0	8.0	8.0
	Bachelor’s degree	80	80.0	80.0	88.0
	Master's degree	12	12.0	12.0	100.0
	Total	100	100.0	100.0	

Table 4.4 Summary of status

Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Single	50	50.0	50.0	50.0
	Married	48	48.0	48.0	98.0
	Divorced	2	2.0	2.0	100.0
	Total	100	100.0	100.0	

Table 4.5 Summary of position

Position

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Procurement officer	79	79.0	79.0	79.0
	Department Chief of Procurement	21	21.0	21.0	100.0
	Total	100	100.0	100.0	

Table 4.6 Summary of income

Income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Lower than 15,000	32	32.0	32.0	32.0
	15,001-20,000 baht	31	31.0	31.0	63.0
	20,001-30,000 baht	22	22.0	22.0	85.0
	30,001 – 50,000 baht	8	8.0	8.0	93.0
	50,001 – 100,000 baht	7	7.0	7.0	100.0
	Total	100	100.0	100.0	

Table 4.7 Summary of working experience

Working Experience

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Under 1 year	27	27.0	27.0	27.0
	1- 3 year	40	40.0	40.0	67.0
	More than 3 – 5 years	19	19.0	19.0	86.0
	More than 5 – 10 years	9	9.0	9.0	95.0
	More than 10 years	5	5.0	5.0	100.0
	Total	100	100.0	100.0	

4.2 Descriptive Statistic

4.2.1 Barriers of supply chain management implementation in procurement process

Table 4.8 Summary of barriers

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Lack of support from an organization	100	1.67	5.00	3.6667	.87745
Barrier from organization control	100	2.00	5.00	3.5650	.72004
Problem in SCM Framework	100	1.50	5.00	3.3700	.82149
Misalignment among SCM member	100	1.50	5.00	3.3350	.81124
Barrier at top management and organization level	100	1.00	5.00	3.1540	.76639
Valid N (listwise)	100				

From table 4.8, the barriers of supply chain practice implementation in procurement process in Bangkok Chain Hospital PCL which consists of 5 main factors as the follows by ranking from highest to lowest mean;

First barrier is a lack of support from an organization referring Lack of information technology resource, lack of training and Lack of communication throughout an organization, which has average mean at 3.667 points out of 5-point score.

Second barrier is a barrier from organization control referring lack of SCM performance measurement and lack of internal control for a key SCM action, which has average mean at 3.565 points out of 5-point score.

Third barrier is a problem in SCM Framework referring to a complexity level of SCM / SCM is difficult to understand and high requirement of trust among divisions in a firm which has average mean at 3.37 points out of 5-point score.

Forth barrier is a misalignment among SCM member referring to Lack of common goal between BCH and trading partner, Lack of relationship between BCH and suppliers, Lack of relationship between BCH and customers and Lack of

integration of information sharing which has average mean at 3.335 points out of 5-point score.

Fifth barrier is a barrier at top management and organization level referring to lack of SCM vision, lack of commitment, failure to identify key supply chain member and key process in SCM, poor SCM implementation plan and poor SCM design which has average mean at 3.154 points out of 5-point score.

In conclusion, the results indicate that all staffs perceive current barriers of supply chain practice implementation in procurement process in Bangkok Chain Hospital PCL at the moderate level, which is a good sign in order to overcome the barrier in procurement process in Bangkok Chain Hospital PCL.

4.2.2 Current level of implementation of bridge to improve supply chain collaboration

Table 4.9 Summary of current level of implementation of bridge

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Leadership	100	1.00	5.00	3.1200	1.03748
People Management (communication)	100	1.00	5.00	3.1000	1.09637
Customer (Patient) management	100	1.20	5.00	3.0640	.98878
Performance Measurement	100	1.00	5.00	3.0400	.96053
Information transparency	100	1.30	5.00	3.0240	.93129
Collaborative planning	100	1.00	4.80	2.9360	.81446
Information Technology	100	1.00	5.00	2.9200	1.12528
High level of trust	100	1.00	5.00	2.9150	.91302
Perception	100	1.00	5.00	2.9067	.91020
Alliance design	100	1.00	5.00	2.8900	.93900
Valid N (listwise)	100				

From table 4.9, the bridges in supply chain practice implementation in procurement process in Bangkok Chain Hospital PCL which consists of 10 main factors as the follows;

First is the leadership, which have the average means at 3.12 points out of 5-point score, which is a neutral level.

Second is the people management (communication), which have the average means at 3.1 points out of 5-point score, which is a neutral level.

Third is the customer (Patient) management, which have the average means at 3.064 points out of 5-point score, which is a neutral level.

Forth is the performance measurement, which have the average means at 3.04 points out of 5-point score, which is a neutral level.

Fifth is the information transparency, average means is 3.024 points out of 5-point score, which is a neutral level.

Sixth is the collaborative planning, average mean is 2.936 points out of 5-point score which is a neutral level.

Seventh is the Information Technology, which have the average means at 2.92 points out of 5-point score, which is a neutral level.

Eighth is the level of trust that is establishing a long-term relationship with supplier and long-term contract for key main products, average mean is 2.915 points out of 5-point score, which is a neutral level.

Ninth is the perception, average means is 2.9067 points out of 5-point score, which is a neutral level.

Last is the alliance design, which have the average means at 2.89 points out of 5-point score, which is a neutral level.

In conclusion, the results indicate that all staffs perceive current level of implementation of bridge to improve supply chain collaboration in procurement process in Bangkok chain hospital PCL at the moderate level. However, there are many solutions to improve the effectiveness of SCM through SCM bridges that will be presented chapter V.

4.3 The quantitative analysis

4.3.1 Reliability and validity testing

Table 4.10 Reliability testing

Case Processing Summary

		N	%
Cases	Valid	100	100.0
	Excluded[a]	0	.0
	Total	100	100.0

a. Listwise deletion based on all variables in the procedure.

Table 4.11 Cronbach's Alpha

Reliability Statistics

Cronbach's Alpha	N of Items
.978	84

From the data above, Cronbach's alpha of questionnaire for 100 administrators equals to 0.978, which consist of 84 Likert-scale questions. Nunnally and Bernstein (1994) stated that each research should have reliability values of 0.70 or higher; thus it means this scale is reliable.

4.3.2 Hypotheses testing

H1: There is difference in mean between desired implementation level and actual implementation level of trust of bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL.

Table 4.12 Paired samples statistic on level of trust

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	(Desired) BCH should establish a long-term relationship with supplier	3.6900	100	.66203	.06620
	(Actual) BCH should establish a long-term relationship with supplier	2.9300	100	.95616	.09562

Table 4.12 Paired samples statistic on level of trust(cont.)

Pair 2	(Desired) Long-term contract should be used with key main products	3.7500	100	.68718	.06872
	(Actual) Long-term contract should be used with key main products	2.9000	100	.90453	.09045

Table 4.13 Paired samples test on level of trust

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	(Desired) BCH should establish a long-term relationship with supplier - (Actual) BCH should establish a long-term relationship with supplier	.76000	.75371	.07537	-.90955	-.61045	-10.083	99	.000
Pair 2	(Desired) Long-term contract should be used with key main products - (Actual) Long-term contract should be used with key main products	.85000	.74366	.07437	-.99756	-.70244	-11.430	99	.000

A paired-samples *t*-test was conducted to evaluate whether there is difference in mean between desired implementation level and current implementation level of trust of Bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL. or not.

The results indicated that the mean for desired level of establishment a long-term relationship with supplier (M = 3.69) was significantly greater than the mean for current level of establishment a long-term relationship with supplier (M =

2.93), p = .000. The mean difference was 0.76 points between the two 5-point Likert ratings for current and desired level of establishment a long-term relationship with supplier.

Also, the results indicated that the mean for desired level using of long-term contract with key main products (M = 3.75) was significantly greater than the mean for current level of long-term contract with key main products (M = 2.90), p = .000. The mean difference was 0.85 points between the two 5-point Likert ratings for current and desired level of establishment a long-term relationship with supplier.

H2: There is significant difference in mean between desired implementation level and current implementation level of collaborative planning of bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL.

Table 4.14 Paired samples statistic on collaborative planning

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	(Desired) Suppliers should involves in solving problem, such as inventory shortage problem	3.7700	100	.72272	.07227
	(Actual) Suppliers should involves in solving problem, such as inventory shortage problem	3.0600	100	1.00323	.10032
Pair 2	(Desired) BCH should have to take part in product quality improvement of suppliers	3.7000	100	.70353	.07035
	(Actual) BCH should have to take part in product quality improvement of suppliers	2.9500	100	.90314	.09031

Table 4.14 Paired samples statistic on collaborative planning(cont.)

Pair 3	(Desired) BCH's continuous improvement program should include our key suppliers	3.5700	100	.67052	.06705
	(Actual) BCH's continuous improvement program should include our key suppliers	2.8800	100	.91320	.09132
Pair 4	(Desired) BCH's key suppliers should take part in our planning and goal-setting activities	3.6500	100	.65713	.06571
	(Actual) BCH's key suppliers should take part in our planning and goal-setting activities	2.9100	100	.91115	.09112
Pair 5	(Desired) BCH should take part in new product development process of key supplier	3.6300	100	.67652	.06765
	(Actual) BCH should take part in new product development process of key supplier	2.8800	100	.84423	.08442

Table 4.15 Paired samples test on collaborative planning

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	(Desired) Suppliers should involves in solving problem, such as inventory shortage problem - (Actual) Suppliers should involves in solving problem, such as inventory shortage problem	.71000	.83236	.08324	.87516	-.54484	-8.530	99	.000

Table 4.15 Paired samples test on collaborative planning(cont.)

Pair 2	(Desired) BCH should have to take part in product quality improvement of suppliers - (Actual) BCH should have to take part in product quality improvement of suppliers	.75000	.68718	.06872	-.88635	-.61365	-10.914	99	.000
Pair 3	(Desired) BCH's continuous improvement program should include our key suppliers - (Actual) BCH's continuous improvement program should include our key suppliers	.69000	.80019	.08002	-.84877	-.53123	-8.623	99	.000
Pair 4	(Desired) BCH's key suppliers should take part in our planning and goal-setting activities - (Actual) BCH's key suppliers should take part in our planning and goal-setting activities	.74000	.69078	.06908	-.87706	-.60294	-10.713	99	.000
Pair 5	(Desired) BCH should take part in new product development process of key supplier - (Actual) BCH should take part in new product development process of key supplier	.75000	.71598	.07160	-.89207	-.60793	-10.475	99	.000

A paired-samples *t*-test was conducted to evaluate whether there is difference in mean between desired implementation level and current implementation level of collaborative planning of Bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL.

First, the results indicated that the mean for desired level of suppliers should involve in solving problem (M = 3.77) was significantly greater than the mean for current level of suppliers should involves in solving problem (M = 3.06), p = .000. The mean difference was 0.71 points between the two 5-point Likert ratings for current and desired level of suppliers should involve in solving problem

Second, the results indicated that the mean for desired level of BCH should have to take part in product quality improvement of suppliers (M = 3.70) was significantly greater than the mean for current level of BCH should have to take part in product quality improvement of suppliers (M = 2.95), p = .000. The mean difference was 0.75 points between the two 5-point Likert ratings for current and desired level of BCH should have to take part in product quality improvement of suppliers.

Third, the results indicated that the mean for desired level of BCH's continuous improvement program's key suppliers should be included (M = 3.57) was significantly greater than the mean for current level of BCH should have to take part in product quality improvement of suppliers (M = 2.88), p = .000. The mean difference was 0.69 points between the two 5-point Likert ratings for current and desired level of BCH's continuous improvement program's key suppliers should be included.

Forth, the results indicated that the mean for desired level of BCH's key suppliers should take part in our planning and goal-setting activities (M = 3.65) was significantly greater than the mean for current level of BCH's key suppliers should take part in our planning and goal-setting activities (M = 2.91), p = .000. The mean difference was 0.74 points between the two 5-point Likert ratings for current and desired level of BCH's key suppliers should take part in our planning and goal-setting activities.

Lastly, the results indicated that the mean for desired level of BCH should take part in new product development process of key supplier (M = 3.63) was significantly greater than the mean for current level of BCH should take part in new product development process of key supplier (M = 2.88), p = .000. The mean

difference was 0.75 points between the two 5-point Likert ratings for current and desired level of BCH should take part in new product development process of key supplier.

H3: There is significant difference in mean between desired implementation level and current implementation level of information system of bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL.

Table 4.16 Paired samples statistic on information system

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	(Desired) Appropriate information technology resource should be applied within an organization	3.7300	100	.80221	.08022
	(Actual) Appropriate information technology resource should be applied within an organization	2.9200	100	1.12528	.11253

Table 4.17 Paired samples test on information system

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	(Desired) Appropriate information technology resource should be applied within an organization - (Actual) Appropriate information technology resource should be applied within an organization	.81000	.84918	.08492	-.97850	-.64150	-9.539	99	.000

A paired-samples *t*-test was conducted to evaluate whether there is difference in mean between desired implementation level and current implementation level of information system of Bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL. or not.

The results indicated that the mean for desired level of appropriate information technology resource should be applied within an organization (M = 3.73) was significantly greater than the mean for current level of appropriate information technology resource should be applied within an organization (M = 2.92), p = .000. The mean difference was 0.81 points between the two 5-point Likert ratings for current and desired level of appropriate information technology resource should be applied within an organization.

H4: There is significant difference in mean between desired implementation level and current implementation level of information transparency of bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL.

Table 4.18 Paired samples statistic on information transparency

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	(Desired) BCH should inform trading partners in advance of changing needs	3.6300	100	.69129	.06913
	(Actual) BCH should inform trading partners in advance of changing needs	3.0200	100	1.05390	.10539

Table 4.18 Paired samples statistic on information transparency(cont.)

