

**THE EFFECT OF EARLY SUPPLIER INVOLVEMENT ON CUSTOMER
SATISFACTION IN HEALTH CARE: CASE STUDY NAKASERO HOSPITAL
LIMITED**

SHANITAH NAMUSWE

M23B12/053

**A DISSERTATION SUBMITTED TO THE SCHOOL OF BUSINESS IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF BACHELOR OF
PROCUREMENT AND LOGISTICS MANAGEMENT OF UGANDA CHRISTIAN UNIVERSITY**

April, 2026



**UGANDA CHRISTIAN
UNIVERSITY**

A Centre of Excellence in the Heart of Africa

DECLARATION

I, Namuswe Shanitah declare that this research report is my original work and has not been presented in any other university or institution of learning

Signature: .....

Date: 30th April 2026.....

APPROVAL

This research report has been prepared under my supervision and will be submitted to the school of business



Signature:.....

date:

Supervisor: NAGAWA PAMELA

ACKNOWLEDGEMENT

I would like to express my sincere gratitude to Almighty God for granting me the strength, wisdom, and perseverance throughout my academic journey and during the completion of this dissertation.

I extend my heartfelt appreciation to my supervisor for the invaluable guidance, constructive criticism, continuous support, and professional insights provided throughout the research process. Your patience and encouragement greatly contributed to the successful completion of this study.

I am deeply grateful to my family for their unwavering love, encouragement, financial support, and understanding throughout my studies. Your motivation has been a constant source of inspiration.

ABBREVIATIONS

IT	INFORMATION TECHNOLOGY
AI	ARTIFICIAL INTELLIGENCE
SCSBS	SWEDISH CUSTOMER SATISFACTION BAROMETER
GDP	GROSS DOMESTIC PRODUCT
PPDA	PUBLIC PROCUREMENT AND DISPOSAL AUTHORITY
MOH	MINISTRY OF HEALTH
USAID	UNITED STATES AGENCY FOR INTERNATIONAL DEVELOPMENT
UNAPH	UGANDA NATIONAL ASSOCIATION OF PRIVATE HOSPITALS
ESI	EARLY SUPPLIER INVOLVEMENT

TABLE OF CONTENTS

DECLARATION	i
APPROVAL.....	ii
ACKNOWLEDGEMENT.....	iii
ABBREVIATIONS	iv
ABSTRACT.....	ix
CHAPTER ONE	1
1.0 Introduction	11
1.1 Background of the study.....	11
1.1.1 Historical background	12
1.1.2 Theoretical background	13
1.1.3 Conceptual background	14
1.1.4 Contextual background	15
1.2 Problem statement	16
1.3 Purpose of the study	16
1.4 Objectives of the study	16
1.5 Research questions	16
1.6 Scope of the study	17
1.6.1 Content scope	17
1.6.2 Geographical scope	17
1.6.3 Time scope	17
1.7 Significance of the study	18
1.8 Conceptual framework	19
CHAPTER TWO :LITERATUREREVIEW.....	20
2.0 Introduction	20
2.1 Theoretical review	20
2.1.1 The cognitive theory.....	20

2.1.2 The expectancy disconfirmation/ confirmation theory.....	21
2.2 Conceptual review	22
2.2.1 Early supplier involvement	22
2.2.2 Customer satisfaction	23
2.3 Empirical review	25
2.3.1 Early supplier involvement and Customer satisfaction	25
2.3.2 Supplier integration and Customer satisfaction	26
2.3.3 Information sharing and Customer satisfaction	28
2.3.4 Collaborative problem solving and Customer satisfaction	29
CHAPTER THREE	32
3.0 Introduction	32
3.1 Research design	32
3.2 Study area	33
3.3 Study population	33
3.4 Sample size determination	33
3.5 Sampling method	34
3.6 Sources of data	35
3.6.1 Primary source	35
3.6.2 Secondary source	35
3.7 Data collection methods and instruments	36
3.7.1 Questionnaires	36
3.7.2 key format interviews.....	36
3.8 Data collection procedure	37
3.9 Quality and error control	37
3.9.1 Validity of the research instrument	37
3.9.2 Reliability of the research instrument	37

3.10 Data analysis	37
3.10.1 Analysis of quantitative data	37
3.11 Ethical considerations	38
3.12 Anticipated limitations and delimitations of the study	38
CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND INTERPRETATION	39
4.0 Introduction	39
4.1 Response rate	39
4.2 Demographic characteristics	40
4.2.1 Gender	40
4.2.2 Age bracket	40
4.2.3 Department of respondents	41
4.2.4 Work experience	41
4.3 Descriptive statistics for study variables	42
4.3.1 Relationship between supplier integration and customer satisfaction	42
4.3.2 Relationship between information sharing and communication with customer satisfaction.....	43
4.3.3 Relationship between collaborative problem solving and customer satisfaction.....	44
4.3.4 Customer satisfaction	44
4.4 Correlation analysis	46
CHAPTER FIVE : SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSIONS AND RECCOMENDATIONS	
5.0 Introduction	48
5.1 Summary of findings	48
5.1.1 Supplier integration and customer satisfaction	48
5.1.2 information sharing and communication with customer satisfaction	49
5.1.3 collaborative problem solving and customer satisfaction	49
5.2 Discussions of findings	49
5.2.1 Supplier integration and customer satisfaction	50

5.2.2 Information sharing and communication with customer satisfaction	50
5.2.3 Collaborative problem solving and customer satisfaction	51
5.3 Conclusion	52
5.4 Recommendations	53
5.5 Areas for further research	54
QUESTIONNAIRE.....	54
REFERENCES.....	59

ABSTRACT

This study examined the effect of early supplier involvement (ESI) on customer satisfaction at Nakasero Hospital Limited in Kampala, Uganda. ESI was measured through three dimensions: supplier integration, information sharing, and collaborative problem solving.

A cross-sectional survey design with mixed methods was employed. Data were collected from 52 employees using questionnaires and Quantitative data were analyzed using descriptive statistics and Pearson correlation.

Findings revealed strong positive relationships between all ESI dimensions and customer satisfaction. Information sharing had the strongest correlation ($r = 0.856$, $p < 0.001$), followed by collaborative problem solving ($r = 0.820$, $p < 0.001$), and supplier integration ($r = 0.761$, $p < 0.001$). Respondents agreed that effective supplier communication improves service delivery (Mean = 4.077) and early supplier involvement aligns with hospital needs (Mean = 4.000).

The study concludes that early supplier involvement significantly enhances customer satisfaction in healthcare settings. Recommendations include strengthening supplier integration in procurement planning, adopting digital communication systems, and promoting collaborative problem-solving partnerships.

CHAPTER ONE

1.0 Introduction

This chapter gives the framework of my proposed study since it gives background of the problem statement of the problem, purpose objectives, conceptual framework of the hypotheses time scope and significance of my study.

1.1 Background of the Study

Customer satisfaction is a metric that can be used to gauge the effectiveness of products and services provided by a company in meeting and exceeding customer expectation (Kotler and Armstrong, 2018). Loyalty and repeat purchase are motivated by customer satisfaction since customers become company ambassadors after sharing positive word of mouth that boosts brand visibility and company development (Abidin et al., 2025). In Uganda from the various studies done, satisfaction is linked with just service delivery by health centers, service delivery is looked at in terms of waiting times, accessibility of data, equipment used by health workers, costs incurred, and accessibility of services (Marcel & Ongesa, 2024, Higenyi 2020).

Nevertheless, it is still not clear how much the early involvement of suppliers, in the form of supplier integration, sharing of information and communication, and collaborative problem solving directly impacts the overall satisfaction of healthcare patients particularly within the context of developing countries (Mitaire et al., 2021). Coțiu et al. (2014) also adds that customer satisfaction is essential in health centres because it makes them open up to patient centered approach that determines adherence to medical guidance, patient outcomes and gaining loyalty of their clients.

1.1. Historical background

The concept of customer satisfaction is one that has been changing over time influenced by the changes in the economic systems, management philosophy, and consumer behavior. In the pre-industrial Era Prior to the Industrial Revolution, commerce was mainly local and artisanal.

This was in the Old Craftmanship economy as company's were small and there was direct contact between the artisan and the customer. Personal relationships were intrinsically connected with satisfaction (Reis et al., 2003). Mass production came in the time of the Industrial Revolution. by Henry ford .customers and their feedback became an ignored face of faceless statistics as this era main focus was on volume, price competition and put less stress on improving quality or design this was due to the great depression that occurred creating unrelenting demand so by the second world war customers were more than happy to buy whatever companies offered. They seldom insisted on high quality and service (Reis et al., 2003). The marketing concept came into being in the 1950s and 1960s with the aftermath of World War 11 marking a boom in industry outputs and consumerism. This created more marketing opportunities by 1960 due to the increase in mass production and automation that transformed the organizational focus away to products and towards customers (Gamble et al., 2011).

Theoretical models explaining the formation of satisfaction were proposed in the 1980s; Expectancydisconfirmation theory became dominant was proposed by (Oliver1980), In 1982 an observation made by researchers (Day 1982, Swan 1982 and Woodruff et al 1982) a significant finding which came about by each of the observers above was that the then empirical It was summarized by Woodruff et al 1982, as consisting of “a sequence of forming standards of performance, comparing how an object actually lived to the standard, and perceiving any discrepancy (disconfirmation) as reasons for feelings of satisfaction or disconfirmation (Swan & Trawick, 1993). During the 1990s national satisfaction barometers and indices, Swedish customer satisfaction Barometer (SCSB) was developed by (Fornell, 1992), The American customer satisfaction index was developed in 1994 in the US (Fornell et al., 1996) and in Norway (Andreassen and Lindestad, 1998) these were to measure customer satisfaction on a national In the 2000’customer satisfaction evolved, particularly with a customer centric approach and digital technologies (Shah et al., 2006).

The information technology (IT) revolution in the later part of the 20th century brought in extraordinary advances in the gathering, storing, analysis and transfer of enormous quantities of information that made firms see it as an excellent chance to invest in the IT so as to manage customer relations better. Moreover, researchers rediscover that in the 20th century businesses turned to ensuring quality of products to please customers and also secure a secure niche among their rivals (Khadka & Maharjan, 2017). Since the 2020s and further, the modern trend of evolution is propelled by artificial intelligence (AI) and big data analytics (Brunner et al., 2025). In addition to data processing skills, data driven, over the past few years, have emerged as the focus of interest to improve customer satisfaction because this Predictive support, which is made possible by data analysis, has the potential to detect potential problems like delayed delivery and optimize the supply chain operations that are critical to customer satisfaction (Huang and Rust, 2021). As satisfaction becomes increasingly predicted and personalised in real-time, analytics like feeling AI is employed to gain an insight into current and possible customer needs and wants.

1.2 Theoretical background

Dissonance Theory

Cognitive dissonance theory was initially introduced in 1957 by Leon Festinger in his attempt to explain the interrelationships between motivation, perceptions and cognitions of a person (Cardozo, 1965). According to this Theory, an individual who anticipated a high-value item and got a low-value item would be aware of the difference and would develop a cognitive dissonance (Crespo, 2023). The basic assumption of this theory is that humans have an innate need for consistency (Festinger, 1957). That is, when the beliefs of people are threatened or the behaviour does not fit their beliefs, this creates a feeling of dissonance and individuals have to minimize the dissonance to achieve a more comfortable and secure feeling (Yahya and Sukmayadi, 2020). It can be used to explain and predict human behaviour, especially when it varies due to changed attitude or behaviour, therefore, providing organisations with a fundamental model of how individuals cope with psychological uneasiness by conflicting thoughts and behaviours (Amanda, 2017).

The Expectancy Disconfirmation/Confirmation Theory

The expectancy confirmation theory was proposed by Richard L. Oliver (1977; 1980) as the most promising theoretical framework for assessment of customer satisfaction. The Expectancy disconfirmation theory (1980) ECT, posits individuals form expectations prior to experiencing a service or product, and after consumption they compare the expectations with their actual experience as if performance meets expectations, satisfaction occurs while disconfirmation results into dissatisfaction (Vijay, 2025). Assumptions of this theory is that consumers form initial expectations about a specific product or service prior to purchase based on knowledge and prior experience and they also assess the perceived performance of the product (or service) based on their initial expectations (Shukla et al., 2025). Its strength is its wide applicability as this theory has been widely used in multiple research contexts, as it has been applied across marketing, sociology, public policy, and IS domains (Shukla et al., 2025). This wide applicability demonstrates its flexibility and why it's a complete framework for my study.

