



# Master's degree thesis

**LOG950 Logistics**

**"Examining the effect of logistics service quality dimensions and customer satisfaction on customer loyalty: A case study of Thon hotel Molde fjord".**

Anita Tamang

Number of pages including this page: 72

Molde, 27th may 2014



**Molde University College**  
Specialized University in Logistics

## Mandatory statement

Each student is responsible for complying with rules and regulations that relate to examinations and to academic work in general. The purpose of the mandatory statement is to make students aware of their responsibility and the consequences of cheating. Failure to complete the statement does not excuse students from their responsibility.

Please complete the mandatory statement by placing a mark <b><u>in each box</u></b> for statements 1-6 below.		
1.	I/we hereby declare that my/our paper/assignment is my/our own work, and that I/we have not used other sources or received other help than mentioned in the paper/assignment.	<input checked="" type="checkbox"/>
2.	<p>I/we hereby declare that this paper</p> <ol style="list-style-type: none"> <li>1. Has not been used in any other exam at another department/university/university college</li> <li>2. Is not referring to the work of others without acknowledgement</li> <li>3. Is not referring to my/our previous work without acknowledgement</li> <li>4. Has acknowledged all sources of literature in the text and in the list of references</li> <li>5. Is not a copy, duplicate or transcript of other work</li> </ol>	Mark each box: 1. <input checked="" type="checkbox"/> 2. <input checked="" type="checkbox"/> 3. <input checked="" type="checkbox"/> 4. <input checked="" type="checkbox"/> 5. <input checked="" type="checkbox"/>
3.	I am/we are aware that any breach of the above will be considered as cheating, and may result in annulment of the examination and exclusion from all universities and university colleges in Norway for up to one year, according to the <a href="#">Act relating to Norwegian Universities and University Colleges, section 4-7 and 4-8</a> and <a href="#">Examination regulations</a> section 14 and 15.	<input checked="" type="checkbox"/>
4.	I am/we are aware that all papers/assignments may be checked for plagiarism by a software assisted plagiarism check	<input checked="" type="checkbox"/>
5.	I am/we are aware that Molde University College will handle all cases of suspected cheating according to prevailing guidelines.	<input checked="" type="checkbox"/>
6.	I/we are aware of the University College's <a href="#">rules and regulation for using sources</a>	<input checked="" type="checkbox"/>

# Publication agreement

ECTS credits: 30

Supervisor: Arnt Buvik

## Agreement on electronic publication of master thesis

Author(s) have copyright to the thesis, including the exclusive right to publish the document (The Copyright Act §2).

All theses fulfilling the requirements will be registered and published in Brage HiM, with the approval of the author(s).

Theses with a confidentiality agreement will not be published.

**I/we hereby give Molde University College the right to, free of charge, make the thesis available for electronic publication:** yes no

**Is there an agreement of confidentiality?** yes no

(A supplementary confidentiality agreement must be filled in)

- If yes: **Can the thesis be online published when the period of confidentiality is expired?** yes no

**Date: 27th may 2014**



## **PREFACE**

This thesis is prepared to meet the compulsory requirement for the degree of M.Sc. in Logistics offered by Molde University College. The study was conducted on Thon Hotel Molde Fjord.

I acknowledge the support of Molde University College in completing this thesis and I also appreciate the help and support of Thon Hotel Molde Fjord for allowing me to collect data and make this study possible. I thank all the front desk personnel who helped me to collect the data for this study.

I am very thankful to my thesis supervisor professor Arnt Buvik for his comments, suggestions and recommendations. I am also thankful to him for providing his valuable time to guide me through complex calculations and data analysis.

I would like to state hereby that my parents are my source of inspiration and I thank them for everything. I thank my husband Santosh Dahal for being a great support. Without their support I could not have finished my study successfully.

Lastly, I thank all who have directly and indirectly helped me to complete this thesis.

Thanks to all.