Pair 2	(Desired) BCH's supplier trading partner should keep us fully informed about issue that affect our business	3.6600	100	.66999	.06700
	(Actual) BCH's supplier trading partner should keep us fully informed about issue that affect our business	3.0100	100	.99995	.09999
Pair 3	(Desired) BCH's trading partner should share a core business process information with us	3.5900	100	.73985	.07398
	(Actual) BCH's trading partner should share a core business process information with us	3.0000	100	1.00504	.10050
Pair 4	(Desired) There should be an exchange of information that helps establishment of business planning between trading partners and us	3.8800	100	.80754	.08075
	(Actual) There should be an exchange of information that helps establishment of business planning between trading partners and us	2.9400	100	.95155	.09516

Table 4.18 Paired samples statistic on information transparency(cont.)

Pair 5	(Desired) Trading partner should keep us informs about events or changes that may affect BCH	3.6400	100	.77225	.07722
	(Actual) Trading partner should keep us informs about events or changes that may affect BCH	2.9900	100	1.06832	.10683
Pair 6	(Desired) Information exchange between BCH and trading partners should be timely	3.6600	100	.75505	.07551
	(Actual) Information exchange between BCH and trading partners should be timely	3.0200	100	1.08227	.10823
Pair 7	(Desired) Information exchange between BCH and trading partners should be accurate.	3.7000	100	.78496	.07850
	(Actual) Information exchange between BCH and trading partners should be accurate.	3.0500	100	1.12254	.11225
Pair 8	(Desired) Information exchange between BCH and trading partners should be complete	3.7000	100	.74536	.07454
	(Actual) Information exchange between BCH and trading partners should be complete	3.0500	100	1.03840	.10384

Table 4.18 Paired samples statistic on information transparency(cont.)

Pair 9	(Desired) Information exchange between BCH and trading partners should be adequate	3.6700	100	.73930	.07393
	(Actual) Information exchange between BCH and trading partners should be adequate	3.0300	100	1.02942	.10294
Pair 10	(Desired) Information exchange between BCH and trading partners should be reliable	3.7500	100	.77035	.07703
	(Actual) Information exchange between BCH and trading partners should be reliable	3.1300	100	1.07923	.10792

Table 4.19 Paired samples test on information transparency

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	(Desired) BCH should inform trading partners in advance of changing needs - (Actual) BCH should inform trading partners in advance of changing needs	.61000	.77714	.07771	-.76420	-.45580	-7.849	99	.000

Table 4.19 Paired samples test on information transparency(cont.)

Pair 2	(Desired) BCH's supplier trading partner should keep us fully informed about issue that affect our business - (Actual) BCH's supplier trading partner should keep us fully informed about issue that affect our business	.65000	.86894	.08689	-.82242	-.47758	-7.480	99	.000
Pair 3	(Desired) BCH's trading partner should share a core business process information with us - (Actual) BCH's trading partner should share a core business process information with us	.59000	.81767	.08177	-.75224	-.42776	-7.216	99	.000
Pair 4	((Desired) There should be an exchange of information that helps establishment of business planning between trading partners and us & (Actual) There should be an effective communication system within an organization ion	.94000	1.03299	.10330	-1.14497	-.73503	-9.100	99	.000

Table 4.19 Paired samples test on information transparency(cont.)

Pair 5	(Desired) Trading partner should keep us informs about events or changes that may affect BCH - (Actual) Trading partner should keep us informs about events or changes that may affect BCH	.65000	.88048	.08805	-.82471	-.47529	-7.382	99	.000
Pair 6	(Desired) Information exchange between BCH and trading partners should be timely - (Actual) Information exchange between BCH and trading partners should be timely	.64000	.82290	.08229	-.80328	-.47672	-7.777	99	.000
Pair 7	(Desired) Information exchange between BCH and trading partners should be accurate. - (Actual) Information exchange between BCH and trading partners should be accurate.	.65000	.90314	.09031	-.82920	-.47080	-7.197	99	.000
Pair 8	(Desired) Information exchange between BCH and trading partners should be complete - (Actual) Information exchange between BCH and trading partners should be complete	.65000	.80873	.08087	-.81047	-.48953	-8.037	99	.000

Table 4.19 Paired samples test on information transparency(cont.)

Pair 9	(Desired) Information exchange between BCH and trading partners should be adequate - (Actual) Information exchange between BCH and trading partners should be adequate	.64000	.82290	.08229	-.80328	-.47672	-7.777	99	.000
Pair 10	(Desired) Information exchange between BCH and trading partners should be reliable - (Actual) Information exchange between BCH and trading partners should be reliable	.62000	.82609	.08261	-.78391	-.45609	-7.505	99	.000

A paired-samples *t*-test was conducted to evaluate whether there is difference in mean between desired implementation level and current implementation level of information transparency of Bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL. or not.

First, the results indicated that the mean for desired level of BCH should inform trading partners in advance of changing needs (M = 3.63) was significantly greater than the mean for current level of BCH should inform trading partners in advance of changing needs (M = 3.02), p = .000. The mean difference was 0.61 points between the two 5-point Likert ratings for current and desired level of suppliers should involve in solving problem.

Second, the results indicated that the mean for desired level of BCH's supplier trading partner should keep us fully informed about issue that affect our business (M = 3.66) was significantly greater than the mean for current level of BCH's supplier trading partner should keep us fully informed about issue that affect our business (M = 3.01), p = .000. The mean difference was 0.65 points between the two

5-point Likert ratings for current and desired level of BCH's supplier trading partner should keep us fully informed about issue that affect our business.

Third, the results indicated that the mean for desired level of BCH's trading partner should share a core business process information with BCH (M = 3.59) was significantly greater than the mean for current level of BCH's trading partner should share core business process information with BCH (M = 3.00), p = .000. The mean difference was 0.59 points between the two 5-point Likert ratings for current and desired level of BCH's trading partner should share core business process information with BCH.

Forth, the results indicated that the mean for desired level of information exchange that helps establishment of business planning between trading partners and BCH (M = 3.94) was significantly greater than the mean for current level of information exchange that helps establishment of business planning between trading partners and BCH (M = 2.88), p = .000. The mean difference was 0.94 points between the two 5-point Likert ratings for current and desired level of information exchange that helps establishment of business planning between trading partners and BCH.

Fifth, the results indicated that the mean for desired level of trading partner should keep us informs about events or changes that may affect BCH (M = 3.64) was significantly greater than the mean for current level of trading partner should keep us informs about events or changes that may affect BCH (M = 2.99), p = .000. The mean difference was 0.65 points between the two 5-point Likert ratings for current and desired level of trading partner should keep us informs about events or changes that may affect BCH.

Sixth, the results indicated that the mean for desired level of Information exchange between BCH and trading partners should be timely (M = 3.66) was significantly greater than the mean for current level of Information exchange between BCH and trading partners should be timely (M = 3.02), p = .000. The mean difference was 0.64 points between the two 5-point Likert ratings for current and desired level of Information exchange between BCH and trading partners should be timely.

Seventh, the results indicated that the mean for desired level of Information exchange between BCH and trading partners should be accurate (M = 3.70) was significantly greater than the mean for current level of Information

exchange between BCH and trading partners should be accurate (M = 3.05), p = .000. The mean difference was 0.65 points between the two 5-point Likert ratings for current and desired level of Information exchange between BCH and trading partners should be accurate.

Eighth, the results indicated that the mean for desired level of Information exchange between BCH and trading partners should be complete (M = 3.70) was significantly greater than the mean for current level of Information exchange between BCH and trading partners should be complete (M = 3.05), p = .000. The mean difference was 0.65 points between the two 5-point Likert ratings for current and desired level of Information exchange between BCH and trading partners should be complete.

Ninth, the results indicated that the mean for desired level of Information exchange between BCH and trading partners should be adequate (M = 3.67) was significantly greater than the mean for current level of Information exchange between BCH and trading partners should be adequate (M = 3.03), p = .000. The mean difference was 0.64 points between the two 5-point Likert ratings for current and desired level of Information exchange between BCH and trading partners should be adequate.

Lastly, the results indicated that the mean for desired level of Information exchange between BCH and trading partners should be reliable (M = 3.75) was significantly greater than the mean for current level of Information exchange between BCH and trading partners should be reliable (M = 3.13), p = .000. The mean difference was 0.62 points between the two 5-point Likert ratings for current and desired level of Information exchange between BCH and trading partners should be reliable.

H5: There is significant difference in mean between desired implementation level and current implementation level of people management(communication) of bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL.

Table 4.20 Paired samples statistic on people management (communication)

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	(Desired) There should be an effective communication system within an organization	3.8800	100	.80754	.08075
	(Actual) There should be an effective communication system within an organization	3.1000	100	1.09637	.10964

Table 4.21 Paired samples test on people management (communication)

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	(Desired) There should be an effective communication system within an organization - (Actual) There should be an effective communication system within an organization	.78000	.83581	.08358	-.94584	-.61416	-9.332	99	.000

A paired-samples *t*-test was conducted to evaluate whether there is difference in mean between desired implementation level and current implementation level of people management (communication) of Bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL. or not.

First, the results indicated that the mean for desired level of effectiveness communication system within an organization (M = 3.88) was significantly greater than the mean for current level of effectiveness communication system within an organization (M = 3.10), p = .000. The mean difference was 0.78 points between the

two 5-point Likert ratings for current and desired level of effectiveness communication system within an organization.

H6: There is significant difference in mean between desired implementation level and current implementation level of perception management of bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL.

Table 4.22 Paired samples statistic on perception management

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	(Desired) Perception on relative advantage of supply chain practice should be created	3.6300	100	.74745	.07475
	(Actual) Perception on relative advantage of supply chain practice should be created	2.9300	100	.95616	.09562
Pair 2	(Desired) Perception on compatibility of the value of supply chain should be created	3.5400	100	.70238	.07024
	(Actual) Perception on compatibility of the value of supply chain should be created	2.9000	100	.92660	.09266
Pair 3	(Desired) Perception on complexity of supply chain implementation should be created	3.5400	100	.73057	.07306
	(Actual) Perception on complexity of supply chain implementation should be created	2.8900	100	.94168	.09417

Table 4.23 Paired samples test on perception management

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	(Desired) Perception on relative advantage of supply chain practice should be created - (Actual) Perception on relative advantage of supply chain practice should be created	.70000	.82266	.08227	-.86323	-.53677	-8.509	99	.000
Pair 2	(Desired) Perception on compatibility of the value of supply chain should be created - (Actual) Perception on compatibility of the value of supply chain should be created	.64000	.79798	.07980	-.79834	-.48166	-8.020	99	.000
Pair 3	(Desired) Perception on complexity of supply chain implementation should be created - (Actual) Perception on complexity of supply chain implementation should be created	.65000	.80873	.08087	-.81047	-.48953	-8.037	99	.000

A paired-samples *t*-test was conducted to evaluate whether there is difference in mean between desired implementation level and current implementation level of perception management of Bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL. or not.

First, the results indicated that the mean for desired level of perception on relative advantage of supply chain practice should be created (M = 3.63) was significantly greater than the mean for current level of perception on relative

advantage of supply chain practice should be created (M = 2.93), p = .000. The mean difference was 0.70 points between the two 5-point Likert ratings for current and desired level of perception on relative advantage of supply chain practice should be created.

Second, the results indicated that the mean for desired level of perception on compatibility of the value of supply chain should be created (M = 3.54) was significantly greater than the mean for current level of perception on compatibility of the value of supply chain should be created (M = 2.90), p = .000. The mean difference was 0.64 points between the two 5-point Likert ratings for current and desired level of perception on compatibility of the value of supply chain should be created.

Third, the results indicated that the mean for desired level of perception on complexity of supply chain implementation should be created (M = 3.54) was significantly greater than the mean for current level of perception on complexity of supply chain implementation should be created (M = 2.89), p = .000. The mean difference was 0.65 points between the two 5-point Likert ratings for current and desired level of perception on complexity of supply chain implementation should be created.

H7: There is significant difference in mean between desired implementation level and current implementation level of leadership of bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL.

Table 4.24 Paired samples statistic on leadership

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	(Desired) Leadership should apply at all level And empowerment organizational structure is executed within procurement department.	3.7700	100	.80221	.08022

Table 4.24 Paired samples statistic on leadership(cont.)

(Actual) Leadership should apply at all level And empowerment organizational structure is executed within procurement department.	3.1200	100	1.03748	.10375

Table 4.25 Paired samples test on leadership

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	(Desired) Leadership should apply at all level and empowerment organizational structure is executed within procurement department. - (Actual) Leadership should apply at all level and empowerment organizational structure is executed within procurement department.	.65000	1.01876	.10188	-.85214	-.44786	-6.380	99	.000

A paired-samples *t*-test was conducted to evaluate whether there is difference in mean between desired implementation level and current implementation level of leadership of Bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL. or not.

First, the results indicated that the mean for desired level of leadership should apply at all level and empowerment organizational structure is executed within procurement department (M = 3.77) was significantly greater than the mean for current level of leadership should apply at all level and empowerment organizational structure is executed within procurement department (M = 3.12), p = .000. The mean

difference was 0.65 points between the two 5-point Likert ratings for current and desired level of leadership should apply at all level and empowerment organizational structure is executed within procurement department.

H8: There is significant difference in mean between desired implementation level and current implementation level of alliance design (Supplier management) of bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL.

Table 4.26 Paired samples statistic on alliance design (Supplier management)

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	(Desired) There should be performance tracking within supplier organization for example lead time, cycle time and wasting time	3.5800	100	.74101	.07410
	(Actual) There should be performance tracking within supplier organization for example lead time, cycle time and wasting time	2.8900	100	1.14499	.11450
Pair 2	(Desired) BCH should frequently evaluate the formal and informal complaints from our customers	3.5700	100	.74203	.07420
	(Actual) BCH should frequently evaluate the formal and informal complaints from our customers	2.8100	100	1.00197	.10020

Table 4.26 Paired samples statistic on alliance design (Supplier management)(cont.)

Pair 3	(Desired) There should be a specific program for BCH to determine unique customer need	3.6600	100	.76831	.07683
	(Actual) There should be a specific program for BCH to determine unique customer need	2.9100	100	.93306	.09331
Pair 4	(Desired) Quality should be BCH major concern when selecting supplier	3.7300	100	.76350	.07635
	(Actual) Quality should be BCH major concern when selecting supplier	2.9500	100	.91425	.09143

Table 4.27 Paired samples test on alliance design (Supplier management)

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	(Desired) There should be performance tracking within supplier organization for example lead time, cycle time and wasting time - (Actual) There should be performance tracking within supplier organization for example lead time, cycle time and wasting time	.69000	.95023	.09502	-.87855	-.50145	-7.261	99	.000

Table 4.27 Paired samples test on alliance design (Supplier management)(cont.)