1.1.3 Conceptual background

Early supplier involvement refers to a form of vertical collaboration between supply chain partners in which the manufacturer involves the supplier at an early stage of the product development process especially at the concept of design and planning (Bidault et al., 1998). Existing literature has associated early supplier involvement with benefits like quicker product development processes, reduced development costs, greater technological improvements, enhanced product quality and reduced risk (Lotchouang, 2018; Kimwaki, 2022). What remains unknown is the extent to which Supply relationship Management Practices like ESI can deliver measurable benefits in the service industry (Mettler & Rhoner, 2009; De Marchi, 2016). It is therefore important as through ESI firms are able to incorporate supplier capabilities inform of technical expertise, resource sharing resulting into positive results like improved product designs, reduced costs, improved quality hence gaining a competitive advantage in the end (LaBahn & Krapfel, 2000).

Customer satisfaction is basically a judgement a consumer makes in relation to his/her sense of fulfilment related to his /her choices about the purchase and use of specific products/service

(Gianluigi, 2015; Marvin, 2019). It is critical to listen to customer expectations in order to effectively satisfy the customer. Customer satisfaction has been associated with benefits like customer loyalty, repeated sales, high margins and enhanced reputation (Yi & Nataraajan, 2018; Anderson et al., 1994). However, how customer satisfaction is achieved in developing countries remains unexplored, particularly when ESI is adopted. Understanding how supply relationship management practices like ESI influences customer satisfaction in Uganda can inform policy and enhance operational outcomes (Mettler & Rhoner, 2009).

1.1.4 Contextual background

This study is conducted at Nakasero Hospital, a private for profit facilities which account for approximately 40% of health facilities in Uganda. The healthcare sector contributes significantly to national development, with total health expenditure representing approximately 4.39% of Uganda's GDP (World Bank, 2022). Nakasero Hospital operates under Uganda's private health regulatory environment guided by the Uganda Medical and Dental Practitioners Council Act, the Public Health Act, and procurement obligations shaped indirectly by the PPDA Act (2003), which influences private-public interactions, supplier standards, and compliance expectations. Internally, the hospital's procurement structure consists of a Procurement and Stores Unit responsible for requisition processing, supplier evaluation, contract management, and inventory control, with workflows requiring approvals from department heads, finance units, and executive management.

Nakasero Hospital's role is to provide quality compassionate care which is in line with Uganda's vision 2040 of good health is instrumental in facilitating socio-economic transformation (MOH). The government of Uganda has supported early supplier involvement through policy frameworks such as NPSSP (2019) that encourage strategic sourcing and long-term supplier relationships (Ministry of Finance Planning and Economic development, 2022). Other interventions for strategic purchasing include Government funding through government budget and donor interventions from countries like US, Sweden and UK as these have financed various health care interventions like the strengthening supply chain systems (SSCS) project funded by USAID in Uganda with the aim of increasing efficiency, equitable distribution of resources and cost containment (Ekirapa-Kiracho et al., 2022) Despite these efforts, there is limited empirical evidence on how ESI specifically influences customers satisfaction in healthcare in Uganda. Nakasero Hospital depends on a wide range of medical supplies, pharmaceuticals, medical technologies, and equipment. These items require continued collaboration with supplier to ensure quality, reliability and timely delivery, so studying at this institution delivers insights into how

participation in early stages of procurement such as specifications development, Procurement planning and product design influence service delivery outcomes.

1.2 Problem statement

In developed countries like Russia and Romania, the healthcare system is in bad shape as patients are generally dissatisfied with the service they require. The healthcare systems of these countries are dynamic and complicated where they encounter issues like the ignorance of the target market, insufficient resources and coordination of the stakeholders (Bulatnikov & Constantin, 2023).

In Sub-Saharan African nations, including Nigeria, which is a developing country, there are still serious issues related to customer satisfaction in healthcare due to both the lack of qualified personnel and the lack of inventories that impact the overall service quality (Tarurhor & Osazevbaru, 2021). In Ethiopia, an evaluation of the degree of customer satisfaction showed that there were problems with long waiting time at the time of registration and doctor visits, inaccessibility of some privacy in the examination rooms, problems with laboratory processes and doctor revisit to examine the laboratory results, difficulties with access to prescribed drugs and supplies at the hospital pharmacies, and insufficient information given to patients that indicated dissatisfaction (Fekadu et al., 2011).

In Uganda, as it is described in the report by (UNAPH) Uganda National Association of Private Hospitals (2015), the patients usually prefer the care provided by the private healthcare as opposed to the one presented by the government due to the lack of accountability among their providers, their presumed quality services, use of advanced equipment and specialists, and their proximity to their residential places. Kiyenje (2022) 94% of the health facilities in Kampala are privately owned. Nonetheless, customer satisfaction within the health sector in Kampala is poor since patients are subjected to lengthy queues, frequent drug stock-outs, inadequate medical supplies, excessive costs of treatment and low service delivery (Awatta et al., 2018). Report by META (2013) also revealed that the complaints on the individual expressed satisfaction with services in the health facilities and dissatisfaction were 47 percent due to long waiting periods, attitudes of health workers and stock-outs of essential. Such difficulties can frequently cause the disconnect between the expectations and the real experiences of the patients in medical institutions (A'aqulah et al., 2022). Unsatisfied patients will find other ways to get treatment or may use self-medication or lose trust in health care provider.

1.3 Purpose of the study

The purpose of the study will be to examine the effect of early supplier involvement on customer satisfaction in the health sector

1.4 Objectives of the study

- i. To examine the relationship between supplier integration and customer satisfaction at Nakasero hospital Limited.

- ii. To examine the relationship between information sharing and customer satisfaction at Nakasero hospital limited.
- iii. To examine the relationship between collaborative problem solving and customer satisfaction at Nakasero Hospital limited.

1.5 Research questions

- i. What is the relationship between early supplier involvement and customer satisfaction at Nakasero Hospital Limited?
- ii. What is the relationship between supplier integration and customer satisfaction at Nakasero Hospital limited?
- iii. What is the relationship between information sharing and customer satisfaction at Nakasero Hospital Limited?
- iv. What is the relationship between collaborative problem solving and customer satisfaction at Nakasero Hospital Limited?

1.6 Scope of the study

1.6.1 Content scope

The study will focus on reviewing the correlation between Early Supplier Involvement and customer satisfaction at Nakasero Hospital Limited.

1.6.2 Geographical scope

The research will be conducted in a private profit health facility of Nakasero Hospital Limited, plot 14AAkibua Road Nakasero Located in Kampala central Uganda.

1.6.3 Time scope

This research will be conducted in September-December, 2025. This being a four month it will give time to collect information, analyze as well as to present significant findings.

1.7 Significance of the study

Hopefully, the policy recommendations based on this research could be of use to the board of directors, CEO and his cabinet by supplying facts of how early involvement of suppliers can affect customer satisfaction. It can also inform the management to develop the procurement and supplier management

policies that can advocate the collaboration with the suppliers early to enhance the service delivery and overall patient satisfaction.

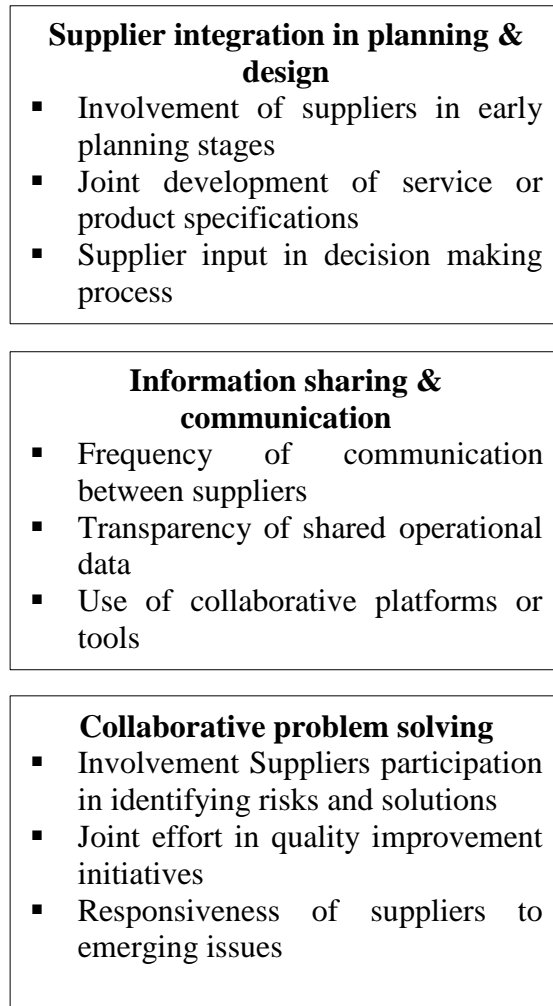
Hopefully, the results of this research can be useful to clients at Nakasero by enlightening the management and administrators on the ways of engaging suppliers in the early planning and decision making process thus resulting in quality medical supplies and services delivered in time. This could eventually lead to improvement of service efficiency, delays and overall patient experience and satisfaction.

This work will add to the current body of knowledge on Early supplier involvement and Customer satisfaction especially in health sector to fellow academicians. The results can be used as an academic reference in future studies and as a point of comparison within procurement, supply chain management and delivery of health services.

1.8 Conceptual framework

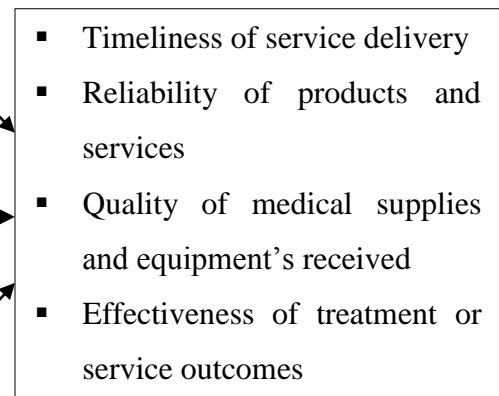
Independent variable

(Early Supplier Involvement)



Dependent variable

(Customer Satisfaction)



Source: *Adopted from Ragatz et al.,1997; Zhao et al. (2011); Li et al., 2014; Wieland & wallenburg (2013) and modified by the researcher (2025)*

CHAPTER TWO :LITERATURE REVIEW

2.0 Introduction

The chapter offers a review of the academic sources suggested by various personalities on the impact of early involvement of suppliers on customer satisfaction in health care as well as critically assessing the anomalies in the explanations to determine the research gap of the research variables. Objective review of literature will commence with definition of a concept and then going over objectives. References such as books and journals based on the study will be taken.

2.1 Theoretical review

2.1.1 The Cognitive Dissonance Theory

Cognitive Dissonance Theory was originally developed by Leon Festinger in 1957 as a theory to describe how human beings work towards internal psychological consistency in their beliefs, attitudes, and behaviors (Festinger, 1957). The theory says that individuals experience cognitive dissonance, or mental discomfort when they do encounter things or facts that oppose their existing ideas or anticipations. This discomfort compels individuals to do things that are meant to reduce the contradiction hence changing their attitudes, justifying their actions or reinterpreting the conflicting data (Cardozo, 1965).

Cognitive dissonance theory's main assumption is that people have an intrinsic need for cognitive consistency, and incongruity causes discomfort that people are driven to fix (Festinger, 1957). Discordance occurs not only when the beliefs contradict behavior but also between two ideas or new data challenge the accepted opinions (Crespo, 2023).

The cognitive dissonance theory has gained popularity in explaining and predicting human attitude and behavioral changes particularly in organizational and service delivery settings (Amanda, 2017). The theory held that individuals would adjust their attitude towards goods, services or organizations to reduce perceived inconsistencies between reality and expectations. Knowing dissonance assists managers in predicting customer or consumer reaction to the failure or missing expectations of services within the organizational set up, and the subsequent reactions on satisfaction and repeat action (Yahya and Sukmayadi, 2020). Consequently, the hypothesis provides businesses with a valuable guideline on how to manage impressions, improve service recovery strategies, and minimize unhappiness caused by psychological discomfort (Amanda, 2017).