Pair 2	(Desired) BCH should frequently evaluate the formal and informal complaints from our customers - (Actual) BCH should frequently evaluate the formal and informal complaints from our customers	.76000	.93333	.09333	-.94519	-.57481	-8.143	99	.000
Pair 3	(Desired) There should be a specific program for BCH to determine unique customer need - (Actual) There should be a specific program for BCH to determine unique customer need	.75000	.80873	.08087	-.91047	-.58953	-9.274	99	.000
Pair 4	(Desired) Quality should be BCH major concern when selecting supplier - (Actual) Quality should be BCH major concern when selecting supplier	.78000	.77303	.07730	-.93339	-.62661	-10.090	99	.000

A paired-samples *t*-test was conducted to evaluate whether there is difference in mean between desired implementation level and current implementation level of alliance design of Bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL. or not.

First, the results indicated that the mean for desired level of performance tracking within supplier organization (M = 3.58) was significantly greater than the mean for current level of performance tracking within supplier organization (M = 2.98), p = .000. The mean difference was 0.69 points between the two 5-point Likert ratings for current and desired level of performance tracking within supplier organization.

Second, the results indicated that the mean for desired level of frequently evaluate the formal and informal complaints from customers (M = 3.57) was

significantly greater than the mean for current level of frequently evaluate the formal and informal complaints from customers (M = 2.81), p = .000. The mean difference was 0.76 points between the two 5-point Likert ratings for current and desired level of frequently evaluate the formal and informal complaints from customers.

Third, the results indicated that the mean for desired level of specific program for BCH to determine unique customer need (M = 3.66) was significantly greater than the mean for current level of specific program for BCH to determine unique customer need (M = 2.91), p = .000. The mean difference was 0.75 points between the two 5-point Likert ratings for current and desired level of specific program for BCH to determine unique customer need.

Lastly, the results indicated that the mean for desired level of major quality concern when selecting supplier (M = 3.73) was significantly greater than the mean for current level of major quality concern when selecting supplier (M = 2.95), p = .000. The mean difference was 0.78 points between the two 5-point Likert ratings for current and desired level of major quality concern when selecting supplier.

H9: There is significant difference in mean between desired implementation level and current implementation level of customer (Patient) management of bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL.

Table 4.28 Paired samples statistic on Customer (Patient) management

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	(Desired) Customers should take part in a setting of reliability, responsiveness, and other standard	3.6300	100	.73382	.07338

Table 4.28 Paired samples statistic on Customer (Patient) management(cont.)

	(Actual) Customers should take part in a setting of reliability, responsiveness, and other standard	2.9400	100	1.07139	.10714
Pair 2	(Desired) There should be an evaluation and measurement for customer satisfaction	3.7900	100	.76930	.07693
	(Actual) There should be an evaluation and measurement for customer satisfaction	3.1000	100	1.12367	.11237
Pair 3	(Desired) BCH should determine future customer expectation	3.7000	100	.71774	.07177
	(Actual) BCH should determine future customer expectation	3.0300	100	1.07736	.10774
Pair 4	(Desired) BCH should evaluate the importance of our relationship with our customers	3.7200	100	.65258	.06526
	(Actual) BCH should evaluate the importance of our relationship with our customers	3.0600	100	.97255	.09726
Pair 5	(Desired) Customer profile should be computerized in database	3.8400	100	.70668	.07067
	(Actual) Customer profile should be computerized in database	3.1900	100	1.00197	.10020

Table 4.29 Paired samples test on Customer (Patient) management

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	(Desired) Customers should take part in a setting of reliability, responsiveness, and other standard - (Actual) Customers should take part in a setting of reliability, responsiveness, and other standard	.69000	.96080	.09608	-.88064	-.49936	-7.182	99	.000
Pair 2	(Desired) There should be an evaluation and measurement for customer satisfaction - (Actual) There should be an evaluation and measurement for customer satisfaction	.69000	.84918	.08492	-.85850	-.52150	-8.125	99	.000
Pair 3	(Desired) BCH should determine future customer expectation - (Actual) BCH should determine future customer expectation	.67000	.91071	.09107	-.85070	-.48930	-7.357	99	.000
Pair 4	(Desired) BCH should evaluate the importance of our relationship with our customers - (Actual) BCH should evaluate the importance of our relationship with our customers	.66000	.75505	.07551	-.80982	-.51018	-8.741	99	.000

Table 4.29 Paired samples test on Customer (Patient) management(cont.)

Pair 5	(Desired) Customer profile should be computerized in database - (Actual) Customer profile should be computerized in database	.65000	.68718	.06872	-.78635	-.51365	-9.459	99	.000

A paired-samples *t*-test was conducted to evaluate whether there is difference in mean between desired implementation level and current implementation level of Customer (Patient) management of Bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL. or not.

First, the results indicated that the mean for desired level of customers take part in a setting of reliability, responsiveness, and other standard (M = 3.63) was significantly greater than the mean for current level of customers take part in a setting of reliability, responsiveness, and other standard (M = 2.94), p = .000. The mean difference was 0.69 points between the two 5-point Likert ratings for current and desired level of customers take part in a setting of reliability, responsiveness, and other standard.

Second, the results indicated that the mean for desired level of evaluation and measurement for customer satisfaction (M = 3.79) was significantly greater than the mean for current level of evaluation and measurement for customer satisfaction (M = 3.10), p = .000. The mean difference was 0.69 points between the two 5-point Likert ratings for current and desired level of evaluation and measurement for customer satisfaction.

Third, the results indicated that the mean for desired level of determination future customer expectation (M = 3.70) was significantly greater than the mean for current level of determination future customer expectation (M = 3.03), p = .000. The mean difference was 0.67 points between the two 5-point Likert ratings for current and desired level of determination future customer expectation.

Forth, the results indicated that the mean for desired level of evaluation the importance of relationship with customers (M = 3.72) was significantly greater than

the mean for current level of evaluation the importance of relationship with customers (M = 3.06), p = .000. The mean difference was 0.66 points between the two 5-point Likert ratings for current and desired level of evaluation the importance of relationship with customers.

Fifth, the results indicated that the mean for desired level of customer profile should be computerized in database (M = 3.84) was significantly greater than the mean for current level of customer profile should be computerized in database (M = 3.19), p = .000. The mean difference was 0.65 points between the two 5-point Likert ratings for current and desired level of customer profile should be computerized in database.

H10: There is significant difference in mean between desired implementation level and current implementation level of performance measurement of bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL.

Table 4.30 Paired samples statistic on performance measurement

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	(Desired) BCH shall use consistent measurement score as a KPI to measure outcome of SCM	3.6900	100	.69187	.06919
	(Actual) BCH shall use consistent measurement score as a KPI to measure outcome of SCM	3.0300	100	.98939	.09894
Pair 2	(Desired) Clear selection of KPI and measurement guidelines are provided to employees	3.8100	100	.70632	.07063
	(Actual) Clear selection of KPI and measurement guidelines are provided to employees	3.0500	100	.97830	.09783

Table 4.31 Paired samples test on performance measurement

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	(Desired) BCH shall use consistent measurement score as a KPI to measure outcome of SCM - (Actual) BCH shall use consistent measurement score as a KPI to measure outcome of SCM	.66000	.85540	.08554	-.82973	-.49027	-7.716	99	.000
Pair 2	(Desired) Clear selection of KPI and measurement guidelines are provided to employees - (Actual) Clear selection of KPI and measurement guidelines are provided to employees	-.76000	.78005	.07801	-.91478	-.60522	-9.743	99	.000

A paired-samples *t*-test was conducted to evaluate whether there is difference in mean between desired implementation level and current implementation level of performance measurement of Bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL. or not.

First, the results indicated that the mean for desired level of consistent measurement score as a KPI to measure outcome of SCM (M = 3.69) was significantly greater than the mean for current level of consistent measurement score as a KPI to measure outcome of SCM (M = 3.03), p = .000. The mean difference was 0.66 points between the two 5-point Likert ratings for current and desired level of consistent measurement score as a KPI to measure outcome.

Second, the results indicated that the mean for desired level of clear selection of KPI and measurement guidelines are provided to employees (M = 3.81) was significantly greater than the mean for current level of clear selection of KPI and measurement guidelines are provided to employees (M = 3.05), p = .000. The mean difference was 0.76 points between the two 5-point Likert ratings for current and desired level of clear selection of KPI and measurement guidelines are provided to employees.

Chapter V
Discussions, Conclusion and Recommendation

This chapter will conclude with a summary of all hypotheses testing mentioned in previous chapter. Recommendations and suggestions will be provided and further study will also be discussed in this chapter.

5.1 Conclusions and Discussion

The study in this research will be classified in to 2 parts, which are analyzing descriptive statistic and analysis and hypothesis testing. There are 4 main objectives in this research;

1. To study barrier of an implementation of supply chain implementation in Bangkok Chain Hospital public company limited.
2. To study factors that facilitate (bridge) a supply chain collaboration in Bangkok Chain Hospital public company limited.
3. To study the gap and the differences in means between the desired and current level of implemented bridges from the perception of employees who are working in procurement department in Bangkok Chain Hospital public company limited.
4. To provide recommendation for supply chain management improvement in Bangkok Chain Hospital public company limited from the perspective of administrator in procurement department.

According to the first 2 research objectives, which are to study factors that facilitate supply chain collaboration in Bangkok Chain Hospital public company limited and study barriers of an implementation of supply chain implementation in Bangkok Chain Hospital public company limited. We can conclude all in formation as the follow;

5.1.1 Barrier in Supply Chain Management

Table 5.1 Summary of top 5 barriers

Ranking	Barriers	Average Mean	Explanation
1	Lack of support from an organization	3.6667	Refer to lack of information technology resource, training and communication throughout an organization
2	Barrier from organization control	3.565	Refer to lack of SCM performance measurement and internal control for a key SCM action
3	Problem in SCM Framework	3.37	Refer to the complexity of SCM that is too difficult to understand and require high level of trust and cooperation among divisions in a firm
4	Misalignment among SCM member	3.335	Refer to lack of common goal between BCH and trading partner, suppliers and customers. Also, lacking of integration of information sharing
5	Barrier at top management and organization level	3.154	Refer to lack of SCM vision and commitment, the failure to identify key supply chain member and key process in SCM with poor SCM implementation plan and SCM design

For the barriers of supply chain practice implementation in procurement process in Bangkok Chain Hospital Plc., which are the factors, that pullback SCM process in BCH to achieve the best outcomes and results. The results from table 33, 1 of 5 barriers in SCM system from administrators 'opinions in procurement department can be ranked from highest to lowest as the follows; lack of support from an organization, Barrier from organization control, Problem In SCM Framework, Misalignment among SCM member and Barrier at top management and organization level which have the mean score 3.66, 3.56, 3.37, 3.33 and 3.15 respectively. As you can see the worst obstacle in staffs' opinions is lack of support from an organization which including 3 mains sub-factors; lack of information technology resource, lack of training and lack of communication throughout an organization.

For lacking of information technology resource, information technology is the most necessity resource this day and age, we cannot work without good software and database because nowadays the competitive level in world market is very high and information technology is one key factor to provide competitive advantage to the

company. IT systems play an important role in the supply chain because it helps companies collect and analyze information (Chopra and Meindl 2001). Govindan, et al. (2014) also classify technology as the first priority amongst barrier categories. In BCH, they have developed a module of system with partner to support procurement system only, it is called "SSB software" in this software there is a module for purchasing for example for procurement process. BCH is mostly a paperless organization for example if marketing department requests something, marketing department has to create purchase request or we called "PR" then the authorize process will be run from the bottom level to top level, staff in the department will create PR form then this form will go to marketing manager to approve in the software after that this form will go to department director to approve if the former level does not approve the next level cannot see that PR form. Once all PR processes have done, purchasing department will see the order then purchasing department will create purchase order form or "PO" to send to supplier via Email without any paper, on the other hand all stock inventories will manage through this software as well for receiving, redeeming and using this is to provide the best working environment for all staffs in the department to learn and use this software. But there are some current problems in BCH procurement software due to the difference in version of software that makes data cannot sync to each branch completely. It created the problem of information sharing between branches of BCH hospitals as Burns (2002) who cited the lack of standardized codes as an implementation barrier. Thus, management team has planned to buy data center sever to collect all data and activities of procurement that will let BCH to be the center to share procurement activities and data to needed branches. Results for this section appear to be consistent with those who documented that information sharing is a barrier for implementation (Burns 2002; Marquez, Bianchi and Gupta 2004)

Education and training on SCM represents a key factor for implementation success (Fawcett and Magnan 2001), without training and clear job description, staff cannot know what is right what is wrong to do that why training course is very necessary for new staff who are coming to procurement department. BCH is focusing on cost leadership then the training course mostly is using on the job training but sometime different version of software does not have exact way to use, on the job

training will make staffs knows only on what software he/she is trained then once some branches have immediate resignation from many staff, BCH cannot switch staffs from other branch to fill the mission position in other branches right away because they cannot use the different version of software then they have to train how to use the new software as well that consumes a lot of time. Ravi and Shankar (2005) also emphasized that training and education are crucial requirements to achieve successful implementation of SCM practices in any organization. As Fawcett and Magnan (2001) highlighted, supply chain education and training is one of the singular requirements for implementation success.

The last factor of lack of support from an organization is lack of communication throughout an organization. This is also the most facilitated factor in bridges that all staffs think if company has a good internal communication, it will help to improve workflow and performance. The main problem in BCH Center procurement is sharing information between branches to branches, branches to BCH center because they do not see the important or sometime there are communications for example distance, software and so on. There are the regulation that when they want to buy some product, at least 3 venders have to be compared to get the best one, sometime some branch sends requests to BCH center to buy some product then BCH try to find 3 venders to compare the price but the branch is doing the same thing trying to find 3 vender because they do not understand the flow once they send requests to BCH, BCH will do price comparison. This is one example caused from miscommunication problem and waste time to do duplicated task. Thus, clear communication is essential to building trust between supply chain management personnel and healthcare professionals as well as avoiding redundancies and other consequences of miscommunication (McGinnis, Stark and O'Leesky 2005). Without good communication, it is very hard to achieve what they want. Unwillingness to share information, lack of trust among supply chain partners are barrier within the organization (Gorane and Kant 2015).

Barrier from organization control is one main barrier that all staffs would like to overcome and improve which consists of lack of SCM performance measurement and lack of internal control for a key SCM action, in order to get the best result in SCM, we should have the starting point clear first. The measurement of the

effectiveness of SCM or KPI has to be clear which have the same understanding in the department that will lead to the method to improve each KPI in SCM then we can set the key action plan that will improve overall SCM process. However, there are barriers to SCM in health care, such as a lack of executive support, misaligned or conflicting incentive, need for data collection and performance measurement, limited education on supply chain, and inconsistent relationships with group purchasing organizations and other supply chain partners (Mckons-Sweet, Hamilton and Wills 2005). Beaman (1999) also identified three types of performance measures as necessary components in any supply chain performance measurement system: Resource measures, output measures, and flexibility measures. Currently, BCH does not have master KPI and all branches have their own KPI then the performance measurement in each branch are different and some are not updated. This year BCH has planned to master KPI to solve this problem.

The last top-three barrier is problem In SCM Framework, refers to complexity of SCM. The healthcare supply chain is vast, diverse, and complex which presents many challenges to effective management. (Smith 2011). SCM is difficult to understand and high requirement of trust among divisions in a firm. In the healthcare sector, the supply chain can be defined as a complex system that requires the flow of products, and services in order to satisfy the needs of those who serve patients (Schneller, Eugene and Smeltzer 2006). Sometimes, not all staffs are completely understand what is the direction of the company and also a clear concept of SCM, it is might happens because some staffs, they focus just only on their routine job and resist to improve or understand the whole picture perhaps SCM is too difficult or they do not see the benefit of better SCM. Also, other departments, they do not see the benefit and understand what SCM is then lacking of cooperation from other department is occurred that is the barrier to prevent company to achieve the best outcomes of SCM. The lack of knowledge of SCM among supply chain stakeholders is seen as one of the greatest barriers to the implementation of GSCM. It involves a lack of experience and the feeling of ‘too complex’ to implement (Balasubramanian 2012).

5.1.2 Bridges in Supply Chain Management

Table 5.2 Summary of top 3 bridges

Top 3 Bridges	
Ranking	**Bridges**
1	Leadership
2	People Management(communication)
3	Customer (Patient) management

For the implementation of bridge to improve supply chain collaboration which are the factors that help to facilitate the SCM system in BCH to improve overall performance and outcome, the result from Table 35 indicates that 10 bridges factor can be ranked by average mean value starting from the highest to the lowest included leadership, people management(communication)and customer (patient) management, performance measurement, information transparency, collaborative planning, information technology, high level of trust, perception and alliance design.

The top 3 bridge factors that will facilitate supply chain collaboration in Bangkok Chain Hospital public company limited from the perspective of all administrators in procurement department are leadership, people management (communication) and Customer (Patient) management which have an average mean 3.12, 3.1 and 3.064 respectively from Table 34. From this result, researcher is not surprise why leadership was came up in the first rank because leadership refers to empowerment within organization. Empowerment is a philosophy which believes in enriching people's jobs and giving power to exercise control over and take responsibility for outcomes of efforts (Venkat Ratnam 2006), the executives must ensure that employees having the right mix of information, knowledge, power and rewards to work more enthusiastically (Singh 2003). Empowerment was considered a management technique used to motivate employees by delegating or sharing of power with them (Kanter 1983). It was reflected in sharing power of those staff members who were given power more likely to achieve the desired outcomes (Conger and Kanungo 1988). In BCH's procurement department, there is a clear hierarchy and empowerment structure because it will help in decision-making process for example less time consumption, prevent bottleneck and faster response. Before having clear

hierarchy and empowerment structure, every purchase order and quotation has to be approved by purchasing director only and one order, it took at least 1 week to complete. Since 2015, in purchasing department we have new approval structure by using total value of the order to be a criterion for example not over 20,000 baht will be approved by head of department, not over 50,000 baht will be approved by procurement manager and over 50,000 baht will be approved by director and more than that has to go to CEO. From this solution, it solved bottleneck problem that was a big problem in procurement department.

For people management (communication) that comes up in the 2nd place refers to an effective communication system within an organization, the more communication the more understanding, not only in verbal but also in written form as well. Effective communication can enhance organizational outcomes (Garnett, Marlowe and Pandey 2008; Pandey and Garnett 2006) and it is frequently expected to share information with members, to coordinate activities, to reduce unnecessary managerial burdens and, rules and ultimately to improve organizational performance (Rho 2009). In BCH, there is a very good documentary flow and also have a template for project approval, once the document is finished and get an approval completed. All staffs can understand easily because they have train to be write and read BCH templates before starting working. Moreover, in procurement department, they have regular department meeting to communicate the progress of their works once a week.

For the last top-three ones is Customer(patient) management by using customer management that is a systemic managerial process for creating, maintaining, and developing relationships with customers in every position in order to maximize relationship (Richards and Jones 2008), it refers to the customer involvement in SCM of the company including setting of reliability, responsiveness, and other standard of SCM. Also, the clear evaluation and measurement for customer satisfaction process that will lead to determine future customer expectation with the help of software that can be computerized customer's profile in database. For this bridge, in BCH cannot have enough process with Customer (Patient) management to involve in SCM yet because sometime, some information is quite confidential because it is about the patient's right law in Thailand and the process how customer will be a part of SCM process is not clear that why this bridge is not fully implemented in BCH yet but all

staff think that if the end user comes to be the part of SCM design, it will be easier to predict what they need which gives many benefit for example we can choose the product to order easier, maximize customer satisfaction. All above information is the top three bridges that BCH should be focus in order to improve SCM process and system in the company from staffs' opinion who are working in procurement department.

Table 5.3 Summary of bridges

Ranking	**Bridge**	**Average Mean**	**Explanation**
1	Leadership	3.12	Refer to leadership should applied at all level and empowerment organizational structure is executed within procurement department.
2	People Management (communication)	3.1	Refer to an effective communication system within an organization
3	Customer (Patient) management	3.064	Refer to customers should take part in a setting of reliability, responsiveness, and other standard, set an evaluation and measurement for customer satisfaction, determine future customer expectation, evaluation of the importance of our relationship with customers and create customer profile in database
4	Performance Measurement	3.04	Refer to a consistent measurement score as a KPI to measure outcome of SCM and clear selection of KPI and measurement guidelines are provided to employees
5	Information transparency	3.024	Refer to a trading partner should keep us informs about events or changes that may affect BCH and information exchange between BCH and trading partners should be timely, accurate, complete, adequate and reliable. BCH should inform trading partners in advance of changing needs and issue that affect our business. Also, BCH's trading partner should share a core business process information that helps establishment of business planning between trading partners and BCH

Table 5.3 Summary of bridges(cont.)

6	Collaborative planning	2.936	Refer to the corroboration level with keys supplier in solving problem, product quality improvement, continuous improvement program, planning and goal-setting activities and new product development process
7	Information Technology	2.92	Refer to an appropriate information technology resource should be applied within an organization
8	High level of trust	2.915	Refer to the level of a long-term relationship with supplier and long-term contract should be used with key main products
9	Perception	2.9067	Refer to a perception on relative advantage of supply chain practice should be created, on compatibility of the value of supply chain should be created and on complexity of supply chain implementation should be created
10	Alliance design	2.89	Refer to a performance tracking within supplier organization for example lead-time, cycle time and wasting time and the evaluation the formal and informal complaints from customers. The specific program for BCH to determine unique customer need and the quality concern when selecting supplier

5.1.3 Perception of the desired and current level of implemented SCM bridges

To study the gap and the differences in means between the desired and current level of implemented bridges from the perception of employees who are working in procurement department in Bangkok Chain Hospital public company limited. As the results to answer these objective is shown below;

Table 5.4 Summary of Gap

Ranking	Bridge	Details	P-Value	Gap
1	**Information System**	Appropriate information technology resource should be applied within an organization	0.00	0.81

Table 5.4 Summary of Gap(cont.)

2	**High level of trust**	BCH should establish a long-term relationship with supplier	0.00	0.76
		Long-term contract should be used with key main products	0.00	0.85
		Average		**0.805**
3	**People Management (communication)**	There should be an effective communication system within an organization	0.00	0.78
4	**Alliance design**	There should be performance tracking within supplier organization for example lead time, cycle time and wasting time	0.00	0.69
		BCH should frequently evaluate the formal and informal complaints from our customers	0.00	0.76
		There should be a specific program for BCH to determine unique customer need	0.00	0.75
		Quality should be BCH major concern when selecting supplier	0.00	0.78
		Average		**0.745**
5	**Collaborative planning**	Suppliers should involves in solving problem, such as inventory shortage problem	0.00	0.71
		BCH should have to take part in product quality improvement of suppliers	0.00	0.75
		BCH's continuous improvement program should include our key suppliers	0.00	0.69
		BCH's key suppliers should take part in our planning and goal-setting activities	0.00	0.74
		BCH should take part in new product development process of key supplier	0.00	0.75
		Average		**0.728**
6	**Performance Measurement**	BCH shall use consistent measurement score as a KPI to measure outcome of SCM	0.00	0.66
		Clear selection of KPI and measurement guidelines are provided to employees	0.00	0.76
		Average		**0.71**
7	**Customer (Patient) management**	Customers should take part in a setting of reliability, responsiveness, and other standard	0.00	0.69
		There should be an evaluation and measurement for customer satisfaction	0.00	0.69
		BCH should determine future customer expectation	0.00	0.67
		BCH should evaluate the importance of our relationship with our customers	0.00	0.66
		Customer profile should be computerized in database	0.00	0.65
		Average		**0.672**

Table 5.4 Summary of Gap(cont.)

8	**Leadership**	Leadership should apply at all level and empowerment organizational structure is executed within procurement department.	0.00	0.65
9	**Communication and Information Management**	BCH should inform trading partners in advance of changing needs	0.00	0.61
		BCH's supplier trading partner should keep us fully informed about issue that affect our business	0.00	0.65
		BCH's trading partner should share a core business process information with us	0.00	0.59
		There should be an exchange of information that helps establishment of business planning between trading partners and us	0.00	0.94
		Trading partner should keep us informs about events or changes that may affect BCH	0.00	0.65
		Information exchange between BCH and trading partners should be timely	0.00	0.64
		Information exchange between BCH and trading partners should be accurate.	0.00	0.65
		Information exchange between BCH and trading partners should be complete	0.00	0.65
		Information exchange between BCH and trading partners should be adequate	0.00	0.64
		Information exchange between BCH and trading partners should be reliable	0.00	0.62
		Average		**0.664**
10	**Perception**	Perception on relative advantage of supply chain practice should be created	0.00	0.7
		Perception on compatibility of the value of supply chain should be created	0.00	0.64
		Perception on complexity of supply chain implementation should be created	0.00	0.65
		Average		**0.663**

All hypothesizes are supported, P-Value >0.05, which mean that the gap between perception of actual and desired level toward each of bridge component implementations from perspective of administrator in procurement department at Bangkok Chain Hospital PCL are significant different in mean.

By ranking from the biggest gap to the smallest gap, the result indicates that the mean between current implementation level and desired implementation level of information system of bridges has the highest gap by 0.81 point which have the current level at 2.92 points but all staffs thought that the desired level should be at 3.73 points out of 5 point score. For the explanation for this, it might cause from the

inadequate or good enough software for staff to perform their job or it is good but they thought that better information technology can help to reduce their complicated task in SCM.

For the 2nd highest mean gap in actual and desired level toward each of bridge component implementations is the level of trust, which has a gap between expectations, and actual at 0.805 point. This is referring to the trust and cooperation of internal, other departments, and external which is supplier. All staffs thought that the SCM can be improved if BCH pay attention on these 2 stakeholders because SCM cannot be succeeded by procurement department only. In order to have good cooperation from outside, 1 key factor is a clear performance indication because it will fair with both BCH and supplier because to gain the trust from both party, good performance has to be delivered from both party first then the clear performance indicator will give clear direction to perform what BCH want and get desired outcome. As it mentioned earlier for internal cooperation, BCH wants to succeed in SCM is mean that the waste in the internal process in BCH should be minimize and the waste comes from all departments and to improve SCM other departments should be involved and has to be educated for the benefit of SCM. One example when BCH wanted to be a paperless organization for procurement process in the past, all departments had to learn how to use a new procurement software and of course the resistance had occurred and need sometime to adapt new things.

For the 3rd factor in bridges that staffs want to improve is people management(communication), which is an effective communication within procurement department because the effective communication will help staffs to get thing done correctly without error and save the time to spend on their assigned tasks but sometime generation gap in procurement department created some problems because most of the staffs are Y-generation and the manager or director is baby-boomer generation then the way how top level communicate to all staffs may be miscommunication occurred.

For the 4th highest mean gap is alliance design, this is a performance tracking within supplier organization for example lead-time, cycle time and wasting time and the evaluation the formal and informal complaints from customers. Also, referring to the specific program for BCH to determine unique customer need and the

quality concern when selecting supplier. This help all staffs a lots in SCM process because if we evaluate our supplier by specific criteria from the needs of customer, it can help a lot because to put the right man in the right job is exactly same with choosing the right supplier will be helping in reduce many wastes for example the quality of product, lead time of delivery, process error and the most important term of payment will be better. BCH have the regulation to evaluate the performance of new and existing vender every year except monopoly product that BCH cannot compare price but for vender who does not pass performance evaluation, they will be terminated and find a new vender.

For the fifth factor of bridges that all staffs would like to improve according to the gap of current level and the desired level of implementation is collaborative planning which is about the corroboration level with keys supplier in solving problem, product quality improvement, continuous improvement program, planning, goal-setting activities and new product development process. The involvement and corroboration of key supplier will help BCH to customize the product to match with customer need better. Also, in case of problem solving and improving outcome to achieve BCH goal is easier. Currently, BCH have a meeting with key suppliers annually at the end of every year to plan and forecast the demand of their products for the new year also taking about occurred problem during the passing year that is in the planning and solving problem stage but for new product development process is quite rarely to happen because BCH is an user, most of products are for the ingredients for service then BCH usually buy a finished product not design and resell the product.