Despite its wide use, scholars have directed a lot of criticisms towards cognitive dissonance theory. The opponents argue that the theory is conceptually vague and there are no consistent research methods used across studies, thus it is hard to verify it empirically (Vaidis and Bran, 2014). Furthermore, the

hypothesis has been attacked for stressing sensible cognitive activities too much while minimizing the part of emotions in determining how people react to dissonance (Crespo, 2023).

2.1.2 The Expectancy Disconfirmation/Confirmation Theory

Richard L. Oliver (1977; 1980) suggested the Expectancy Confirmation/Disconfirmation Theory (ECT) as one of the key theories to explain and evaluate customer satisfaction.

ECT assumes that before buying or using a product, consumers' expectations are formed by their prior knowledge, past experiences, and access to information (Shukla et al., 2025). These expectations are used as a reference point and the performance is in comparison with the actual performance during consumption and after consumption. Thus, happiness is not only determined by the real quality of the good or service but also by the proximity of the good or service to the initial expectations of the consumer (Vijay, 2025). ECT is quite useful when explaining variations in customer satisfaction in individuals who receive the same level of service performance (Oliver, 1980).

The affirmation theory of expectancy lies in its generality, which is applicable in numerous areas of research, such as information systems, marketing, sociology, public policy, and (Shukla et al., 2025). Its flexibility lets researchers use the theory in many different settings where user expectations and how they see performance affect how happy they are. As very applicable, ECT is regarded as a comprehensive tool to study customer happiness especially in businesses that deal with services where expectations play a significant role in shaping perceptions and assessments (Au et al., 2002).

2.2 Conceptual review

2.2.1 Early supplier involvement

According to Oktapia et al. (2022), ESI does not imply the active involvement of suppliers in the development of products or services, but rather the active involvement of suppliers in the development of a strategy to innovate the organization, and Moon et al. (2018) consider it a strategic collaboration mechanism that aligns competencies of suppliers with organizational innovation objectives. Randova (2023) introduces an additional time dimension, claiming that the efficiency of ESI will be determined, in large part, by the time of engagement with the supplier, and the sooner it is engaged, the more value it will create. All these interpretations seem to have a point of convergence whereby ESI is more than transactional procurement, it is a relational strategic approach of dealing with suppliers in order to improve the performance outcomes.

ESI is a multifaceted concept with various dimensions that have been operationalized by different scholars. Usually, the dimensions mentioned are the integration of suppliers in planning and design, information sharing and communication, and problem solving together (Oktapia et al., 2022; Kędzia and Staniec, 2022). As an example, Hallikas et al. (2021) place special emphasis on information sharing and digital collaboration as important dimensions of supplier engagement, whereas Cheng (2020) lays stress on joint decision-making and co-development as key aspects, in particular, in sustainability-focused

projects. Kurgat and Aila (2021) also indicate that early consultation, joint specification development, and supplier responsiveness are also the major indicators of ESI in healthcare supply chains. These dimensions show that ESI is calculated not just by the presence of suppliers but also by the in-depthness and quality of cooperation during the procurement and service development procedures.

Empirical research such as those carried out in East Africa and the Uganda have shown the applicability of ESI in enhancing organizational performance. In a study at Mukwano Industries in Uganda, Kabugo (2018) and Opira (2019) discovered that early involvement of the suppliers greatly enhanced operational efficiency, cost management, and quality of products. Likewise, Kusemererwa (2023) determined that practices of strategic supplier management such as early involvement had a positive impact on operational performance of the Development Finance Company of Uganda. In the healthcare context, studies from the region, such as Kurgat and Aila (2021) and Mukuna et al. (2024), show that ESI enhances supply chain reliability and service delivery in hospitals. Taken together, these researches present the picture that ESI is a very important facilitator of performance enhancement, especially in resource-limited settings like Uganda.

The general aim of early supplier involvement is to enable firms to attain a better efficiency, quality, innovation, and customer satisfaction due to the establishment of a collaborative relationship with suppliers (Moon et al., 2018). Three dimensions that will be used to measure ESI in this study include supplier integration in planning and design, information sharing and communication and collaborative problem solving. The integration of suppliers in planning and design will also determine how much suppliers are integrated into the initial planning stages, joint specifications, and decision-making, reflecting the strategic alignment and the shared responsibility (Oktapia et al., 2022). The frequency of use, transparency, and use of collaborative tools interacting with suppliers will determine the coordination and trust, which will be measured in terms of the frequency of information sharing and communication (Kędzia and Staniec, 2022). Joint problem solving will involve suppliers in risk identification, quality improvement processes, and responsiveness to new problems and will prove the potential of ESI to improve flexibility and service delivery (Kurgat and Aila, 2021; Frimpong et al., 2023).

2.2.2 Customer satisfaction

Customer satisfaction is a central construct in marketing and service management literature, commonly defined as a customer's overall evaluation of a product or service based on their experience and expectations. Manyanga et al. (2022) conceptualize customer satisfaction as an affective and cognitive response arising from customers' assessment of whether their needs and expectations have been adequately met. Similarly, Ali et al. (2021) view customer satisfaction as the outcome of perceived service quality, emphasizing that customers form judgments based on dimensions such as reliability, responsiveness, and assurance. While some scholars focus on satisfaction as an emotional reaction, others interpret it as a rational evaluation of service

performance, suggesting that customer satisfaction is a multidimensional construct influenced by both feelings and objective service attributes (Uvet, 2020).

Scholars differ in their understanding of how customer satisfaction should be measured and what dimensions best capture it. Uvet (2020) highlights logistics service quality factors such as timeliness, reliability, and accuracy as critical determinants of customer satisfaction, particularly in service delivery environments. In healthcare settings, Gonzalez (2019) argues that customer satisfaction extends beyond service speed to include perceived quality of care, effectiveness of treatment, and alignment with patient needs. Chao and Cheng (2019) further expand this view by incorporating service recovery and responsiveness to service failures as essential components influencing satisfaction and loyalty. These differing perspectives demonstrate that customer satisfaction is context-specific, with its dimensions varying depending on the nature of the service and the expectations of customers.

Empirical studies have widely applied customer satisfaction as a key outcome variable to assess organizational performance and service effectiveness. For instance, Kurnia et al. (2023) used customer satisfaction to evaluate the effectiveness of lean service approaches in hospital procurement processes, finding that improved efficiency and reduced delays significantly enhanced satisfaction levels. In East African contexts, Otieno (2023) examined customer satisfaction in public hospitals and established that supplier evaluation and procurement efficiency indirectly influenced satisfaction through improved service reliability. Similarly, Gatobu and Moronge (2024) demonstrated that effective supplier relationship management positively affected customer satisfaction by ensuring consistent product quality and timely delivery. These studies highlight the importance of customer satisfaction as a performance indicator in healthcare and service-oriented organizations within developing economies similar to Uganda.

The primary goal of customer satisfaction is to help organizations achieve improved service outcomes, loyalty, and overall performance through meeting or exceeding customer expectations. In this study, customer satisfaction will be measured using four indicators: timeliness of service delivery, reliability of products and services, quality of medical supplies and equipment received, and effectiveness of treatment or service outcomes. Timeliness of

service delivery will assess the extent to which services and supplies are provided without unnecessary delays, reflecting efficiency and responsiveness (Uvet, 2020). Reliability of products and services will measure consistency and dependability in service provision, indicating trustworthiness (Ali et al., 2021). Quality of medical supplies and equipment will capture customers' perceptions of safety, functionality, and suitability for medical use, reflecting perceived service value (Gonzalez, 2019). Finally, effectiveness of treatment or service outcomes will assess whether services lead to improved health outcomes or meet intended objectives, demonstrating the ultimate impact of service delivery on customer wellbeing (Kurnia et al., 2023).

2.2 Empirical review

2.2.1 Early supplier involvement and customer satisfaction

Kurgat and Aila (2021) in their study examined early supplier involvement found that early engagement of suppliers significantly improved supply chain performance through better coordination, reduced delays, and improved availability of medical inputs, which ultimately enhanced patient service experiences and satisfaction. The study demonstrated that when suppliers are involved early in planning and specification stages, hospitals experience fewer stock-outs and service interruptions, which positively influences customer satisfaction by ensuring timely and reliable service delivery (Kurgat & Aila, 2021). Similarly, Ali et al. (2021) established that service quality dimensions such as reliability and responsiveness are strong predictors of customer satisfaction, and these dimensions are directly strengthened by early supplier involvement through improved supplier responsiveness and quality assurance. The interaction between early supplier involvement and service quality shows that supplier collaboration fuels service consistency, which in turn enhances customer satisfaction outcomes in service-based organizations such as hospitals (Ali et al., 2021).

Oktapia et al. (2022) investigated early supplier involvement in organizational processes and revealed that supplier integration enhances teamwork and process efficiency, leading to improved outputs that positively influence end-user satisfaction. The study emphasized that early supplier involvement enables organizations to align supplier capabilities with operational needs, thereby improving product and service quality that customers directly experience. In

support of this relationship, Kędzia and Staniec (2022) found that supplier involvement strengthens communication and collaboration across the supply chain, which enhances resilience and service reliability, both of which are key drivers of customer satisfaction. These findings collectively illustrate that early supplier involvement fuels effective communication and collaboration, which improves service outcomes and reinforces customer satisfaction through dependable and high-quality service delivery (Oktapia et al., 2022; Kędzia & Staniec, 2022).

Kurnia et al. (2023) assessed healthcare equipment procurement processes and established that early involvement of suppliers supports lean service implementation, which reduces procurement cycle time and enhances customer satisfaction in hospitals. The study showed that supplier collaboration improves efficiency and sustainability in procurement processes, thereby ensuring timely availability of quality medical equipment that meets patient needs and expectations. Complementing these findings, Otieno (2023) found that effective supplier evaluation and early engagement in public hospitals improved procurement performance, which translated into better service delivery and higher customer satisfaction levels. These studies demonstrate that early supplier involvement strengthens procurement effectiveness, which directly fuels customer satisfaction by improving timeliness, reliability, and quality of healthcare services (Kurnia et al., 2023; Otieno, 2023).

Mukuna et al. (2024) examined supplier relationship management found that early supplier involvement enhances coordination and trust, leading to improved service performance and higher customer satisfaction. The study highlighted that collaborative supplier relationships ensure consistent supply of medical inputs, which supports uninterrupted service delivery and positively shapes patient perceptions and satisfaction. In a related study, Gatobu and Moronge (2024) established that early supplier involvement within supplier relationship management frameworks improves procurement performance, which indirectly enhances customer satisfaction through improved product quality and service reliability. Together, these findings confirm that early supplier involvement is interconnected with customer satisfaction by strengthening supplier relationships, improving operational performance, and ensuring consistent, high-quality service delivery that meets customer expectations (Mukuna et al., 2024; Gatobu & Moronge, 2024).

2.2.2 Supplier integration and customer satisfaction

In their research, Hallikas et al. (2021) explored supplier integration via digitalized procurement and discovered that high integration of buyers and suppliers enhances accuracy of information, coordination, and responsiveness across the supply chain, which in turn increases service reliability to the customers. The research determined that, with suppliers included in the operation planning and data sharing platforms, services organizations have fewer disruptions and delays and consequently tend to have a higher consistency in service deliveries and customer satisfaction. Equally, Manyanga et al. (2022) were able to show that operational consistency and positive service experiences have a strong relationship with customer satisfaction, which means that the integration of suppliers indirectly drives customer satisfaction by stabilizing service processes. All these results indicate that supplier integration enhances internal functions, which subsequently lead to customer experiences and satisfaction due to trustworthy and predictable service performance (Hallikas et al., 2021; Manyanga et al., 2022).

Frimpong et al. (2023) examined supplier integration in manufacturing companies and found that early and systematic supplier integration leads to lower costs of operations and better performance efficiency, which positively impacts customer satisfaction in terms of more available and better quality products. The research highlighted that coordination and joint decision making process increases when suppliers are integrated and that reduces delays in production and manufacturing errors that customers tend to equate to dissatisfaction. In line with this connection, Manyanga et al. (2022) observed that customer levels of satisfaction increase when the organizations provide services and products in a consistent and efficient manner, which supports the thesis that supplier integration drives customer satisfaction by enhancing the performance of operations. So, the relationships between supplier integration and customer satisfaction are interposed where the first is a supporting mechanism, which helps firms to fulfill customer expectations better (Frimpong et al., 2023; Manyanga et al., 2022).