The sixth bridge that should be improved is performance measurement, in order to get the best outcome, the key indicator should be clear first because all staffs have to understand what are the thing that they have to achieve that they can focus without clear key indicator, they will do not know what aspect they need to improve. BCH have a master KPI for vender to evaluate their performance for example cycle time, lead-time but in the future BCH will have a Vender KPI lists for a each specific product for each venders.

The seventh factor is customer (patient) management because customer or patient is one stake holder in every business, if they take part in a setting of reliability,

responsiveness, and other standard, set an evaluation and measurement for customer satisfaction that will definitely increase customer satisfaction. Also, it will easier for staff and management team to determine future customer expectation by customer profile in BCH's database that why this come in the 7th place. In order to understand their need better, BCH has the team to do the survey regularly in order to increase patient satisfaction. First, the survey team in OPD, they will do the survey during patient waiting for doctor randomly, 400 patients at least per month. For IPD, 100% has to take the survey from survey team by calling after discharged within 24 hours.

For eighth factor of bridge, leadership is other one factor that can be improves the quality and effectiveness of SCM in BCH, the most important thing for leadership is an empowerment as it is mentioned earlier. BCH has redesigned authority person to match with all staffs responsibility that make things get done faster. This factor is fall into 8th place to improve because we have been improving this factor all the time until staff does not see this factor as a main issue in procurement department. For example, BCH set the authorized person to authorize and approve purchase order by using the value of the order to be a criteria, senior staff can approve order less than 20,000 baht, manager can approve order less than 50,000 baht and more than 50,000 baht has to go to director level and more than that has to go to CEO.

For the ninth factor of in bridges that staffs want to improve is communication and information management, which is mostly referring to the transparency of the information, which is the factor that BCH is doing great already because BCH is a listed company in Thailand's stock market, every information has to be audited and prove by third party that why the gap of expectation and current level is very close.

The last factor that has least mean gap between expectation and current level of bridges implementation in BCH procurement department is perception management. The perception of all staffs in the department of BCH procurement about the benefits and advantages of SCM should be created and perceived. Researcher think that this factor has the lowest gap due to every staff they already know SCM and their roles in SCM.

5.2 Recommendation

To answer the last objective, which is to find out the solution for Supply chain management improvement in BCH from the perspective of administrator in procurement department, the recommendations is the part to provide the possible solutions to improve SCM in BCH.

5.2.1 Recommendation to overcome the current barrier in BCH's Procurement Department

The first one is problem In SCM framework which is the complexity of SCM that staff feels it is too difficult to understand and require high level of trust and cooperation from other department in BCH. To solve this problem, workshop of this topic, SCM, should be held regularly for both within the procurement department and other departments to do the workshop together. It will make all staffs in BCH understand better what SCM is and create a unity in the organization. The training from the best practice branch to teach the poor performance branch is one of the best recommendation because knowledge of best practice will be transferred.

The second is the barrier at top management and organization level which is the least barrier in the staff's perception that refer to the lacking of SCM vision and commitment, failure to identify key supply chain member and key process in SCM with poor SCM implementation plan as well from the top management. This cannot be solved until the new generation of management team come but in BCH, top management always see the important of SCM management that why the mean score of this factor is the lowest one.

Third barrier is misalignment among SCM member, which means lacking of common goal between BCH and trading partner, suppliers and customers. Also, lacking of integration of information sharing among those party. This problem have occurred in BCH before, to solve this BCH set the meeting with all supplier and communicate the company vision and mission to all stake holders to understand the same goal with BCH. Also, BCH will do a regular bidding on general goods every 3-6 months and yearly for medicine and medical supply but for construction the bidding will be project by project for better information communication. Also, for customer

part, BCH communicate the vision and mission through the signet, website and social media for customer to easily access and understand what BCH is doing.

Forth barrier is barrier from organization control; it is about the lacking of SCM performance measurement and internal control for a key SCM action. Setting KPI for SCM effectiveness is very necessary for example on the dimension of time, price, error, claim and so on. Also master KPI for BCH center should be created and applied to all branches.

Fifth, Lacking of support from an organization in term of information technology resource, training and communication throughout an organization, this barrier can be fixed easily. For information technology resource, in BCH, they have a budget planning very end of each year. In order to get support for information technology resource, they have to set the budget and ask for director approval by showing the important of SCM then all staffs will get support definitely. For training and communication, BCH should create a training course for SCM and also hiring outside instructor to teach and update about new knowledge of SCM regularly and set the key person the be contact person with other department to get communicating better

5.2.2 Recommendation to improve the current bridge in BCH's Procurement Department

For the first one is the leadership in bridge, actually, BCH has been doing a great job on this. In procurement department, they have authorized hierarchy to empower to all staffs. Every staff has an authorize to approve or making a decision in their task immediately by using the value of that thing to be criteria for example senior staff can approve product value less than 20,000 baht, manager can approve the product value less than 50,000 baht, director less than 100,000 baht more than that has to go to CEO. This helps a lot to faster process, researcher suggests to improve this only the criteria should be revised every year for the suitable of the staff's responsibility.

The second bridge is people management (communication); this is one of main key success in SCM with emphasis on the effective communication system within an organization. In BCH procurement department has a regular meeting every

Monday to update all stuffs for all staffs but now Line application come to help and improve this bride a lot. All staffs are in the Line Group call “BCH Procurement”. If any updates come, all staffs will get update on time and effectively and also all meeting minute will be summarized via line for a clear communication system, then all staffs will not be confused what they have to do after meeting. Moreover, all task will be sent by Email and CC. All people who are involved that is other method to improve communication process.

The third bridge is customer (patient) management, BCH should have a survey team in order to get a information from real customer for satisfaction measurement, preference for future trend and so on. It can be everyday set the team to go to OPD and collect the data from customer, also from other department like pharmacy, nurse to get feedback from real user that will help procurement department to determine unique customer need and select the quality supplier but at least the sample size has to meet the minimum number of 10% of all number of patients per month.

Forth bridge is a performance measurement, to improve this as it is mentioned earlier. BCH should have clear KPI of SCM to give to all staffs but not only have a clear KPI. Management team should revise this KPI every year to make it effective and reliable. Master KPI should be implemented with organization because master KPI from BCH will avoid bias from their own KPI set by branches

Fifth bridge is information transparency; because BCH is a listed company all information must be audited with third party company but in order to improve this factor. The third-party company must be a well-known company to show high level of BCH information transparency level.

Sixth is collaborative planning, it is a corroboration level with keys supplier in solving problem, product quality improvement, continuous improvement program, planning and goal-setting activities and new product development process. We can enhance this bridge by setting a regular meeting with supplier and sharing information between each other and long-term contact can also be applied for new product development process. For some product is better to have long-term contract for example computer, printer, security service and cleaning service because BCH

have to hire this service in order to run business, long-term contract will provide the better price for BCH

Seventh, information system should be support staff to perform their task but sometime, it might expensive to buy the international software for procurement. In-house or local software is a good alternative choice for BCH. Center information will be implemented for the benefit of BCH for sharing information among their hospital chains.

Eighth, level of trust, in order to improve the relationship with key supplier for key product is quite important. By doing that the regular commination between BCH and supplier on the facing problem and development plan is must be communicated. More over to get the trust from supplier, BCH should give the attention on the punctual payment and order system should be customized to fit with BCH and supplier. In BCH, they have developed the automatic system to the stock of drug in pharmacy department, when some drug is going low and going to run out, the order will automatically sent to central procurement and once procurement department prove the order, order will be sent to vender automatically that is help BCH to save purchase order time and reduce error in operation and payment of BCH is always paid on time within 45 days because there is a KPI and audit team for this task.

Ninth, perception management; the perception on relative advantage of supply chain practice, compatibility of the value of supply chain and complexity of supply chain implementation should be created. This bridge can be enhance by setting course for staffs to study the SCM concept by external instructor to create a perception of employees about the value and advantage SCM implementation.

The last recommendation for alliance design, in this bridge, in order to improve the performance tracking within supplier organization for example lead-time, cycle time and wasting time and the evaluation the formal and informal complaints from customers should be implemented and must have a regular evaluation. Once supplier does not pass some criteria for example fail 3 times, BCH should terminate that supplier from the supplier list. It will help to improve alliance design in SCM. But sometime monopoly product cannot be terminated because there is no substitute then compromise is the better solution for BCH. For example, some product like unique vaccine for Dengue fever, there is only one supplier provide this product and the

product always shortage due to the huge demand from many hospitals, sometime vender cannot deliver vaccines on time but of BCH terminate this vender, it will create losses for BCH more than benefits then compromise is the better way to solve the problem.

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APPENDICES

Appendix A

Questionnaire for research paper: The study of barriers and bridges in supply chain management to improve procurement process in Bangkok Chain Hospital Plc.(BCH)

The questionnaire is a part of student research paper for Master of Management, International program in healthcare and wellness management, College of Management, Mahidol University. The objective of this questionnaire is to study an employee's opinion in procurement department in Bangkok Chain Hospital Plc. on issues involves supply chain management.
The questionnaire is divided into 3 parts. Each part contains a direction for completing the questionnaire. Please provide the most accurate answer. Your provided answer and information will be used for confidential and academic purpose only.

Part 1

General information of the answerer
Please tick ✓ the appropriate answer in ❒ or add your comments where relevant.

1. Gender
    1. ❒ Male 2. ❒ Female
2. Age
    1. ❒ 20 - 30 2. ❒ 31-40 3. ❒ 41-50
    4. ❒ 51-60 5. ❒ 60 +
3. Status
    1. ❒ Single 2. ❒ Married 3. ❒ Widow/divorced
4. Education level
    1. ❒ Undergraduate 2. ❒ Bachelor's degree
    3. ❒ Master's degree 4. ❒ Doctor's degree or higher

5. Position

1. ❒ Procurement officer
2. ❒ Department chief of Procurement

6. Average income per month

1. ❒ Lower than 15,000
2. ❒ 15,001-20,000 baht
3. ❒ 20,001-30,000 baht
4. ❒ 30,001 – 50,000 baht
5. ❒ 50,001 – 100,000 baht
6. ❒ More than 100,001 baht

7. Work experience in Bangkok Chain Hospital public company limited

1. ❒ Under 1 year
2. ❒ 1- 3 year
3. ❒ 3 – 5 years
4. ❒ 5 – 10 years
5. ❒ More than 10 years

Part 2

An employee's perspective on existing barriers of supply chain practice implementation in procurement process in Bangkok Chain Hospital Plc.

Question 1: To what extent do the following items act as current barriers in supply chain practice in procurement department in Bangkok Chain Hospital Plc.

Instruction

Please circle the appropriate number to indicate the extent to which level of importance of barriers of supply chain practice implementation in procurement process in Bangkok Chain Hospital Plc.

This item scales are five-point type scale with 1 = very low level of importance, 2 = low level of importance, 3 = moderate level of importance, 4 = high level of importance, 5 = very high level of importance

Barriers		Potential barriers				
		Very high degree of impact		Moderate degree of impact		Very low degree of impact
1	**Problem in SCM framework**					
1.1	- Complexity of SCM / SCM is difficult to understand	5	4	3	2	1
1.2	- High requirement of trust among divisions in a firm	5	4	3	2	1
2	**Barrier at top management and organization level**					
2.1	- Lack of SCM vision	5	4	3	2	1
2.2	- Lack of commitment	5	4	3	2	1
2.3	- Failure to identify key supply chain member and key process in SCM	5	4	3	2	1
2.4	- Poor SCM implementation plan	5	4	3	2	1
2.5	- Poor SCM design	5	4	3	2	1
3	**Misalignment among SCM member**					
3.1	- Lack of common goal between BCH and trading partner	5	4	3	2	1
3.2	- Lack of relationship between BCH and suppliers	5	4	3	2	1
3.3	- Lack of relationship between BCH and customers	5	4	3	2	1
3.4	- Lack of integration of information sharing	5	4	3	2	1
4	**Barrier from organization control**					
4.1	- Lack of SCM performance measurement	5	4	3	2	1
4.2	- Lack of internal control for a key SCM action	5	4	3	2	1

Barriers		Potential barriers				
		Very high degree of impact		Moderate degree of impact		Very low degree of impact
5	**Lack of support from an organization**					
5.1	- Lack of information technology resource	5	4	3	2	1
5.2	- Lack of training	5	4	3	2	1
5.3	- Lack of communication throughout an organization	5	4	3	2	1

Question 2: Are there any other barriers that might restrict an integration of supply chain management to an operation in the organization? If yes, please specify.

Part 3

Employee's perspective on a current and desired level of implementation of bridge to improve supply chain collaboration within Bangkok Chain Hospital Plc.

Please circle the appropriate number to indicate the extent to which current level of implementation of supply chain management bridge in supply chain management and also the desired level of implementation in the future for the most helpful bridge to facilitation the supply chain management system.