Randova (2023) explored the time of supplier integration and found out that integrating suppliers into the planning and development process early on improves coordination, rework and final service or product results, which have a positive impact on customer satisfaction. The research revealed that early integration of suppliers can result in more matched capability and expectation, which translates into increased service reliability and perceived value by customers. Simultaneously, Hallikas et al. (2021) also discovered that the integrated supplier relations facilitated by the shared systems and analytics enhance the supply chain visibility, which enhances the reliability of the provided services and enhances customer confidence. These articles indicate that customer satisfaction is powered by supplier integration that enhances coordination and reliability, thus making sure that customer requirements are met efficiently and consistently (Randova, 2023; Hallikas et al., 2021).

Kusemererwa (2023) studied the practice of strategic supplier management in Uganda and determined that supplier integration improves operational performance through improved accuracy of planning, service continuity and responsiveness contributing to better customer satisfaction. The paper has pointed out that integrated suppliers have a higher potential to drive organizational objectives, which translates to prompt service provision and minimized service breakdowns, which are adverse to

customers. Likewise, Frimpong et al. (2023) observed that companies where the supplier integration is high attain a better performance outcome that is translated into a better customer satisfaction due to the availability of reliable outputs and decreased operational inefficiencies. These results affirm the interdependence between supplier integration and customer satisfaction where high-level supplier integration improves operational effectiveness that directly contributes to positive customer experiences and satisfaction (Kusemererwa, 2023; Frimpong et al., 2023).

2.2.3 Information sharing and customer satisfaction

The study by Oktapia et al. (2022) explored the idea of information sharing as an essential part of the early supplier involvement and discovered that the regular and open communication between organizations and suppliers leads to better coordination and collaboration, which result in improved service outputs that are directly felt by customers. The research revealed that when there is early and accurate sharing of operational and technical information, suppliers can match their inputs with the organizational needs and this results in better quality of products and services that have a positive impact on customer satisfaction. On the same note, Kurgat and Aila (2021) discovered that effective information exchange between the hospital and suppliers will boost the performance of the supply chain by decreasing delays and errors, which boost service reliability and customer satisfaction in healthcare facilities. These results indicate that the operational efficiency and coordination, in turn, are driven by information sharing, which subsequently leads to better service delivery and increased customer satisfaction (Oktapia et al., 2022; Kurgat and Aila, 2021).

Kurnia et al. (2023) explored lean service strategy within the hospital procurement and set it that prompt and open sharing of information with the suppliers can greatly improve the procurement cycle time and equipment availability which directly relates to customer satisfaction. The research emphasized that information exchanged among suppliers would help them predict demand and act swiftly to maintain continuity of the healthcare services that the patients appreciate. To substantiate this correlation, Ali et al. (2021) discovered that both responsiveness and reliability as the results of efficient information flow are the key factors of customer satisfaction in any service sector. Combined, these articles indicate that the exchange of information enhances responsiveness and reliability of services, which consequently drives customer satisfaction by providing timely and reliable services (Kurnia et al., 2023; Ali et al., 2021).

Mukuna et al. (2024) investigated the concept of supplier relationship management in referral hospitals and found out that open and continuous information exchange fosters trust and coordination between hospitals and suppliers which results in better service performance and customer satisfaction. The research revealed that information on operations shared minimizes uncertainty and disruption in supply, which guarantees a steady supply of medical supplies that have a direct impact on patient satisfaction. Equally, Gatobu and Moronge (2024) discovered that information sharing in supplier relations enhances procurement outcomes by bettering planning precision and delivery dependability, which in turn indirectly enhance customer satisfaction. These results prove that information exchange and customer satisfaction are inseparable as open communication enhances supplier relations and performance that customers eventually feel (Mukuna et al., 2024; Gatobu and Moronge, 2024).

Otieno (2023) defined that the sharing of information in the process of supplier evaluation and procurement planning in the public hospitals has a significant improvement of procurement performance that results in better quality of services and customer satisfaction. The research pointed out that the distribution of correct specifications and performance feedback to the suppliers improve compliance and consistency of services, which positively affect customer perceptions. In an overlapping view, Gonzalez (2019) held that customers in a healthcare facility gain satisfaction when their needs are fulfilled regularly, a situation that can be achieved with a proper flow of information both internally and externally. All these studies indicate that information sharing is a catalyst to procurement effectiveness and service consistency that directly influence customer satisfaction by making sure that services are delivered according to expectations and otherwise.

2.2.4 Collaborative problem solving and customer satisfaction

In their article, Frimpong et al. (2023) have studied the practices of early supplier involvement in manufacturing companies and determined that joint problem solving between buyers and suppliers has a significant positive impact on the operational efficiency and cost minimization which in turn positively impacts on the service quality delivered to the customers. The research indicated that the more actively suppliers are involved in recognizing operational issues and collectively working out solutions, the fewer disruptions and more consistent output are observed in organizations, which enhances customer satisfaction. Likewise, Kędzia and Staniec (2022) discovered that the collaborative nature of problem solving in supplier involvement enhances the resilience of the supply chain to risks and quality issues through joint problem solutions, which result in a more reliable product and service to a customer. These works prove that joint problem-solving contributes to service reliability and quality enhancement which are directly linked with an increase in customer satisfaction (Frimpong et al., 2023; Kędzia and Staniec, 2022).

Hallikas et al. (2021) determined that shared analytics and joint decision-making through collaborative problem solving positively influences supply chain performance through providing partners with the capacity to respond to an emerging issue, thereby increasing service responsiveness that customers experience. The research pointed out that collaborative data interpretation enables suppliers and organizations to solve issues more quickly, and delays and service failures that adversely impact consumer satisfaction can be minimized. To back this up, Randova (2023) discovered that early and sustained partnership between buyers and suppliers in problem solving activities results in improved project performance and status of preference to customers, which reflects itself in better service delivery and customer satisfaction. These results suggest that teamwork problem solving enhances the sense of coordination and responsiveness, which in turn drives customer satisfaction due to the timely and reliable availability of services (Hallikas et al., 2021; Randova, 2023).

Kusemererwa (2023) found out that strategic supplier management practices that focus on common problem solving has a tremendous positive impact on the performance of operations through increased responsiveness of suppliers and service reliability, which positively affect customer satisfaction. The paper has revealed that collaborative engagement helps organizations and suppliers together to fix service failures and process inefficiencies to deliver uniform service outcomes that are appreciated by

customers. Equally, Manyanga et al. (2022) defined that the consistent resolution of the service-related problems will increase customer satisfaction and experience that subsequently affect loyalty and positive perceptions. All these studies show that collaborative problem solving drives service consistency and customer satisfaction, providing evidence of a high level of interdependence between problem resolution processes and customer satisfaction (Kusemererwa, 2023; Manyanga et al., 2022).

Chao and Cheng (2019) discovered that joint service recovery between service providers and suppliers plays a major role in enhancing customer satisfaction as challenges are solved promptly and efficiently despite the fact that failures might be experienced in the first place. The paper has highlighted that the customer trust can be regained through the joint problem solving mechanisms which result in enhanced responsiveness and service quality. Similarly, in a related view, Uvet (2020) showed that proper management of logistics and service issues through coordination effectively boosts customer satisfaction, through better reliability and delivery performance. This evidence demonstrates that the problem solving together enhances the recovery, reliability, and responsiveness that in turn contribute to customer satisfaction and the interdependence between supplier collaboration and customer outcomes (Chao and Cheng, 2019; Uvet, 2020).

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

In this chapter, the manner in which the study will be performed is described. The research design, the study area and the population, sampling procedures, sample size and composition, data collection methods, data processing, data analysis methods, data quality control, reliability and ethical considerations are all inclusive.

3.1 Research design

A cross-sectional survey research design will be used in this study, where the researcher will gather data on respondents at one time and not engage in further communication (Spector, 2019). This design fits well since it will enable the researcher to effectively examine the connection between involvement of the supplier at an early stage and customer satisfaction at Nakasero Hospital Limited within the resource and time constraints. The design will help the researcher to identify the current trends and relationships between supplier integration, information sharing, collaborative problem solving and how they affect customer satisfaction during the data collection period (Patrik & Ugo, 2019).

A combination of qualitative and quantitative methods will be used in order to offer an all round perspective of the research issue. The quantitative part will imply the use of structured questionnaires filled in by hospital employees engaged in procurement and service delivery to provide the numerical data to be analyzed statistically to study the impact of supplier integration, information sharing, and collaborative problem solving on patient satisfaction (Bhardwaj, 2019). The qualitative aspect will entail semi-structured interviews with the key informants such as the Procurement Manager, Supply Chain Coordinator, and Customer Service Manager on how the early involvement practices are applied, tracked, and conceived in the delivery of customer satisfaction at Nakasero Hospital Limited (Haradhan, 2021).

3.2 Study area

The research will be conducted on one of the privately owned profit health facilities of Nakasero hospital limited, plot 14AAkibua Road Nakasero in Kampala central in Uganda. The case study of Nakasero Hospital Limited is selected since it is one of the leading private health facilities in Kampala, which extensively involves suppliers in procurement activities, thus it is suitable in studying the impact of early involvement of suppliers on customer satisfaction.

3.3 Study population

As per the statistics provided in the statistics of the HRM of the Nakasero Hospital Limited (2024), 389 employees are working in the various departments of this hospital. Nonetheless, the study population will capture only the employees in the departments that perform various non-clinical functions required to run the hospital which include; procurement, finance, customer care, ICT and human resources totaling to 60 employees which will form the study population. The study population will also include key informants who include; the top management of Nakasero Hospital Limited like the executive director, procurement manager, supply chain coordinator, finance manager and customer service manager totaling to 5.

3.4 Sample size determination

Sample size, as defined by Katamba & Nsubuga (2014), is the part or subset of the entire population. The following formula developed by Taro Yamane in 1970 will be used to calculate the sample size:

$$n = \frac{N}{1 + N(e)^2}$$

“n” is sample size, “N” is population, “e” is error (0.05) or level of confidence 95%

“N” (population) = 60 employees from the departments that handle various non-clinical functions necessary for hospital operation

$$n = \frac{60}{1 + 60(0.05)^2}$$

$$n = \frac{60}{1 + 60(0.0025)}$$

$$n = \frac{60}{1 + (0.15)}$$

$$n = \frac{60}{1.15}$$

n = 52 selected employees from the departments that handle various non-clinical functions necessary for hospital operation. The population and sample size are further divided in the table below.

Table 1: Population, sample size and sampling methods

Categories of respondents	Population	Sample size	Sampling method
Employees from selected departments	60	52	Simple random sampling
Top management	5	5	Purposive sampling
TOTAL	65	57	

Source: Nakasero Hospital Limited (2025)

Therefore from the table above, the sample size will be 52 respondents got from a total population of 60 employees from the departments that handle various non-clinical functions necessary for hospital operation like the procurement, finance, customer care, ICT and human resources departments. The study will also include a sample of 5 key informants who are the top management of Nakasero Hospital Limited like the executive director, procurement manager, supply chain coordinator, finance manager and customer service manager.

3.5 Sampling method

In this study, both purposive and simple random sampling methods will be used. The key informants will be selected using purposive sampling, which will target the top management of Nakasero Hospital Limited: the Executive Director, the Procurement Manager, the Supply Chain and the Finance Manager, the Customer Service Manager. This is because they possess specialized knowledge about the hospital's operations, supplier management, and customer service strategies, and are directly involved in implementing and monitoring early supplier involvement practices, making their insights crucial for understanding the impact of these practices on customer satisfaction.

Moreover, simple random sampling will be used to select a sample of 52 employees working in the various departments that perform various non-clinical functions required to run the hospital, such as procurement, finance, customer care, ICT and human resources. This approach will make sure every employee has an equal opportunity to be picked, making it less biased and offering a representative sample of the population. Simple random sampling will fit this type since it is possible to generalize the results about the entire population of employees who are involved in the supplier management processes and customer service processes of the Nakasero Hospital Limited.