For current level of implementation, the item scales are five-point type scale with 1 = very low level of implementation, 2 = low level of implementation, 3 = moderate level of implementation, 4 = high level of implementation, 5 = very high level of implementation

For desired level of implementation in the future, the item scales are five-point type scale with 1 = very low level of facilitation, 2 = low level of facilitation, 3 = moderate level of facilitation, 4 = high level of facilitation, 5 = very high level of facilitation

		Level of current Implementation					Desired Level in the future				
		Very High		Moderate level		Very Low	Very High		Moderate level		Very Low
	Alignment mechanism										
1	High level of trust										
1.1	- BCH should establish a long-term relationship with supplier	5	4	3	2	1	5	4	3	2	1
1.2	- Long-term contract should be used with key main products	5	4	3	2	1	5	4	3	2	1
2	Collaborative planning										
2.1	- Suppliers should involves in solving problem, such as inventory shortage problem	5	4	3	2	1	5	4	3	2	1
2.2	- BCH should have to take part in product quality improvement of suppliers	5	4	3	2	1	5	4	3	2	1
2.3	- BCH's continuous improvement program should include our key suppliers	5	4	3	2	1	5	4	3	2	1
2.4	- BCH's key suppliers should take part in our planning and goal-setting activities	5	4	3	2	1	5	4	3	2	1
2.5	- BCH should take part in new product development process of key supplier	5	4	3	2	1	5	4	3	2	1

	Information system										
3	Information technology										
3.1	- Appropriate information technology resource should be applied within an organization	5	4	3	2	1	5	4	3	2	1
4	Information transparency										
4.1	- BCH should inform trading partners in advance of changing needs	5	4	3	2	1	5	4	3	2	1
4.2	- BCH's supplier trading partner should keep us fully informed about issue that affect our business	5	4	3	2	1	5	4	3	2	1
4.3	- BCH's trading partner should share a core business process information with us	5	4	3	2	1	5	4	3	2	1
4.4	- There should be an exchange of information that helps establishment of business planning between trading partners and us	5	4	3	2	1	5	4	3	2	1
4.5	- Trading partner should keep us informs about events or changes that may affect BCH	5	4	3	2	1	5	4	3	2	1
4.6	- Information exchange between BCH and trading partners should be timely	5	4	3	2	1	5	4	3	2	1
4.7	- Information exchange between BCH and trading partners should be accurate.	5	4	3	2	1	5	4	3	2	1
4.8	- Information exchange between BCH and trading partners should be complete	5	4	3	2	1	5	4	3	2	1
4.9	- Information exchange between BCH and trading partners should be adequate	5	4	3	2	1	5	4	3	2	1
4.1	- Information exchange between BCH and trading partners should be reliable	5	4	3	2	1	5	4	3	2	1
	People management										
5	Communication	5	4	3	2	1	5	4	3	2	1
5.1	- There should be an effective communication system within an organization	5	4	3	2	1	5	4	3	2	1
6	Perception										
6.1	- Perception on relative advantage of supply chain practice should be created	5	4	3	2	1	5	4	3	2	1
6.2	- Perception on compatibility of the value of supply chain should	5	4	3	2	1	5	4	3	2	1

	be created										
6.3	- Perception on complexity of supply chain implementation should be created	5	4	3	2	1	5	4	3	2	1
7	Leadership										
7.1	- Leadership should applied at all level And empowerment organizational structure is executed within procurement department.	5	4	3	2	1	5	4	3	2	1
	Alliance design										
8	Supplier management										
8.1	- There should be performance tracking within supplier organization for example lead time, cycle time and wasting time	5	4	3	2	1	5	4	3	2	1
8.2	- BCH should frequently evaluate the formal and informal complaints from our customers										
8.3	- There should be a specific program for BCH to determine unique customer need	5	4	3	2	1	5	4	3	2	1
8.4	- Quality should be BCH major concern when selecting supplier	5	4	3	2	1	5	4	3	2	1
9	Customer (Patient) management										
9.1	- Customers should take part in a setting of reliability, responsiveness, and other standard	5	4	3	2	1	5	4	3	2	1
9.2	- There should be an evaluation and measurement for customer satisfaction	5	4	3	2	1	5	4	3	2	1
9.3	- BCH should determine future customer expectation	5	4	3	2	1	5	4	3	2	1
9.4	- BCH should evaluate the importance of our relationship with our customers	5	4	3	2	1	5	4	3	2	1
9.5	- Customer profile should be computerized in database	5	4	3	2	1	5	4	3	2	1
	PERFORMANCE MEASUREMENT										
10	Use of SUPPLY CHAIN measures										
10.1	- BCH shall use consistent measurement score as a KPI to measure outcome of SCM	5	4	3	2	1	5	4	3	2	1
10.2	- Clear selection of KPI and measurement guidelines are provided to employees	5	4	3	2	1	5	4	3	2	1

Appendix B

แบบสอบถามสำหรับบทความวิจัย: การศึกษาอุปสรรค์และแนวทางที่มีส่วนช่วยอำนวยสะดวกในการปฏิบัติการด้านสายโซ่อุปทาน เ**พื่อการพัฒนาระบบจัดซื้อของบริษัท บางกอกเซน ฮอสปิทอล จำกัด(มหาชน)**

แบบสอบถามนี้ เป็นส่วนหนึ่งของการทำบทความวิจัยของนักศึกษาหลักสูตรการจัดการมหาบัณฑิต (สาขาการจัดการธุรกิจสุขภาพแบบองค์รวม วิทยาลัยการจัดการ มหาวิทยาลัยมหิดล) แบบสอบถามนี้มีวัตถุประสงค์เพื่อศึกษาระดับความคิดเห็นของพนักงานในแผนกจัดซื้อของบริษัท บางกอกเซน ฮอสปิทอล จำกัด(มหาชน)ในประเด็นที่เกี่ยวข้องกับการจัดการสายโซ่อุปทาน

แบบสอบถามจะแบ่งออกเป็น 3 ส่วน โดยในแต่ละส่วนจะมีคำแนะนำในการทำแบบสอบถาม กรุณาตอบตามความเป็นจริงมากที่สุด และคำตอบของคุณจะถูกเก็บไว้เป็นความลับและใช้ในทางวิชาการเท่านั้น

ส่วนที่ 1

ข้อมูลทั่วไปของผู้ตอบแบบสอบถาม

โปรดทำเครื่องหมาย ✓ ใน ❒ ตรงข้อความที่ต้องการตอบ

1. เพศ

    1. ❒ ชาย 2. ❒ หญิง

2. อายุ

    1. ❒ 20 - 30 2. ❒ 31-40 3. ❒ 41-50
    4. ❒ 51-60 5. ❒ 60 ขึ้นไป

3. สถานะ

    1. ❒ โสด 2. ❒ แต่งงาน 3. ❒ แม่หม้าย/หย่าร้าง

4. การศึกษา

1. ❒ ต่ำกว่าปริญญาตรี
2. ❒ ปริญญาตรี
3. ❒ ปริญญาโท
4. ❒ ปริญญาเอก

5. ตำแหน่ง

1. ❒ พนักงานจัดซื้อ
2. ❒ หัวหน้าหน่วยจัดซื้อขึ้นไป

6. รายได้

1. ❒ ต่ำกว่า 15,000 บาท
2. ❒ 15,001-20,000 บาท
3. ❒ 20,001-30,000 บาท
4. ❒ 30,001 – 50,000 บาท
5. ❒ 50,001 – 100,000 บาท
6. ❒ มากกว่า 100,001 บาท

7. ประสบการณ์ทำงานที่ บริษัท บางกอกเซน ฮอสปิทอล จำกัด(มหาชน)

1. ❒ ต่ำกว่า 1 ปี
2. ❒ 1- 3 ปี
3. ❒ 3 – 5 ปี
4. ❒ 5 – 10 ปี
5. ❒ มากกว่า 10 ปี

ส่วนที่ 2

มุมมองของพนักงานเกี่ยวกับอุปสรรคการนำเอาแนวปฏิบัติการจัดการห่วงโซ่อุปทาน(SCM)มาใช้ในแผนกจัดซื้อของบริษัท บางกอกเซน ฮอสปิทอล จำกัด(มหาชน)

คำถามที่ 1: รายการต่อไปนี้จะเป็นอุปสรรคมากน้อยเพียงใด จากการนำเอาแนวปฏิบัติด้านสายโซ่อุปทานมาใช้ในแผนกจัดซื้อของบริษัท บางกอกเซน ฮอสปิทอล จำกัด(มหาชน)

คำแนะนำ

กรุณาทำเครื่องหมายวงกลมลงบนตัวเลขที่เหมาะสมเพื่อระบุถึงระดับของความสำคัญของอุปสรรค จากการนำเอาการจัดการสายโซ่อุปทานมาใช้ในบริษัท บางกอกเซน ฮอสปิทอล จำกัด(มหาชน))

ระดับคะแนนของแต่ละรายการจะมีอยู่ 5 ระดับ โดย 1 หมายถึง มีความสำคัญอยู่ในระดับต่ำมาก, 2 หมายถึง มีความสำคัญอยู่ในระดับต่ำ, 3 หมายถึง มีความสำคัญอยู่ในระดับปานกลาง, 4 หมายถึง มีความสำคัญอยู่ในระดับต่ำสูง และ 5 หมายถึง มีความสำคัญอยู่ในระดับสูงมาก

อุปสรรค		ระดับของความสำคัญของอุปสรรค				
		ระดับสูงมาก		ระดับปานกลาง		ระดับต่ำมาก
1 ปัญหาด้านขอบข่ายงานของ SCM						
1.1	- ความซับซ้อนของ SCM / SCM ยากต่อการทำความเข้าใจ	5	4	3	2	1
1.2	- ต้องการความไว้วางใจระหว่างแต่ละส่วนงานในบริษัทสูง	5	4	3	2	1
2 อุปสรรคที่มีต่อผู้บริหารระดับสูงและในระดับองค์กร						
2.1	- ผู้บริหารระดับสูงขาดวิสัยทัศน์ด้าน SCM	5	4	3	2	1
2.2	- ผู้บริหารระดับสูงขาดความรับผิดชอบในการปรับใช้ SCMในองค์กร	5	4	3	2	1
2.3	- ผู้บริหารและพนักงานไม่สามารถระบุสมาชิกหลักของสายโซ่อุปทานและกระบวนการหลักใน SCM ได้	5	4	3	2	1
2.4	- แผนในการดำเนินการ SCM ที่ไม่มีประสิทธิภาพ	5	4	3	2	1
2.5	- การออกแบบกระบวนการ SCM ที่ไม่มีประสิทธิภาพ	5	4	3	2	1
3 ความขัดแย้งทางด้านความคิดเห็นและมุมมองของผู้มีส่วนร่วมใน SCM						
3.1	- ขาดเป้าหมายร่วมกันระหว่างโรงพยาบาลและบริษัทคู่ค้า	5	4	3	2	1
3.2	- ขาดความสัมพันธ์อันดีระหว่างโรงพยาบาลและผู้ผลิตสินค้า	5	4	3	2	1
3.3	- ขาดความสัมพันธ์อันดีระหว่างโรงพยาบาลและลูกค้า	5	4	3	2	1
3.4	- ขาดการสร้างระบบการแบ่งปันข้อมูล	5	4	3	2	1
4 อุปสรรคที่เกิดจากระบบการควบคุมขององค์กร						
4.1	- ขาดการวัดผลการดำเนินงานในมิติของ SCM	5	4	3	2	1
4.2	- ขาดการควบคุมภายในสำหรับกิจกรรมที่เกี่ยวข้องกับ SCM	5	4	3	2	1
5 การไม่ได้รับการสนับสนุนจากองค์กร						
5.1	- ขาดทรัพยากรที่ใช้ในการสนับสนุนระบบข้อมูลสารสนเทศ	5	4	3	2	1

5.2	- ขาดการฝึกอบรม	5	4	3	2	1
5.3	- ขาดการสื่อสารตลอดทั่วทั้งองค์กร	5	4	3	2	1

คำถามที่ 2: มีอุปสรรคอย่างอื่นหรือไม่ ที่อาจสร้างข้อจำกัดให้กับการบูรณาการการจัดการสายโซ่อุปทานเข้ากับการดำเนินงานในองค์กร ถ้ามีกรุณาระบุรายละเอียด

ส่วนที่ 3

มุมมองของพนักงานต่อแนวทางที่มีส่วนช่วยอำนวยสะดวกในการปฏิบัติการด้านสายโซ่อุปทาน(SCM) ในกระบวนการจัดซื้อปัจจุบัน และ ระดับที่พนักงานคาดหวังในการพัฒนาแนวทางที่มีส่วนช่วยอำนวยสะดวกในการปฏิบัติการด้านสายโซ่อุปทาน(SCM) ในกระบวนการจัดซื้อในอนาคตที่ส่งผลต่อการพัฒนาสูงสุดของบริษัท บางกอกเชน ฮอสปิทอล จำกัด(มหาชน)

กรุณาทำเครื่องหมายวงกลมลงบนตัวเลขที่เหมาะสมเพื่อระบุว่า แนวทางใดสามารถช่วยสนับสนุนการปรับใช้การจัดการสายโซ่อุปทานในกระบวนการจัดซื้อของบริษัท บางกอกเชน ฮอสปิทอล จำกัด(มหาชน) ทั้งในปัจจุบัน และอนาคต ระดับคะแนนของแต่ละรายการจะมีอยู่ 5 ระดับ โดย 1 หมายถึง มีความสำคัญอยู่ในระดับต่ำมาก, 2 หมายถึง มีความสำคัญอยู่ในระดับต่ำ, 3 หมายถึง มีความสำคัญอยู่ในระดับปานกลาง, 4 หมายถึง มีความสำคัญอยู่ในระดับต่ำสูง และ 5 หมายถึง มีความสำคัญอยู่ในระดับสูงมาก

	แนวทางที่มีส่วนช่วยอำนวยสะดวกในการปฏิบัติการด้านสายโซ่อุปทาน	**ระดับแนวทางที่มีส่วนช่วยอำนวยความสะดวกในปัจจุบัน**					**ระดับความคาดหวังในการพัฒนาแนวทางที่มีส่วนช่วยอำนวยความสะดวกในอนาคต**				
		ระดับสูงมาก		ระดับปานกลาง		ระดับต่ำมาก	ระดับสูงมาก		ระดับ ปานกลาง		ระดับต่ำมาก
	กลไกในการปรับทิศทางการดำเนินงานของผู้มีส่วนร่วมใน SCM ให้เป็นไปในทิศทางเดียวกัน										

1 **ความไว้วางใจในระดับสูง**											
1.1	โรงพยาบาลควรที่จะสร้างความสัมพันธ์ระยะยาวกับผู้ผลิต	5	4	3	2	1	5	4	3	2	1
1.2	โรงพยาบาลควรทำสัญญาการซื้อขายในระยะยาวสำหรับสินค้าที่สำคัญ	5	4	3	2	1	5	4	3	2	1
2 **การร่วมกันวางแผน**											
2.1	ผู้ผลิตควรจะมีส่วนในการแก้ปัญหา เช่น ปัญหาสินค้าคงคลังขาดแคลน	5	4	3	2	1	5	4	3	2	1
2.2	โรงพยาบาลควรจะต้องมีส่วนในการปรับปรุงคุณภาพของสินค้าจากผู้ผลิต	5	4	3	2	1	5	4	3	2	1
2.3	แผนการพัฒนาปรับปรุงอย่างต่อเนื่องของโรงพยาบาลจะต้องมีผู้ผลิตหลักรวมอยู่ด้วย	5	4	3	2	1	5	4	3	2	1
2.4	ผู้ผลิตหลักของโรงพยาบาลควรที่จะมีส่วนในการวางแผนและกิจกรรมการกำหนดเป้าหมาย	5	4	3	2	1	5	4	3	2	1
2.5	โรงพยาบาลควรจะมีส่วนในกระบวนการพัฒนาสินค้าใหม่ๆของผู้ผลิตหลัก	5	4	3	2	1	5	4	3	2	1
	ระบบสารสนเทศ										
3 **เทคโนโลยีสารสนเทศ**											
3.1	มีการนำเอาแหล่งเทคโนโลยีสารสนเทศที่เหมาะสมมาใช้ภายในองค์กร	5	4	3	2	1	5	4	3	2	1
4 **ความโปร่งใสของข้อมูล**											
4.1	โรงพยาบาลควรที่จะแจ้งบริษัทคู่ค้าในกรณีที่มีการเปลี่ยนแปลงความต้องการล่วงหน้า	5	4	3	2	1	5	4	3	2	1
4.2	ผู้ผลิตที่เป็นคู่ค้ากับโรงพยาบาลควรที่จะแจ้งข้อมูลเกี่ยวกับปัญหาทั้งหมดที่จะกระทบกระเทือนกับธุรกิจ	5	4	3	2	1	5	4	3	2	1
4.3	ผู้ผลิตที่เป็นคู่ค้ากับโรงพยาบาลฯควรจะแบ่งปันข้อมูลกระบวนการของธุรกิจแกนหลักให้ทราบ	5	4	3	2	1	5	4	3	2	1
4.4	ควรจะมีการแลกเปลี่ยนข้อมูลที่จะช่วยในการวางแผนธุรกิจระหว่างบริษัทคู่ค้าและโรงพยาบาล	5	4	3	2	1	5	4	3	2	1
4.5	บริษัทคู่ค้าควรที่จะแจ้งให้โรงพยาบาลทราบถึงเหตุการณ์หรือการเปลี่ยนแปลงต่างๆ ที่อาจกระทบกับโรงพยาบาลอยู่เสมอ	5	4	3	2	1	5	4	3	2	1
4.6	การแลกเปลี่ยนข้อมูลระหว่างโรงพยาบาลฯและบริษัทคู่ค้าจะต้องดำเนินการในเวลาที่เหมาะสม	5	4	3	2	1	5	4	3	2	1
4.7	การแลกเปลี่ยนข้อมูลระหว่างโรงพยาบาลฯและบริษัทคู่ค้าจะต้องมีความถูกต้องแม่นยำ	5	4	3	2	1	5	4	3	2	1
4.8	การแลกเปลี่ยนข้อมูลระหว่างโรงพยาบาลฯและบริษัทคู่ค้าจะต้องมีความสมบูรณ์	5	4	3	2	1	5	4	3	2	1
4.9	การแลกเปลี่ยนข้อมูลระหว่างโรงพยาบาลฯและบริษัทคู่ค้าจะต้องมีความพอเพียง	5	4	3	2	1	5	4	3	2	1
4.10	การแลกเปลี่ยนข้อมูลระหว่างโรงพยาบาลฯและบริษัทคู่ค้าจะต้องเชื่อถือได้	5	4	3	2	1	5	4	3	2	1
	การบริหารจัดการพนักงาน										
5 **การสื่อสาร**											
5.1	โรงพยาบาลควรที่จะมีระบบการสื่อสารที่มีประสิทธิภาพภายในองค์กร	5	4	3	2	1	5	4	3	2	1
6 **การรับรู้**											
6.1	โรงพยาบาลควรทำให้พนักงานรับรู้ถึงข้อดีของแนวปฏิบัติของการจัดการสายโซ่อุปทาน	5	4	3	2	1	5	4	3	2	1

6.2	โรงพยาบาลควรมีการสร้างสำนึกด้านคุณค่าของสายโซ่อุปทาน	5	4	3	2	1	5	4	3	2	1
6.3	โรงพยาบาลควรมีการสร้างสำนึกด้านความซับซ้อนของการดำเนินการสายโซ่อุปทาน	5	4	3	2	1	5	4	3	2	1
7 **ภาวะความเป็นผู้นำ**											
7.1	การทำงานในทุกระดับจะต้องมีภาวะความเป็นผู้นำ	5	4	3	2	1	5	4	3	2	1
	การออกแบบความสัมพันธ์ระหว่างโรงพยาบาลกับคู่ค้า										
8 **การบริหารจัดการของผู้ผลิต**											
8.1	โรงพยาบาลควรที่จะมีการตรวจสอบประสิทธิภาพภายในองค์กรของผู้ผลิต	5	4	3	2	1	5	4	3	2	1
8.2	โรงพยาบาลควรที่จะประเมินคำร้องทั้งที่เป็นทางการและไม่เป็นทางการจากลูกค้าบ่อยๆ	5	4	3	2	1	5	4	3	2	1
8.3	โรงพยาบาลควรจะมีแผนการเฉพาะเพื่อที่จะทราบถึงความต้องการเฉพาะของลูกค้า	5	4	3	2	1	5	4	3	2	1
8.4	การเลือกผู้ผลิต โรงพยาบาลควรจะพิจารณาด้านคุณภาพเป็นหลัก	5	4	3	2	1	5	4	3	2	1
9 **การบริหารจัดการลูกค้า**											
9.1	คนไข้ควรจะมีส่วนในการกำหนดมาตรฐานด้านความน่าเชื่อถือ การตอบสนองต่อความต้องการของลูกค้าและมาตรฐานอื่นๆ	5	4	3	2	1	5	4	3	2	1
9.2	โรงพยาบาลควรที่จะมีการประเมินและวัดค่าความพึงพอใจของลูกค้า	5	4	3	2	1	5	4	3	2	1
9.3	โรงพยาบาลควรที่จะวิเคราะห์ถึงความคาดหวังในอนาคตของลูกค้า	5	4	3	2	1	5	4	3	2	1
9.4	โรงพยาบาลควรที่จะประเมินระดับความสำคัญของความสัมพันธ์ของลูกค้าหลัก	5	4	3	2	1	5	4	3	2	1
9.5	ประวัติของลูกค้าควรที่จะถูกบันทึกไว้ในระบบฐานข้อมูล	5	4	3	2	1	5	4	3	2	1
	ตัวชี้วัดประสิทธิภาพ										
10 **มีตัวชี้วัดประสิทธิภาพของงาน** SCM											
10.1	KPI ของแผนกควรสอดคล้องกับกิจกรรมที่เกิดขึ้น	5	4	3	2	1	5	4	3	2	1
10.2	โรงพยาบาลควรมีแนวทางปฏิบัติงานเพื่อบรรลุถึงตัวชี้วัดคุณภาพที่ชัดเจน	5	4	3	2	1	5	4	3	2	1

Appendix C

SPSS Analysis Result

Hypotheses testing

H1: There is difference in mean between desired implementation level and actual implementation level of trust of Bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	(Desired) BCH should establish a long-term relationship with supplier	3.6900	100	.66203	.06620
	(Actual) BCH should establish a long-term relationship with supplier	2.9300	100	.95616	.09562
Pair 2	(Desired) Long-term contract should be used with key main products	3.7500	100	.68718	.06872
	(Actual) Long-term contract should be used with key main products	2.9000	100	.90453	.09045

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	(Desired) BCH should establish a long-term relationship with supplier & (Actual) BCH should establish a long-term relationship with supplier	100	.620	.000
Pair 2	(Desired) Long-term contract should be used with key main products & (Actual) Long-term contract should be used with key main products	100	.593	.000

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	(Desired) BCH should establish a long-term relationship with supplier - (Actual) BCH should establish a long-term relationship with supplier	.76000	.75371	.07537	-.90955	-.61045	-10.083	99	.000
Pair 2	(Desired) Long-term contract should be used with key main products - (Actual) Long-term contract should be used with key main products	.85000	.74366	.07437	-.99756	-.70244	-11.430	99	.000

H2: There is significant difference in mean between desired implementation level and current implementation level of collaborative planning of Bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	(Desired) Suppliers should involves in solving problem, such as inventory shortage problem	3.7700	100	.72272	.07227
	(Actual) Suppliers should involves in solving problem, such as inventory shortage problem	3.0600	100	1.00323	.10032

Pair 2	(Desired) BCH should have to take part in product quality improvement of suppliers	3.7000	100	.70353	.07035
	(Actual) BCH should have to take part in product quality improvement of suppliers	2.9500	100	.90314	.09031
Pair 3	(Desired) BCH's continuous improvement program should include our key suppliers	3.5700	100	.67052	.06705
	(Actual) BCH's continuous improvement program should include our key suppliers	2.8800	100	.91320	.09132
Pair 4	(Desired) BCH's key suppliers should take part in our planning and goal-setting activities	3.6500	100	.65713	.06571
	(Actual) BCH's key suppliers should take part in our planning and goal-setting activities	2.9100	100	.91115	.09112
Pair 5	(Desired) BCH should take part in new product development process of key supplier	3.6300	100	.67652	.06765
	(Actual) BCH should take part in new product development process of key supplier	2.8800	100	.84423	.08442

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	(Desired) Suppliers should involves in solving problem, such as inventory shortage problem & (Actual) Suppliers should involves in solving problem, such as inventory shortage problem	100	.576	.000
Pair 2	(Desired) BCH should have to take part in product quality improvement of suppliers & (Actual) BCH should have to take part in product quality improvement of suppliers	100	.660	.000

Pair 3	(Desired) BCH's continuous improvement program should include our key suppliers & (Actual) BCH's continuous improvement program should include our key suppliers	100	.525	.000
Pair 4	(Desired) BCH's key suppliers should take part in our planning and goal-setting activities & (Actual) BCH's key suppliers should take part in our planning and goal-setting activities	100	.655	.000
Pair 5	(Desired) BCH should take part in new product development process of key supplier & (Actual) BCH should take part in new product development process of key supplier	100	.576	.000

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	(Desired) Suppliers should involves in solving problem, such as inventory shortage problem - (Actual) Suppliers should involves in solving problem, such as inventory shortage problem	.71000	.83236	.08324	-.87516	-.54484	-8.530	99	.000

Pair 2	(Desired) BCH should have to take part in product quality improvement of suppliers - (Actual) BCH should have to take part in product quality improvement of suppliers	.75000	.68718	.06872	-.88635	-.61365	-10.914	99	.000
Pair 3	(Desired) BCH's continuous improvement program should include our key suppliers - (Actual) BCH's continuous improvement program should include our key suppliers	.69000	.80019	.08002	-.84877	-.53123	-8.623	99	.000
Pair 4	(Desired) BCH's key suppliers should take part in our planning and goal-setting activities - (Actual) BCH's key suppliers should take part in our planning and goal-setting activities	.74000	.69078	.06908	-.87706	-.60294	-10.713	99	.000
Pair 5	(Desired) BCH should take part in new product development process of key supplier - (Actual) BCH should take part in new product development process of key supplier	.75000	.71598	.07160	-.89207	-.60793	-10.475	99	.000

H3: There is significant difference in mean between desired implementation level and current implementation level of information system of Bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	(Desired) Appropriate information technology resource should be applied within an organization	3.7300	100	.80221	.08022
	(Actual) Appropriate information technology resource should be applied within an organization	2.9200	100	1.12528	.11253

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	(Desired) Appropriate information technology resource should be applied within an organization & (Actual) Appropriate information technology resource should be applied within an organization	100	.658	.000

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	(Desired) Appropriate information technology resource should be applied within an organization - (Actual) Appropriate information technology resource should be applied within an organization	.81000	.84918	.08492	-.97850	-.64150	-9.539	99	.000

H4: There is significant difference in mean between desired implementation level and current implementation level of information transparency of Bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	(Desired) BCH should inform trading partners in advance of changing needs	3.6300	100	.69129	.06913
	(Actual) BCH should inform trading partners in advance of changing needs	3.0200	100	1.05390	.10539
Pair 2	(Desired) BCH's supplier trading partner should keep us fully informed about issue that affect our business	3.6600	100	.66999	.06700
	(Actual) BCH's supplier trading partner should keep us fully informed about issue that affect our business	3.0100	100	.99995	.09999
Pair 3	(Desired) BCH's trading partner should share a core business process information with us	3.5900	100	.73985	.07398
	(Actual) BCH's trading partner should share a core business process information with us	3.0000	100	1.00504	.10050

Pair 4	(Desired) There should be an exchange of information that helps establishment of business planning between trading partners and us	3.8800	100	.80754	.08075
	(Actual) There should be an exchange of information that helps establishment of business planning between trading partners and us	2.9400	100	.95155	.09516
Pair 5	(Desired) Trading partner should keep us informs about events or changes that may affect BCH	3.6400	100	.77225	.07722
	(Actual) Trading partner should keep us informs about events or changes that may affect BCH	2.9900	100	1.06832	.10683
Pair 6	(Desired) Information exchange between BCH and trading partners should be timely	3.6600	100	.75505	.07551
	(Actual) Information exchange between BCH and trading partners should be timely	3.0200	100	1.08227	.10823
Pair 7	(Desired) Information exchange between BCH and trading partners should be accurate.	3.7000	100	.78496	.07850
	(Actual) Information exchange between BCH and trading partners should be accurate.	3.0500	100	1.12254	.11225

Pair 8	(Desired) Information exchange between BCH and trading partners should be complete	3.7000	100	.74536	.07454
	(Actual) Information exchange between BCH and trading partners should be complete	3.0500	100	1.03840	.10384
Pair 9	(Desired) Information exchange between BCH and trading partners should be adequate	3.6700	100	.73930	.07393
	(Actual) Information exchange between BCH and trading partners should be adequate	3.0300	100	1.02942	.10294
Pair 10	(Desired) Information exchange between BCH and trading partners should be reliable	3.7500	100	.77035	.07703
	(Actual) Information exchange between BCH and trading partners should be reliable	3.1300	100	1.07923	.10792