3.6 Sources of data

Primary source: : Primary source will be collected in the field through structured questionnaires and semi-structured interviews carried out to the sampled respondents. This will help the researcher obtain

first hand information on how employees and management perceive and experience the implementation of the early supplier involvement practices at Nakasero Hospital Limited and how the practices have influenced customer satisfaction.

Secondary source: The researcher will also consult secondary data in the form of existing reports, records as well as documentation kept by Nakasero Hospital Limited such as supplier records, procurement reports, customer feedback forms, service delivery reports and other pertinent documents. These sources will give background on the hospital supplier management and customer service process, past trends in customer satisfaction and previous performance measures to supplement the primary data that will be collected among employees and key management officials.

3.7 Data collection methods and instruments

The data collection procedures and data collection tools that will be utilized in the data collection process are;

3.7.1 Questionnaires

A self-administered questionnaire will be used in the collection of quantitative data using selected employees of Nakasero Hospital Limited. A questionnaire is, therefore, an important instrument in collecting information on how these participants perceive and experience early supplier involvement practices and how these practices impact customer satisfaction. Close ended questions will be applied which are easy to code and undergo statistical analysis. The responses will be rated in five-point Likert scale where 5 = Strongly Agree, 4 = Agree, 3 = Not Sure, 2 = Disagree and 1 = Strongly Disagree. Questionnaires are suitable since it will be possible to collect standardized data in a relatively high number of employees with a high degree of efficiency and this will make it possible to compare various early supplier involvement habits and their perceived effects to customer satisfaction. Where the participants seem to need clarification, the researcher will offer guidance and clarify questions in order to have correct answers.

3.7.2 Key informant interviews

Key informants, including the Executive Director, Procurement Manager, Supply Chain Coordinator, Finance Manager and Customer Service Manager of Nakasero Hospital Limited will be interviewed using semi-structured interviews. The tool will allow the researcher to gather qualitative information about the issues surrounding the practice of early supplier engagement, challenges, and perceived effectiveness of the practice in improving customer satisfaction. The interviews enable the respondents to explain and elaborate on issues, among others, how the processes of engaging suppliers are done, the

gaps they face and how these affect service delivery and patient satisfaction. Probing will be used to get more to the point explanations, clear up the ambiguous answers and get to the nuances that otherwise would not have been identified with questionnaires. These interviews are quite essential as they offer managerial and organizational insights that can be used to supplement the information gathered among the employees.

3.8 Data collection procedure

The researcher will first get an introductory letter with the School of Business in Uganda Christian University, and then she will request the top management of Nakasero Hospital Limited to allow her to use it as a case study. The researcher will visit different respondents and carry out interviews and distribute the questionnaires.

3.9 Quality and error control

3.9.1 Validity of the research instrument

The researcher will first conduct pre-test of questionnaires to ensure that the tools to use in data collection are valid and the researcher will make everything possible to be most involved in data collection and analysis to avoid the number of errors possible in her research. Validity will therefore then be gauged by looking at how true the instruments measure the results or how they form an intervention that tries to influence.

3.9.2 Reliability of the research instrument

An instrument is reliable if it measure consistently what it is supposed to measure even if other - researchers administer it, it should be able to produce the same results to ensure reliability. And a pilot study will be conducted on some of the few respondents on this research topic and then the questionnaires will be mailed to other respondents. Thus, reliability will be ensured by first doing a pre-test and then undertaking an after-test of the study. The empirical measurements will be determined to be reliable by retest method whereby some of the people will be administered the same test after sometime. Reliability of the test will then be estimated by looking at the consistency in responses between the two variables/sets.

3.10 Data analysis

3.10.1 Analysis of quantitative data

The questionnaires will be analyzed with SPSS version 26 to analyze quantitative data. All of the answers will be numerically coded and negatively worded questions will be flipped to ensure uniformity. The results of the perceptions and experiences of employees on early supplier involvement

practices and their effects on customer satisfaction in Nakasera Hospital Limited will be summarized using descriptive statistics, including frequencies, percentages, means and standard deviations. This approach is suitable as it gives a good understanding of trends and patterns of the data and it is easy to analyze the opinion of participants on the effectiveness of supplier integration, information sharing and collaborative problem-solving to improve service delivery and patient satisfaction.

3.11 Ethical considerations

According to Resnik, (2011), ethical consideration is a concern with disciplines that examine standards of conduct, which include philosophy, theology, law, psychology or sociology. The researcher will exhibit a high level of ethical behavior in the course of implementing the study; confidentiality where the information got from the field will only be used for academic purpose. There will also be anonymity of the respondents exhibited so that they can get the freedom to express themselves. Better still, all respondents will be informed of the study and be included in it only after giving their informed consent. Confidentiality will also be assured and maintained. The nature and the purpose of the study will be given to the respondents and they will be told that they have the right to participate or not participate.

3.12 Anticipated limitations and delimitations of the study

There might be little time for data collection since the researcher will be taken up by other academic activities. To do this research, the researcher will have to improvise time to carry out the research by asking the supervisor to take some time off the hectic academic schedule.

Secondly, the researcher may encounter a problem of the respondents not being willing to participate by responding to questions; majority of them may avoid responding to the questions citing that they are not legible. The researcher will try studying ways of collecting complete information from the available respondents to curb down the challenge of less information from the respondents.

Finally, most respondents might be too busy to answer the questions and accept to be interviewed. They might give this excuse to dodge responding to the questions and interviews. This will be addressed by booking appointments with these respondents to have free time with them to enable them to complete these questionnaires without any difficulties.

CHAPTER FOUR: DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.0 Introduction

This chapter presents the findings of the study on the effect of early supplier involvement on customer satisfaction at Nakasero Hospital Limited. The chapter provides analysis and interpretation of data collected from respondents using structured questionnaires.

The analysis is organized according to the study objectives and research variables. Descriptive statistics such as frequencies, percentages, means, and standard deviations were used to summarize the data. Inferential statistics such as correlation analysis were used to determine the relationship between early supplier involvement practices and customer satisfaction.

The results are presented in tables and interpreted accordingly.

4.1 Response Rate

A total of 57 questionnaires were distributed to employees of Nakasero Hospital Limited from the selected departments. Out of these, 52 questionnaires were successfully returned, representing a response rate of 91.2%. This response rate is considered adequate for statistical analysis and interpretation because it is above the commonly acceptable threshold of 70%.

Table 4.1: Response Rate

category	frequency	percentage
Questionnaires distributed	57	100.0%
Questionnaires returned	52	91.2%

Questionnaires not returned	5	8.8%
-----------------------------	---	------

4.2 Demographic Characteristics of Respondents

4.2.1 Gender of respondents

The findings show that the majority of respondents were female (61.5%), followed by male (38.5%). The overall interpretation is that females formed the largest share of respondents.

Table 4.2: Gender of respondents

Gender	Frequency	Percentage
Female	32	61.5%
Male	20	38.5%

4.2.2 Age bracket of respondents

Most respondents were in the younger age categories. Those below 25 years constituted 48.1%, while 25–34 years accounted for 42.3%. Only **7.7%** were in the 35–44 years category. One response (1.9%) appears to have selected multiple categories (25–34 years; 35–44 years), suggesting a minor data entry issue.

Table 4.3: Age bracket of respondents

Age bracket	Frequency	Percentage
Below 25 years	25	48.1%
25–34 years	22	42.3%
35–44 years	4	7.7%

25–34 years;35–44 years	1	1.9%
-------------------------	---	------

4.2.3 Department of respondents

The majority of respondents were from the Procurement department (55.8%), followed by Customer Care (15.4%). The Finance, ICT, and Human Resource departments each contributed 9.6% of the respondents. This distribution is appropriate given the study topic, since procurement staff are directly involved in supplier engagement and purchasing decisions.

Table 4.4: Department of respondents

Department	Frequency	Percentage
Procurement	29	55.8%
Customer Care	8	15.4%
Finance	5	9.6%
ICT	5	9.6%
Human Resource	5	9.6%

4.2.4 Work experience at Nakasero Hospital Limited

In terms of work experience, most respondents had worked at the hospital for 1–3 years (51.9%), followed by those with less than 1 year (36.5%). A smaller proportion had worked for 4–6 years (11.5%). This suggests that the sample largely consists of relatively recent employees, who may still have fresh exposure to current procurement and supplier engagement practices.

Table 4.5: Work experience of respondents

Work experience	Frequency	Percentage
Less than 1 year	19	36.5%

1–3 years	27	51.9%
4–6 years	6	11.5%

4.3 Descriptive statistics for study variables (Likert scale results)

To address the study objectives, responses were analysed using means and standard deviations. The results indicate generally positive perceptions across the three key constructs. This section presents descriptive statistics (N, Mean, Standard Deviation) for the Likert-scale items under the study variables. All items were measured on a 5-point scale where 1 = Strongly Disagree 2= Disagree, 3= Neutral, 4=Agree and 5 = Strongly Agree. Across the items, N = 52 for each statement, meaning all returned questionnaires were usable for these sections.

4.3.1 Relationship between Supplier Integration and customer satisfaction

Overall, responses under Supplier Integration show a generally positive perception of supplier integration practices at Nakasero Hospital Limited, with item means leaning toward *Agree*

Table 4.5: Descriptive statistics for Supplier Integration items (n = 52) (Report Mean and Std. Dev. for each statement)

Section B	N	MEAN	SD
Supplier integration			
Early involvement of supplier improves alignment with hospital needs	52	4	1.188
Supplier input is considered key in procurement decisions	52	3.615	1.14
Suppliers are involved in procurement planning at an early stage	52	3.577	1.161

Supplier contribute ideas during service or product design	52	3.442	1.349
Suppliers participate in developing specifications for medical supplies		3.288	1.177

The highest-rated statement in this section was “Early involvement of suppliers improves alignment with hospital needs” (Mean = 4.000, SD = 1.188), indicating that respondents largely agree that involving suppliers early helps align supplies/services with hospital requirements. The standard deviation suggests some variation in views, but the overall direction remains positive.

4.3.2 Relationship between Information Sharing and Communication and customer satisfaction

Findings under Information Sharing and Communication indicate strong agreement that communication with suppliers supports hospital performance and service delivery. This section also recorded the strongest overall association with customer satisfaction in the correlation analysis (reported later), which aligns with the generally high item means.

Table 4.6: Descriptive statistics for Information Sharing and Communication items (n = 52)

Information sharing and communication	N	MEAN	SD
Effective communication with suppliers improves service delivery	52	4.077	1.218
The hospital uses effective platforms/tools to communicate with suppliers	52	3.808	1.067

Information shared with suppliers is clear and accurate	52	3.769	1.198
There is frequent communication between the hospital and suppliers	52	3.75	1.219
Procurement information is shared with suppliers in a timely manner	52	3.577	1.126

The most highly rated statement in this section was “Effective communication with suppliers improves service delivery” (Mean = 4.077, SD = 1.218). This implies that respondents perceive supplier communication as a key driver of better service delivery outcomes at the hospital.

4.3.3 Relationship between Collaborative Problem Solving and customer satisfaction

Table 4.7: descriptive statics for collaborative problem solving

Collaborative problem solving	N	MEAN	SD
Joint problem-solving improves quality of medical supplies	52	3.942	1.092
Collaborative efforts reduce service disruptions	52	3.846	1.144
The hospital and suppliers jointly solve supply-related problems	52	3.5	1.038
Suppliers respond quickly to emerging service or supply issues	52	3.346	1.153
Suppliers are involved in identifying procurement-related challenges	52	3.327	1.167

The highest-rated item captured under this construct was “Joint problem-solving improves quality of medical supplies” (Mean = 3.942, SD = 1.092), indicating that collaborative approaches (hospital–supplier) are perceived to improve the quality of supplies, which is a key contributor to satisfaction in a healthcare setting.

4.3.4 Customer Satisfaction

Customer satisfaction-related items also show generally positive responses, with means close to *Agree*. This suggests that respondents perceive customer satisfaction outcomes as relatively favourable, and these outcomes appear to improve when early supplier involvement practices are stronger.