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	(Desired) BCH should inform trading partners in advance of changing needs & (Actual) BCH should inform trading partners in advance of changing needs	100	.676	.000
Pair 2	(Desired) BCH's supplier trading partner should keep us fully informed about issue that affect our business & (Actual) BCH's supplier trading partner should keep us fully informed about issue that affect our business	100	.518	.000

Pair 3	(Desired) BCH's trading partner should share a core business process information with us & (Actual) BCH's trading partner should share a core business process information with us	100	.598	.000
Pair 4	(Desired) There should be an exchange of information that helps establishment of business planning between trading partners and us & (Actual) There should be an effective communication system within an organization	100	.319	.001
Pair 5	(Desired) Trading partner should keep us informs about events or changes that may affect BCH & (Actual) Trading partner should keep us informs about events or changes that may affect BCH	100	.583	.000
Pair 6	(Desired) Information exchange between BCH and trading partners should be timely & (Actual) Information exchange between BCH and trading partners should be timely	100	.651	.000
Pair 7	(Desired) Information exchange between BCH and trading partners should be accurate. & (Actual) Information exchange between BCH and trading partners should be accurate.	100	.602	.000
Pair 8	(Desired) Information exchange between BCH and trading partners should be complete & (Actual) Information exchange between BCH and trading partners should be complete	100	.633	.000
Pair 9	(Desired) Information exchange between BCH and trading partners should be adequate & (Actual) Information exchange between BCH and trading partners should be adequate	100	.610	.000
Pair 10	(Desired) Information exchange between BCH and trading partners should be reliable & (Actual) Information exchange between BCH and trading partners should be reliable	100	.647	.000

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	(Desired) BCH should inform trading partners in advance of changing needs - (Actual) BCH should inform trading partners in advance of changing needs	.61000	.77714	.07771	-.76420	-.45580	-7.849	99	.000
Pair 2	(Desired) BCH's supplier trading partner should keep us fully informed about issue that affect our business - (Actual) BCH's supplier trading partner should keep us fully informed about issue that affect our business	.65000	.86894	.08689	-.82242	-.47758	-7.480	99	.000
Pair 3	(Desired) BCH's trading partner should share a core business process information with us - (Actual) BCH's trading partner should share a core business process information with us	.59000	.81767	.08177	-.75224	-.42776	-7.216	99	.000

Pair 4	((Desired) There should be an exchange of information that helps establishment of business planning between trading partners and us & (Actual) There should be an effective communication system within an organization ion	.94000	1.03299	.10330	-1.14497	-.73503	-9.100	99	.000
Pair 5	(Desired) Trading partner should keep us informs about events or changes that may affect BCH - (Actual) Trading partner should keep us informs about events or changes that may affect BCH	.65000	.88048	.08805	-.82471	-.47529	-7.382	99	.000
Pair 6	(Desired) Information exchange between BCH and trading partners should be timely - (Actual) Information exchange between BCH and trading partners should be timely	.64000	.82290	.08229	-.80328	-.47672	-7.777	99	.000
Pair 7	(Desired) Information exchange between BCH and trading partners should be accurate. - (Actual) Information exchange between BCH and trading partners should be accurate.	.65000	.90314	.09031	-.82920	-.47080	-7.197	99	.000

Pair 8	(Desired) Information exchange between BCH and trading partners should be complete - (Actual) Information exchange between BCH and trading partners should be complete	.65000	.80873	.08087	-.81047	-.48953	-8.037	99	.000
Pair 9	(Desired) Information exchange between BCH and trading partners should be adequate - (Actual) Information exchange between BCH and trading partners should be adequate	.64000	.82290	.08229	-.80328	-.47672	-7.777	99	.000
Pair 10	(Desired) Information exchange between BCH and trading partners should be reliable - (Actual) Information exchange between BCH and trading partners should be reliable	.62000	.82609	.08261	-.78391	-.45609	-7.505	99	.000

H5: There is significant difference in mean between desired implementation level and current implementation level of people management (communication) of bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	(Desired) There should be an effective communication system within an organization	3.8800	100	.80754	.08075
	(Actual) There should be an effective communication system within an organization	3.1000	100	1.09637	.10964

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	(Desired) There should be an effective communication system within an organization & (Actual) There should be an effective communication system within an organization	100	.653	.000

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	(Desired) There should be an effective communication system within an organization - (Actual) There should be an effective communication system within an organization	.78000	.83581	.08358	-.94584	-.61416	-9.332	99	.000

H6: There is significant difference in mean between desired implementation level and current implementation level of perception management of Bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	(Desired) Perception on relative advantage of supply chain practice should be created	3.6300	100	.74745	.07475
	(Actual) Perception on relative advantage of supply chain practice should be created	2.9300	100	.95616	.09562
Pair 2	(Desired) Perception on compatibility of the value of supply chain should be created	3.5400	100	.70238	.07024
	(Actual) Perception on compatibility of the value of supply chain should be created	2.9000	100	.92660	.09266
Pair 3	(Desired) Perception on complexity of supply chain implementation should be created	3.5400	100	.73057	.07306
	(Actual) Perception on complexity of supply chain implementation should be created	2.8900	100	.94168	.09417

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	(Desired) Perception on relative advantage of supply chain practice should be created & (Actual) Perception on relative advantage of supply chain practice should be created	100	.557	.000
Pair 2	(Desired) Perception on compatibility of the value of supply chain should be created & (Actual) Perception on compatibility of the value of supply chain should be created	100	.549	.000
Pair 3	(Desired) Perception on complexity of supply chain implementation should be created & (Actual) Perception on complexity of supply chain implementation should be created	100	.557	.000

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	(Desired) Perception on relative advantage of supply chain practice should be created - (Actual) Perception on relative advantage of supply chain practice should be created	.70000	.82266	.08227	-.86323	-.53677	-8.509	99	.000
Pair 2	(Desired) Perception on compatibility of the value of supply chain should be created - (Actual) Perception on compatibility of the value of supply chain should be created	.64000	.79798	.07980	-.79834	-.48166	-8.020	99	.000

Pair 3	(Desired) Perception on complexity of supply chain implementation should be created - (Actual) Perception on complexity of supply chain implementation should be created	.65000	.80873	.08087	-.81047	-.48953	-8.037	99	.000

H7: There is significant difference in mean between desired implementation level and current implementation level of leadership of Bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	(Desired) Leadership should apply at all level And empowerment organizational structure is executed within procurement department.	3.7700	100	.80221	.08022
	(Actual) Leadership should apply at all level And empowerment organizational structure is executed within procurement department.	3.1200	100	1.03748	.10375

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	(Desired) Leadership should apply at all level And empowerment organizational structure is executed within procurement department. & (Actual) Leadership should apply at all level And empowerment organizational structure is executed within procurement department.	100	.410	.000

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	(Desired) Leadership should apply at all level and empowerment organizational structure is executed within procurement department. - (Actual) Leadership should apply at all level and empowerment organizational structure is executed within procurement department.	.65000	1.01876	.10188	-.85214	-.44786	-6.380	99	.000

H8: There is significant difference in mean between desired implementation level and current implementation level of alliance design (Supplier management) of Bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	(Desired) There should be performance tracking within supplier organization for example lead time, cycle time and wasting time	3.5800	100	.74101	.07410
	(Actual) There should be performance tracking within supplier organization for example lead time, cycle time and wasting time	2.8900	100	1.14499	.11450

Pair 2	(Desired) BCH should frequently evaluate the formal and informal complaints from our customers	3.5700	100	.74203	.07420
	(Actual) BCH should frequently evaluate the formal and informal complaints from our customers	2.8100	100	1.00197	.10020
Pair 3	(Desired) There should be a specific program for BCH to determine unique customer need	3.6600	100	.76831	.07683
	(Actual) There should be a specific program for BCH to determine unique customer need	2.9100	100	.93306	.09331
Pair 4	(Desired) Quality should be BCH major concern when selecting supplier	3.7300	100	.76350	.07635
	(Actual) Quality should be BCH major concern when selecting supplier	2.9500	100	.91425	.09143

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	(Desired) There should be performance tracking within supplier organization for example lead time, cycle time and wasting time & (Actual) There should be performance tracking within supplier organization for example lead time, cycle time and wasting time	100	.564	.000
Pair 2	(Desired) BCH should frequently evaluate the formal and informal complaints from our customers & (Actual) BCH should frequently evaluate the formal and informal complaints from our customers	100	.460	.000

Pair 3	(Desired) There should be a specific program for BCH to determine unique customer need & (Actual) There should be a specific program for BCH to determine unique customer need	100	.563	.000
Pair 4	(Desired) Quality should be BCH major concern when selecting supplier & (Actual) Quality should be BCH major concern when selecting supplier	100	.588	.000

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	(Desired) There should be performance tracking within supplier organization for example lead time, cycle time and wasting time - (Actual) There should be performance tracking within supplier organization for example lead time, cycle time and wasting time	.69000	.95023	.09502	-.87855	-.50145	-7.261	99	.000
Pair 2	(Desired) BCH should frequently evaluate the formal and informal complaints from our customers - (Actual) BCH should frequently evaluate the formal and informal complaints from our customers	.76000	.93333	.09333	-.94519	-.57481	-8.143	99	.000

Pair 3	(Desired) There should be a specific program for BCH to determine unique customer need - (Actual) There should be a specific program for BCH to determine unique customer need	.75000	.80873	.08087	-.91047	-.58953	-9.274	99	.000
Pair 4	(Desired) Quality should be BCH major concern when selecting supplier - (Actual) Quality should be BCH major concern when selecting supplier	.78000	.77303	.07730	-.93339	-.62661	-10.090	99	.000

H9: There is significant difference in mean between desired implementation level and current implementation level of Customer (Patient) management of Bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	(Desired) Customers should take part in a setting of reliability, responsiveness, and other standard	3.6300	100	.73382	.07338
	(Actual) Customers should take part in a setting of reliability, responsiveness, and other standard	2.9400	100	1.07139	.10714
Pair 2	(Desired) There should be an evaluation and measurement for customer satisfaction	3.7900	100	.76930	.07693

	(Actual) There should be an evaluation and measurement for customer satisfaction	3.1000	100	1.12367	.11237
Pair 3	(Desired) BCH should determine future customer expectation	3.7000	100	.71774	.07177
	(Actual) BCH should determine future customer expectation	3.0300	100	1.07736	.10774
Pair 4	(Desired) BCH should evaluate the importance of our relationship with our customers	3.7200	100	.65258	.06526
	(Actual) BCH should evaluate the importance of our relationship with our customers	3.0600	100	.97255	.09726
Pair 5	(Desired) Customer profile should be computerized in database	3.8400	100	.70668	.07067
	(Actual) Customer profile should be computerized in database	3.1900	100	1.00197	.10020

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	(Desired) Customers should take part in a setting of reliability, responsiveness, and other standard & (Actual) Customers should take part in a setting of reliability, responsiveness, and other standard	100	.485	.000
Pair 2	(Desired) There should be an evaluation and measurement for customer satisfaction & (Actual) There should be an evaluation and measurement for customer satisfaction	100	.656	.000
Pair 3	(Desired) BCH should determine future customer expectation & (Actual) BCH should determine future customer expectation	100	.547	.000

Pair 4	(Desired) BCH should evaluate the importance of our relationship with our customers & (Actual) BCH should evaluate the importance of our relationship with our customers	100	.632	.000
Pair 5	(Desired) Customer profile should be computerized in database & (Actual) Customer profile should be computerized in database	100	.728	.000

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	(Desired) Customers should take part in a setting of reliability, responsiveness, and other standard - (Actual) Customers should take part in a setting of reliability, responsiveness, and other standard	.69000	.96080	.09608	-.88064	-.49936	-7.182	99	.000
Pair 2	(Desired) There should be an evaluation and measurement for customer satisfaction - (Actual) There should be an evaluation and measurement for customer satisfaction	.69000	.84918	.08492	-.85850	-.52150	-8.125	99	.000
Pair 3	(Desired) BCH should determine future customer expectation - (Actual) BCH should determine future customer expectation	.67000	.91071	.09107	-.85070	-.48930	-7.357	99	.000

Pair 4	(Desired) BCH should evaluate the importance of our relationship with our customers - (Actual) BCH should evaluate the importance of our relationship with our customers	.66000	.75505	.07551	-.80982	-.51018	-8.741	99	.000
Pair 5	(Desired) Customer profile should be computerized in database - (Actual) Customer profile should be computerized in database	.65000	.68718	.06872	-.78635	-.51365	-9.459	99	.000

H10: There is significant difference in mean between desired implementation level and current implementation level of performance measurement of Bridges from the perspective of administrator in procurement department at Bangkok Chain Hospital PCL.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	(Desired) BCH shall use consistent measurement score as a KPI to measure outcome of SCM	3.6900	100	.69187	.06919
	(Actual) BCH shall use consistent measurement score as a KPI to measure outcome of SCM	3.0300	100	.98939	.09894

Pair 2	(Desired) Clear selection of KPI and measurement guidelines are provided to employees	3.8100	100	.70632	.07063
	(Actual) Clear selection of KPI and measurement guidelines are provided to employees	3.0500	100	.97830	.09783

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	(Desired) BCH shall use consistent measurement score as a KPI to measure outcome of SCM & (Actual) BCH shall use consistent measurement score as a KPI to measure outcome of SCM	100	.530	.000
Pair 2	(Desired) Clear selection of KPI and measurement guidelines are provided to employees & (Actual) Clear selection of KPI and measurement guidelines are provided to employees	100	.613	.000

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	(Desired) BCH shall use consistent measurement score as a KPI to measure outcome of SCM - (Actual) BCH shall use consistent measurement score as a KPI to measure outcome of SCM	.66000	.85540	.08554	-.82973	-.49027	-7.716	99	.000

Pair 2	(Desired) Clear selection of KPI and measurement guidelines are provided to employees - (Actual) Clear selection of KPI and measurement guidelines are provided to employees	-76000	.78005	.07801	-.91478	-.60522	-9.743	99	.000