Table 4.8: Descriptive statistics for Customer Satisfaction items (n = 52)

Customer satisfaction	N	MEAN	SD
Service delivery contributes to effective patient outcomes	52	3.885	1.096
Quality of medical supplies and equipment meets expectations	52	3.865	1.067
Medical supplies and services are reliable	52	3.615	1.013
Services are delivered to patients on time	52	3.538	1.093
Overall, customers are satisfied with services at Nakasero Hospital	52	3.5	1.196

Overall, the composite mean scores were as follows: Supplier Integration (Mean = 3.58, SD = 0.95), Information Sharing and Communication (Mean = 3.80, SD = 0.91), and Customer Satisfaction (Mean = 3.64, SD = 0.84). This implies that respondents generally leaned toward agreement that early supplier involvement practices exist and that customer satisfaction is

moderately high, with information sharing and communication rated strongest among the constructs.

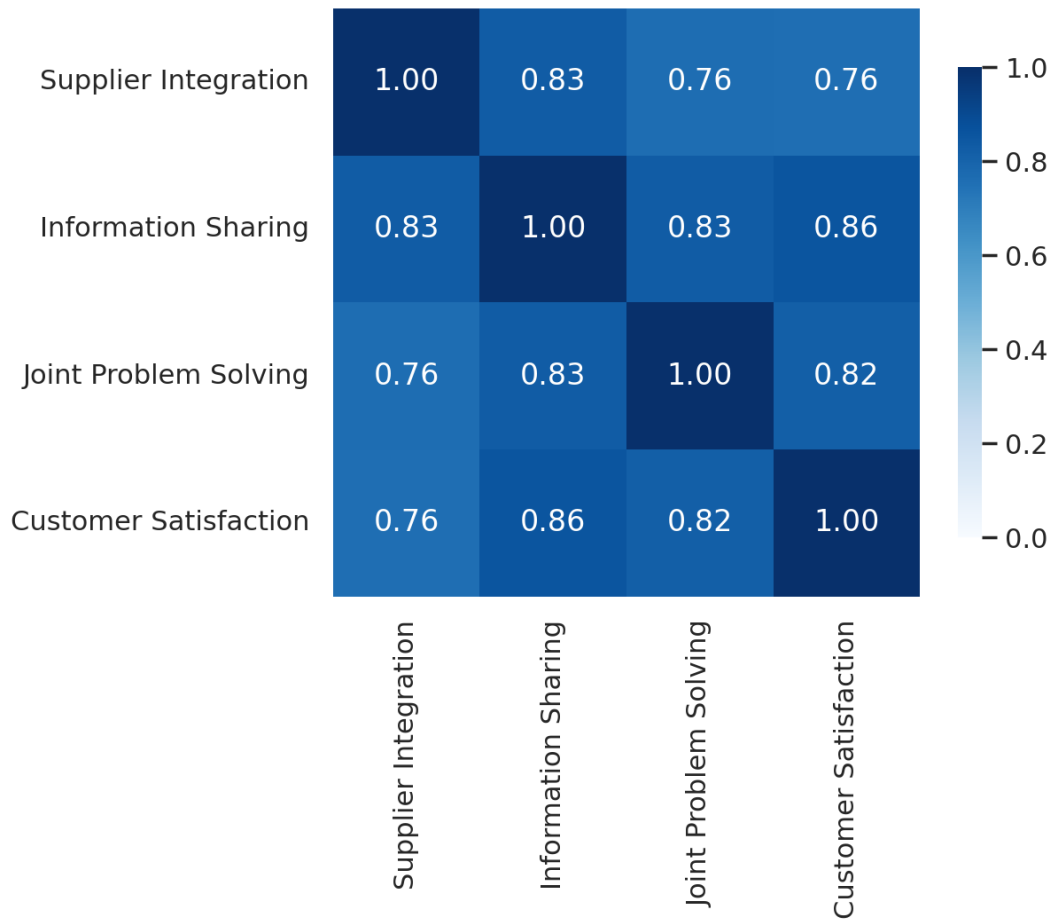
4.4 Correlation analysis (relationship between early supplier involvement and customer satisfaction)

Pearson correlation analysis was conducted to determine the relationship between early supplier involvement practices and customer satisfaction. The findings show that all the dimensions of early supplier involvement have a strong positive relationship with customer satisfaction at Nakasero Hospital Limited.

Table. 4.9 Correlation analysis table

Variable 1	Variable 2	N	Pearson r	p-value
Information Sharing	Customer Satisfaction	52	0.856	<0.001
Joint Problem Solving	Customer Satisfaction	52	0.82	<0.001
Supplier Integration	Customer Satisfaction	52	0.761	<0.001

Figure 4.2: Correlation Matrix (Pearson r)



Supplier Integration and Customer Satisfaction

The findings show a strong positive correlation ($r = 0.761$, $p < 0.001$) between supplier integration and customer satisfaction. This indicates that increased involvement of suppliers in procurement planning, specification development, and decision-making significantly improves customer satisfaction. When suppliers participate in early planning stages, the hospital is able to obtain medical supplies that better match operational needs, leading to improved service delivery and better patient experiences.

Information Sharing and Customer Satisfaction

Information sharing showed the strongest positive relationship with customer satisfaction ($r = 0.856$, $p < 0.001$). This suggests that effective communication between the hospital and suppliers plays a critical role in improving service delivery outcomes. Timely and accurate sharing of procurement information enables suppliers to respond quickly to hospital

requirements, ensuring reliable supply of medical products and services, which ultimately enhances patient satisfaction.

Collaborative Problem Solving and Customer Satisfaction

The results also indicated a strong positive correlation ($r = 0.820$, $p < 0.001$) between collaborative problem solving and customer satisfaction. This implies that when the hospital and suppliers work together to identify and resolve supply-related challenges, service disruptions are minimized. Joint problem-solving improves the quality and reliability of medical supplies, which contributes to more efficient healthcare service delivery and improved customer satisfaction.

CHAPTER FIVE ;SUMMARY OF FINDINGS, DISCUSSION OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter outlines, discussion of findings in relation to objectives of the study and available literature, findings derived conclusions, recommendations to enhance practice and future research areas. The discussion compares the findings of the research to the available literature and theoretical approaches on the influence of early supplier involvement on customer satisfaction that are investigating the connection between supplier integration, information sharing and communication, collaborative problem solving and customer satisfaction in the healthcare industry, and specifically in Nakasero hospital limited. The results help to understand how practices of supplier engagement relate to service delivery and patient satisfaction in the healthcare industry.

5.1 Summary of Findings

The results of the research were generalized based on the targeted objectives of the research.

5.1.1 Supplier integration and customer satisfaction

The analysis has shown that the supplier integration is positively related to customer satisfaction at Nakasero Hospital Limited. The correlation analysis revealed that there was a strong positive correlation between supplier integration and customer satisfaction ($r = 0.761$, $p < 0.001$).

The descriptive analysis indicated that respondents tended to endorse the idea that suppliers are a part of the procurement planning process and that they provide ideas when designing a product or service. The most highly rated item stated that supplier involvement in the early stages enhances compatibility with the needs of the hospital. This implies that the incorporation of suppliers in the planning and specification development process can enable the hospital to access the medical supplies that are more aligned to the operational needs.

These results reveal that supplier integration can lead to improved coordination between the hospital and suppliers, better quality and reliability of the medical supplies, improved service delivery outcomes, which, in turn lead to increased customer satisfaction.

5.1.2 Information sharing and customer satisfaction

The results indicated that among the variables of the study information sharing and communication have the best relationship with customer satisfaction. The correlation analysis revealed that there was a very high positive relationship between information sharing and customer satisfaction ($r = 0.856$, $p < 0.001$).

The respondents concurred that good communication with suppliers enhances service delivery and timely delivery of procurement information. It was also revealed that the hospital interacts with suppliers often and provides clear and correct procurement information.

These findings suggest that with proper information exchange, suppliers can act promptly to the demands of the hospital, and this minimizes delays in the procurement process and timely delivery of the medical supplies. This enhances consistency of healthcare services and has a great deal to do with customer satisfaction.

5.1.3 Collaborative problem solving and customer satisfaction

The paper also found that there is a strong positive relationship between collaborative problem solving between the hospital and suppliers and customer satisfaction ($r = 0.820$, $p < 0.001$).

The descriptive findings revealed that the respondents stated they believed that joint problem-solving helps to enhance the quality of the medical supplies and lessen the disruptions of the services. The respondents also reported that suppliers are involved in identifying the challenge related to procurement and collaborating with the hospital staff in solving the supply related issues.

Such results indicate that collaborative problem solving can help to improve coordination between the hospital and suppliers, responsiveness to supply chain issues, and sustainability of medical supplies. This leads to improved delivery service and increased patient satisfaction.

5.2 Discussion of Findings

5.2.1 Supplier Integration and Customer Satisfaction

The results of this research showed that supplier integration is positively related to customer satisfaction in Nakasero Hospital Limited. Findings showed that by including the suppliers in the procurement planning, specification development and service delivery processes, the hospital can enhance the efficiency of procurement activities and can maintain the timely supply of medical supplies. This will eventually lead to better healthcare service delivery and customer satisfaction.

This result is in line with Oktapia et al. (2022) who have determined that early supplier engagement enhances teamwork and efficiency in organizational processes as suppliers are able to share knowledge and expertise at the planning phase. By so integrating, organizations can minimize operational inefficiencies and enhance service outcomes.

Equally, Kurgat and Aila (2021) discovered that early supplier engagement is a significant method of enhancing the performance of a supply chain by enhancing the coordination between organizations and suppliers. This has enhanced coordination, which allows the organizations to coordinate procurement activities in a better way and improve service delivery.

Besides, Hallikas et al. (2021) found out that the integration of suppliers with the help of digitalized procurement systems contributes to the accuracy of information and cooperation among supply chain members. This kind of collaboration enables organizations to react more effectively to operational requirements and be consistent in service delivery.

Moreover, Frimpong et al. (2023) found that systematic integration of suppliers into organizational operations leads to a better performance efficiency through decreasing the costs of operations and increasing the reliability of supply. This consistency is important in healthcare facilities whereby vital medical supplies and equipment are available to undertake effective work on patients.

The resource-based view theory also supports the findings and indicates that strategic partnership with external resources like suppliers can also be a useful organizational resource capable of improving performance and competitiveness. Supplier integration in the healthcare scenario could assist hospitals in assuring the provision of quality medical supplies and equipment, which directly affects the levels of patient care and the level of satisfaction.

Thus, the results of this research prove that the integration of suppliers is a significant factor that enhances the efficiency of the procurement and the customer satisfaction in the healthcare facilities.

5.2.2 Information Sharing and Customer Satisfaction

The results of the study also indicated that the exchange of information between suppliers and the hospital greatly affects customer satisfaction. Good communication between the procurement personnel and the suppliers enables the organizations to communicate properly and in time to reach the right information about the procurement needs, product specifications and the delivery time.

These results are corroborated with those of Oktapia et al. (2022) who discovered that information sharing is a vital element of early supplier involvement that improves coordination and collaboration between organizations and their suppliers. Clear communication helps to make both sides well aware of procurement requirements and expectations.

The results are in line with the study by Li et al. (2016), who state that information sharing enhances the coordination of the supply chain, as well as the decision-making process among the supply chain partners. With good information exchange, organizations and suppliers can align their operations, minimize uncertainties and sources of supply that may be in need can be available when necessary.

On the same note, Kurnia et al. (2023) observed that timely and open information flow between hospitals and suppliers can greatly benefit the procurement cycle time and service delivery in healthcare facilities. By providing suppliers with the right information regarding demand and specifications, suppliers can deliver supplies more efficiently.

Besides, Mukuna et al. (2024) also determined that open and continuous information sharing enhances trust and coordination between hospitals and suppliers, resulting in improved service performance and improved healthcare outcomes.

Moreover, information sharing and procurement planning in supplier evaluation enhances procurement performance in government hospitals as the author concluded that planning and coordination of supply activities were better during procurement planning (Otieno, 2023).

Thus, the results of the current research suggest that efficient information exchange between Nakasero Hospital and suppliers increases efficiency in the procurement process, minimizes waiting time of supplies, and, eventually, raises customer satisfaction.

5.2.3 Collaborative Problem Solving and Customer Satisfaction

The study results also indicated that collaborative problem solving between suppliers and the hospital is also a significant contributor to customer satisfaction. This research indicated that the collaboration between suppliers and procurement personnel in solving problems like delays in supply, quality and specification changes, resulted in ease of service delivery, and prevention of disruption of service delivery in the healthcare system.

The findings align with Frimpong et al. (2023) who discovered that buyer-supplier joint problem solving enables organizations to achieve better performance because supply chain partners could solve issues together and minimize disruptions.

Equally, Hallikas et al. (2021) emphasized that joint decision-making to resolve problems along with other tools such as shared analytics has the potential to improve supply chain performance, since organizations can find issues and resolve them before they become critical.

Moreover, Kusemererwa (2023) disclosed that the practice of strategic supplier management focusing on joint problem solving enhances the performance of operations by making suppliers more responsive and enhancing service continuity.

Moreover, Chao and Cheng (2019) discovered that jointly organized service recovery activities between the suppliers and the service providers have a tremendous effect on customer satisfaction since issues get addressed faster and more effectively.

The results are also in line with the relational exchange theory according to which when organizations have good relationships with their partners, cooperation, trust, and joint decision making are encouraged. These are the reasons why service delivery and customer experiences are enhanced.

That is why the results of this paper prove that cooperative problem solving reinforces relations between Nakasero Hospital and its suppliers and is significant in terms of providing the reliable service delivery and higher patient satisfaction.

5.3 Conclusion

This study was aimed at investigating the impact of early supplier involvement on customer satisfaction in Nakasero Hospital Limited. In particular, the research concentrated on three essential dimensions of early supplier involvement, viz., supplier integration, information sharing, and collaborative problem solving, and the practice of these dimensions on the degree of customer satisfaction in the healthcare institution.

Using the results of the research, one can conclude that the early involvement of suppliers is an important factor in the enhancement of service delivery and customer satisfaction in a healthcare institution. The research determined that early engagement of suppliers in organizational operations can aid in enhancing coordination between the hospital and suppliers that consequently leads to the timely supply of necessary medical supplies and equipments needed to provide quality healthcare services.

On the first objective, which aimed at looking into the impact of supplier integration on customer satisfaction, the research finds that supplier integration plays a significant role towards enhanced delivery of healthcare services. The results showed that with the integration of suppliers into the procurement planning and operations, the hospital can enjoy supplier expertise and better coordination. This integration helps the organization to plan the medical supplies properly, get the needed materials to the expected standard, and reduce the time delays associated with procurement that will impact negatively on the healthcare services. Consequently, patients can get efficient and quality healthcare services in time and this enhances their satisfaction with the hospital.

On the second objective that involved the impact of information sharing on customer satisfaction, the research finds that fruitful information exchange between suppliers and the hospital increases supply chain efficiency and services delivery. The results showed that through the correct and timely information exchange between procurement employees and suppliers, coordinating procurement processes becomes less problematic, clear product specifications are communicated, and possible supply issues are solved in advance. Transparency and enhancement of trust between the hospital and suppliers is also enabled by effective communication. This would mean that the suppliers can be able to respond quickly to the needs of the hospital, thus enhancing on the availability of the medical supplies, and the quality of healthcare services provided to the patients.

Regarding the third objective that analyzed the impact of collaborative problem solving on customer satisfaction, the research finds that collaborative relationships among suppliers and the hospital are necessary in solving procurement and supply chain problems. The results indicated that in case suppliers and the procurement teams collaborate to address problems like late deliveries, issues with product quality, or a lack of supplies, the organization can achieve better results with continuous delivery of services. Teamwork problem solving facilitates understanding between the suppliers and the hospital and allows the latter and the former to come up with viable solutions that enhance operational efficiency. Such a collaboration can be important in the healthcare sector where the supply of medical supplies is a major factor that affects the care of patients and hence it is important to ensure that the service disruption is minimal and patients still get quality medical services.

By and large, the research concludes that early supplier involvement is a valuable strategic tool that can greatly enhance the performance and customer satisfaction in healthcare organizations. Through improved relations with suppliers and fostering cooperation, healthcare institutions like Nakasero Hospital Limited will be more efficient in procurement, maintain regular supply of medical supplies and eventually improve the quality of healthcare services offered to the patients.

5.4 Recommendations

Given the results of the study, the following recommendations have been established as being required in relation to the impact of early supplier involvement to customer satisfaction in the health care, Case study Nakasero Hospital Limited.

First, the management of the Nakasero Hospital must enhance supplier integration by engaging the key suppliers in the planning of procurement, development of product specifications, and the decision-making process. This will assist the hospital in tapping into supplier know-how, enhance procurement effectiveness, and have access to quality medical supplies.

Second, the hospital must consider improving the processes of information exchange between the procurement staff and suppliers, i.e., introducing digital information communication systems and further enhancing the coordination channels. This will help in timely sharing of information, lessen misunderstandings and ensure efficient supply chain operations.

Third, the hospital ought to encourage problem solving with the suppliers by building strategic partnerships and engaging in joint decision making when dealing with supply chain issues. It will enhance the responsiveness of the suppliers, strengthening relationships and service delivery.

Moreover, the hospital is supposed to train procurement personnel on supplier relationship management and collaborative procurement practices. This kind of training will provide the employees with the skills they need to handle the suppliers effectively and enhance the procurement results.

Lastly, the management needs to put in place continuous monitoring and evaluation programs to determine how well the practice of early supplier involvement contributes to customer satisfaction and service delivery in the hospital.

5.5 Areas for Further Research

The study recommends further research in the following areas:

First, future studies should examine the effect of early supplier involvement on organizational performance in other healthcare institutions in Uganda to determine whether similar results can be observed across different healthcare settings.

Second, further research should explore the role of technological systems such as e-procurement and digital supply chain management platforms in improving supplier collaboration and customer satisfaction in healthcare organizations.

Finally, future studies should investigate other factors that influence customer satisfaction in the healthcare sector, such as service quality, healthcare infrastructure, and staff competence, in order to provide a broader understanding of the determinants of patient satisfaction.

QUESTIONNAIRE

QUESTIONNAIRE ON THE EFFECT OF EARLY SUPPLIER INVOLVEMENT ON CUSTOMER SATISFACTION IN HEALTH CARE: CASE STUDY NAKASERO HOSPITAL LIMITED

INTRODUCTION

My name is Namuswe Shanitah, registration number M23B12/053, a third-year student pursuing a Bachelor's Degree in Procurement and Logistics Management at Uganda Christian University. I am conducting this study as part of the academic requirements for the award of the above degree.

The study is titled "The Effect of Early Supplier Involvement on Customer Satisfaction in Health Care: Case Study Nakasero Hospital Limited". The motivation for this study is to assess how practices such as supplier integration, information sharing and communication and collaborative problem solving contribute to customer satisfaction within the healthcare sector.

You are kindly requested to participate by providing honest responses to the questions in this questionnaire. All information provided will be treated with strict confidentiality, and your identity will not be disclosed. The data collected will be used strictly for academic purposes only.

Your cooperation and time are highly appreciated.

Instructions:

Please tick (✓) the option that best represents your level of agreement with each statement.

SECTION A: PERSONAL (DEMOGRAPHIC) INFORMATION

1. GENDER

- Male
- Female
- Prefer not to say

2. AGE BRACKET

- Below 25 years
- 25–34 years
- 35–44 years

45 years and above

3. DEPARTMENT

Procurement

Finance

Customer Care

ICT

Human Resource

5. How long have you worked at Nakasero Hospital Limited?

Less than 1 year

1–3 years

4–6 years

More than 6 years

SECTION B; SUPPLIER INTEGRATION

Please indicate your level of agreement with the following statements Scale:

1 = Strongly Disagree 2 = Disagree 3 = Not Sure 4 = Agree 5 = Strongly Agree

Statement	1	2	3	4	5
Suppliers are involved in procurement planning at an early stage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Suppliers participate in developing specifications for medical supplies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Suppliers contribute ideas during service or	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

product design

Supplier input is considered in key procurement decisions

Early involvement of suppliers improves alignment with hospital needs

SECTION C: INFORMATION SHARING & COMMUNICATION

Please indicate your level of agreement with the following statements Scale:

1 = Strongly Disagree 2 = Disagree 3 = Not Sure 4 = Agree 5 = Strongly Agree

Statement	1	2	3	4	5
There is frequent communication between the hospital and suppliers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Procurement information is shared with suppliers in a timely manner	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Information shared with suppliers is clear and accurate	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The hospital uses effective platforms/tools to communicate with suppliers	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Effective communication with suppliers improves service delivery

SECTION D: COLLABORATIVE PROBLEM SOLVING

Please indicate your level of agreement with the following statements Scale:

1 = Strongly Disagree 2 = Disagree 3 = Not Sure 4 = Agree 5 = Strongly Agree

Statement	1	2	3	4	5
Suppliers are involved in identifying procurement-related challenges	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The hospital and suppliers jointly solve supply-related problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Suppliers respond quickly to emerging service or supply issues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Joint problem-solving improves quality of medical supplies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Collaborative efforts reduce service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

disruptions

SECTION E: CUSTOMER SATISFACTION

Please indicate your level of agreement with the following statements Scale:

1 = Strongly Disagree 2 = Disagree 3 = Not Sure 4 = Agree 5 = Strongly Agree

Statement	1	2	3	4	5
Services are delivered to patients on time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Medical supplies and services are reliable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Quality of medical supplies and equipment meets expectations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Service delivery contributes to effective patient outcomes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Overall, customers are satisfied with services at Nakasero Hospital	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

OPEN-ENDED QUESTION

In your opinion, how can early supplier involvement be improved to enhance customer satisfaction at Nakasero Hospital?

Thank you for your participation.

REFERENCES

- Coțiu, M. A., Crișan, I. M., & Catană, G. A. (2014). Patient Satisfaction with Healthcare-A Focus Group Exploratory Study. In *International Conference on Advancements of Medicine and Health Care through Technology; 5th–7th June 2014, Cluj-Napoca, Romania: MEDITECH 2014* (pp. 119-124). Cham: Springer International Publishing.
- Emmanuel Mitaire Tarurhor and Henry Osahon Osazevbaru (2021). Inventory management and customers` satisfaction in the public health sector in Delta State, Nigeria: marketing analysis. *Innovative Marketing*, 17(2), 69-78. doi:[10.21511/im.17\(2\).2021.07](https://doi.org/10.21511/im.17(2).2021.07)
- Thanh, N. D., Anh, B. T. M., Xiem, C. H., Anh, P. Q., Tien, P. H., Thanh, N. T. P., ... & Hung, P. T. (2022). Patient satisfaction with healthcare service quality and its associated factors at one polyclinic in Hanoi, Vietnam. *International Journal of Public Health*, 67, 1605055.
- Reis, D., Pena, L., & Lopes, P. A. (2003). Customer satisfaction: the historical perspective. *Management Decision*, 41(2), 195–198. <https://doi.org/10.1108/00251740310457641>
- Abidin, Roza & Yudistria, Yuyus & Haeba Ramli, Abdul. (2025). The Effect Of Customer Experience, Customer Satisfaction and Word of Mouth on Customer Loyalty. *Jurnal Ilmiah Manajemen Kesatuan*. 13. 685-702. 10.37641/jimkes. v13i2.2125.
- Abidin, R. A., Yudistria, Y., & Ramli, A. H. (2025). The effect of customer experience, customer satisfaction and word of mouth on customer loyalty.
- Reis, D., Pena, L., & Lopes, P. A. (2003). Customer satisfaction: the historical perspective. *Management Decision*, 41(2), 195–198. <https://doi.org/10.1108/00251740310457641>
- Swan, J. E., & Trawick Jr, I. F. (1993). Consumer satisfaction research: 1983-1992 accomplishments and future directions. *Journal of Consumer Satisfaction, Dissatisfaction and Complaining Behavior*, 6, 28-33.

- Gamble, J., Gilmore, A., McCartan-Quinn, D., & Durkan, P. (2011). The Marketing concept in the 21st century: A review of how Marketing has been defined since the 1960s. *The Marketing Review*, 11(3), 227–248. <https://doi.org/10.1362/146934711x589444>
- Shah, D., Rust, R. T., Parasuraman, A., Staelin, R., & Day, G. S. (2006). The path to customer centricity. *Journal of service research*, 9(2), 113-124.
- Khadka, K., & Maharjan, S. (2017). Customer satisfaction and customer loyalty: Case trivsel städtjänster (trivsel siivouspalvelut).
- Brunner, M., Tripathi, S., Gundolf, K., Bachmann, N., Thienemann, A. K., Tüzün, A., ... & Jodlbauer, H. (2025). Enhancing customer satisfaction through digitalization: Past, present and possible future approaches. *Procedia Computer Science*, 253, 2929-2940.
- Huang, M. H., & Rust, R. T. (2021). A strategic framework for artificial intelligence in marketing. *Journal of the academy of marketing science*, 49(1), 30-50.
- Cardozo, R. N. (1965). An Experimental Study of Customer Effort, Expectation, and Satisfaction. *Journal of Marketing Research*, 2(3), 244–249. <https://doi.org/10.2307/3150182>
- Crespo, M. (2023). Cognitive dissonance: analysis of the theory. *Themis: Research Journal of Justice Studies and Forensic Science*, 11(1), 8.
- Yahya, A. H., & Sukmayadi, V. (2020). A review of cognitive dissonance theory and its relevance to current social issues. *MIMBAR: Jurnal Sosial Dan Pembangunan*, 36(2), 480-488. A review of cognitive dissonance theory and its relevance to current social issues. *MIMBAR: Jurnal Sosial Dan Pembangunan*, 36(2), 480-488.
- Hinojosa, A. S., Gardner, W. L., Walker, H. J., Coglisier, C., & Gullifor, D. (2017). A review of cognitive dissonance theory in management research: Opportunities for further development. *Journal of Management*, 43(1), 170-199.
- Vaidis, D., & Bran, A. (2014). *Cognitive dissonance theory*. London: Oxford University Press.
- Vijay, J. (2025). THE EXPECTATION CONFIRMATION THEORY: A SERVICE PERSPECTIVE. Available at SSRN 5288999.
- Shukla, A., Mishra, A.& Dwivedi, Y.K. (2025) *Expectation Confirmation Theory: A review*. In S. Papagiannidis (Ed), [TheoryHub Book](https://open.ncl.ac.uk). Available at <https://open.ncl.ac.uk> / ISBN: 9781739604400
- Au, N., Ngai, E.W. & Cheng, T. (2002). A critical review of end-user information system satisfaction research and a new research framework. *Omega*, 30 (6), 451-478.
- Premkumar, G. & Bhattacharjee, A. (2008). Explaining information technology usage: A test of competing models. *Omega*, 36 (1), 64-75.
- Bidault, F., Despres, C. and Butler, C. (1998), “New product development and early supplier involvement (ESI): the divers of ESI adoption”, *International Journal of Technology Management*, Vol. 15 Nos 1/2, pp. 49-69.

- Benedict Mutinda Kimwaki. (2022) Early Supplier Involvement and Supply Chain Performance in Food and Beverage Processing Companies in Kenya. *International Journal of Innovative Technologies in Social Science*. 10.31435/rsglobal_ijitss/30122022/7875 4(36). doi:DOI https://doi.org/10.31435/rsglobal_ijitss/30122022/7875
- Bonaccorsi, A., & Lipparini, A. (1994). Strategic partnerships in new product development: an Italian case study. *Journal of product innovation management*, 11(2), 134-145.
- Mikkola, J. H., & Skjøtt-Larsen, T. (2006). Platform management. *European Business Review*, 18(3), 214–230. <https://doi.org/10.1108/09555340610663737>
- van Weele, A. J. (2018). Mission Impossible: How to Make Early Supplier Involvement Work in New Product Development? In *Contributions to Management Science* (pp. 141–162). Springer International Publishing. https://doi.org/10.1007/978-3-319-74304-2_7
- Lotchouang Kouam, S. (2018). Early supplier involvement (ESI) in Dutch infrastructure projects.
- Walter, A. (2003). Relationship-specific factors influencing supplier involvement in customer new product development. *Journal of Business Research*, 56(9), 721-733.
- LaBahn, D. W., & Krapfel, R. (2000). Early supplier involvement in customer new product development: a contingency model of component supplier intentions. *Journal of Business Research*, 47(3), 173-190.
- Mettler, T., & Rohner, P. (2009). Supplier Relationship Management: A Case Study in the Context of Health Care. *Journal of Theoretical and Applied Electronic Commerce Research*, 4(3). <https://doi.org/10.4067/s0718-18762009000300006>
- De Marchi, B. a. r. b. a. r. a. (2016). Exploring early supplier involvement in the service industry.
- Yi, Y., & Natarajan, R. (2018). Customer satisfaction in Asia. *Psychology & Marketing*, 35(6), 387–391. Portico. <https://doi.org/10.1002/mar.21093>
- Anderson, E. W., Fornell, C., & Lehmann, D. R. (1994). Customer Satisfaction, Market Share, and Profitability: Findings from Sweden. *Journal of Marketing*, 58(3), 53–66. <https://doi.org/10.1177/002224299405800304>
- Ekirapa-Kiracho, E., Ssenyonjo, A., Cashin, C., Gatome-Munyua, A., Olalere, N., Ssempala, R., Mayora, C., & Ssenyooba, F. (2022). Strategic Purchasing Arrangements in Uganda and Their Implications for Universal Health Coverage. *Health Systems & Reform*, 8(2). <https://doi.org/10.1080/23288604.2022.2084215>
- Bulatnikov, V., & Constantin, C. P. (2023). Assessing customer satisfaction to support future improvement strategies of healthcare systems: Evidences from Russia and Romania. *Sustainability*, 15(19), 14534.
- Tarurhor, E. M., & Osazevaru, H. O. (2021). Inventory management and customersatisfaction in the public health sector in Delta State, Nigeria: Marketing analysis. *Innovative Marketing*, 17(2), 69.

- Assefa, F., & Mosse, A. (2011). Assessment of clients' satisfaction with health service deliveries at Jimma University specialized hospital. *Ethiopian journal of health sciences*, 21(2), 101-110.
- Ochan, A. W., Aaron, K., Aliyu, S., Mohiuddin, M., & Bamaïyi, P. (2018). Patients' satisfaction with healthcare services received in health facilities in Bushenyi District of Uganda. *International Journal of Science and Healthcare Research*, 3(1), 76-87.
- A'aqoulah, A., Kuyini, A. B., & Albalas, S. (2022). Exploring the gap between patients' expectations and perceptions of healthcare service quality. *Patient preference and adherence*, 1295-1305.
- Dowlatshahi, S. (1998). Implementing early supplier involvement: a conceptual framework. *International Journal of Operations & Production Management*, 18(2), 143-167. <https://doi.org/10.1108/01443579810193285>
- LaBahn, D. W., & Krapfel, R. (2000). Early Supplier Involvement in Customer New Product Development. *Journal of Business Research*, 47(3), 173-190. [https://doi.org/10.1016/s0148-2963\(98\)00066-6](https://doi.org/10.1016/s0148-2963(98)00066-6)
- Ragatz, G. L., Handfield, R. B., & Scannell, T. V. (1997). Success factors for integrating suppliers into new product development. *Journal of Product Innovation Management: An International Publication of the Product Development & Management Association*, 14(3), 190-202.
- Li, Y., Ye, F., & Sheu, C. (2014). Social capital, information sharing and performance. *International Journal of Operations & Production Management*, 34(11), 1440-1462. <https://doi.org/10.1108/ijopm-03-2013-0132>
- Li, S., & Lin, B. (2006). Accessing information sharing and information quality in supply chain management. *Decision support systems*, 42(3), 1641-1656.
- Wieland, A., & Wallenburg, C. M. (2013). The influence of relational competencies on supply chain resilience: a relational view. *International Journal of Physical Distribution & Logistics Management*, 43(4), 300-320. <https://doi.org/10.1108/ijpdlm-08-2012-0243>
- Ali, B. J., Gardi, B., Othman, B. J., Ahmed, S. A., Ismael, N. B., Hamza, P. A., ... & Anwar, G. (2021). Hotel service quality: The impact of service quality on customer satisfaction in hospitality. *International Journal of Engineering, Business and Management*, 5(3), 14-28.
- Chao, C. M., & Cheng, B. W. (2019). Does service recovery affect satisfaction and loyalty? An empirical study of medical device suppliers. *Total Quality Management & Business Excellence*, 30(11-12), 1350-1366.

- Cheng, C. C. (2020). Sustainability orientation, green supplier involvement, and green innovation performance: Evidence from diversifying green entrants. *Journal of Business Ethics*, 161(2), 393-414.
- Frimpong, J. M., Owusu-Bio, M., Nabare, L. B., & Muntaka, A. S. (2023). Early Supplier Involvement, Cost Reduction and Performance of Manufacturing Firms: The Role of Firm Size. *African Journal of Business & Economic Research*, 18(2).
- Gatobu, J. G., & Moronge, M. (2024). Influence of supplier relationship management on procurement performance in fast moving consumer goods manufacturing firms in Nairobi City County, Kenya. *The Strategic Journal of Business & Change Management*, 5(1), 745-768.
- Gonzalez, M. E. (2019). Improving customer satisfaction of a healthcare facility: reading the customers' needs. *Benchmarking: An International Journal*, 26(3), 854-870.
- Hallikas, J., Immonen, M., & Brax, S. (2021). Digitalizing procurement: the impact of data analytics on supply chain performance. *Supply Chain Management: An International Journal*, 26(5), 629-646.
- Kabugo, K. A. (2018). *Early supplier involvement and organizational performance in a manufacturing company: a case study of Mukwano Industries, Kampala-Uganda* (Doctoral dissertation, Kampala international University College of Economics and Management).
- Kędzia, G., & Staniec, I. (2022). The impact of supplier involvement in product development on supply chain resilience: the mediating role of communication. *International Journal for Quality Research*, 16(4).
- Kurgat, L., & Aila, F. (2021). The Effect of Early Supplier Involvement on Supply Chain Performance in Moi Teaching and Referral Hospital in Kenya.
- Kurnia, H., Suhendra, S., Manurung, H., & Juliantoro, K. B. (2023). Implementation of Lean Service Approaches to Improve Customer Satisfaction and Sustainability of Health

- Equipment Procurement Process at Hospitals. *Quality Innovation Prosperity*, 27(3), 1-17.
- Kusemererwa, J. (2023). *Strategic supplier management practices and operational performance of development finance company of Uganda (DFCU), Kampala-Uganda* (Doctoral dissertation, Kampala International University, College of Economics and management).
- Manyanga, W., Makanyeza, C., & Muranda, Z. (2022). The effect of customer experience, customer satisfaction and word of mouth intention on customer loyalty: The moderating role of consumer demographics. *Cogent Business & Management*, 9(1), 2082015.
- Moon, H., Johnson, J. L., Mariadoss, B. J., & Cullen, J. B. (2018). Supplier and customer involvement in new product development stages: Implications for new product innovation outcomes. *International Journal of Innovation and Technology Management*, 15(01), 1850004.
- Mukuna, D., Osoro, D. A., Osoro, D. J. N. D. A., & Ndolo, D. J. (2024). The Effect of Supplier Relationship Management on the Performance of Level Five County Referral Hospitals in Kenya. *International Journal of Social Science and Human Research (IJSSHR)*, 7(03), 01-26.
- Oktapia, A., Siagian, H., & Tarigan, Z. J. H. (2022). *The effect of early supplier involvement on firm performance through teamwork and new product development* (Doctoral dissertation, Petra Christian University).
- Opira, J. (2019). Supplier involvement and organizational performance of manufacturing companies: a case study of Mukwano Industries, Kampala Uganda.
- Otieno, O. O. (2023). *Effect of supplier evaluation on procurement performance of Public hospitals in Kisumu, Kenya* (Doctoral dissertation, Maseno University).
- Randova, N. (2023). *Timing as a factor of successful early supplier involvement projects and preferred customer status: Case study in the automotive industry* (Bachelor's thesis, University of Twente).

Uvet, H. (2020). Importance of logistics service quality in customer satisfaction: An empirical study. *Operations and Supply Chain Management: An International Journal*, 13(1), 1-10.