Regards,

Anita Tamang.

## ABSTRACT

**Purpose:** This study aims at making contribution to the literature on the relationship between logistics service quality, customer satisfaction and customer loyalty by focusing on the customers of Thon hotel Molde fjord. This study investigates dimensions that influence customer satisfaction and customer loyalty. Further, this study also examines whether dimensions of logistics service quality and customer satisfaction has a significant impact on customer loyalty.

**Method:** Literature review with respect to logistics service quality, customer satisfaction, customer loyalty and the relationship of these three variables guides this study. And these relationships are used to develop a research model and hypotheses. LSQ scale was used to develop a questionnaire for dimensions of logistics service quality and data were collected from 150 customers of Thon Hotel Molde Fjord through questionnaire survey.

**Findings:** The empirical findings from the study show that all the dimensions of logistics service quality, customer satisfaction and customer loyalty has a positive relationship with each other. Similarly, Operational logistics quality and communication have a significant impact on customer loyalty but relational logistics service quality does not have a significant impact on loyalty. Members are found to be loyal than non member in the context of Thon hotel Molde fjord. Customers on vacation are more loyal than business travelers. Another significant finding of this study is the importance of communication factor to increase loyalty among non-members. Thon hotel should focus on communication dimensions of Logistics service quality to increase loyalty among non members.

**Limitations:** The scale used in this study mainly concentrates on the hotel industry, which may not represent the logistics service quality of other industries. Therefore, findings from this study cannot be generalized in other service industries.

**Managerial implications:** Manager of Thon hotel Molde fjord should focus on logistics service quality and customer satisfaction to increase the loyalty as it is proven to have a positive relation between those variables. Focus should be given to operational and communication aspects of logistics service to influence customer loyalty. Moreover, hotel should develop different membership scheme to attract customers to be a member of hotel as result from this study shows significant impact of membership on loyalty.

# TABLE OF CONTENTS

PREFACE .....	I
ABSTRACT.....	II
TABLE OF CONTENTS.....	III
LIST OF FIGURES, TABLES AND ABBREVIATIONS.....	V
Chapter 1.....	1
INTRODUCTION.....	1
1.1 Introduction .....	1
1.2 Background information .....	1
1.3 Research Problem .....	2
1.4 Objective of the study.....	3
1.5 Contribution of the study.....	4
1.6 Organization of the study .....	4
Chapter 2.....	5
LITERATURE REVIEW .....	5
2.1 Introduction .....	5
2.2 Service quality .....	5
2.2.1. Measurement of service quality .....	6
2.3 Logistics service quality:.....	7
2.3.1 Measuring logistics service quality: .....	8
2.4 Customer satisfaction.....	10
2.4.1 Importance of measuring customer satisfaction.....	10
2.5 Customer loyalty.....	11
Chapter 3.....	15
RESEARCH MODEL AND HYPOTHESES .....	15
3.1 Introduction .....	15
3.2 Overview of the model .....	15
3.3 Relationship between Logistics service quality and customer satisfaction.....	16
3.4 Relationship between customer satisfaction and customer loyalty:.....	19
3.5 Relationship between logistics service quality and customer loyalty .....	21
3.6 Relationship among logistics service quality, customer satisfaction and customer loyalty.....	23

3.7	Control variables .....	25
Chapter 4.....		27
RESEARCH METHODOLOGY .....		27
4.1	Introduction .....	27
4.2	Research design: .....	27
4.3	Introduction to Thon Hotel Molde Fjord .....	28
4.4	Questionnaire development .....	30
4.5	Sampling procedure, data collection technique and procedure .....	31
Chapter 5.....		32
OPERATIONALIZATION AND MEASUREMENT OF VARIABLES.....		32
5.1	Introduction.....	32
5.2	Operationalization of Latent variables.....	32
5.3	Measurement of variables.....	33
Chapter 6.....		35
VALIDATION AND RELIABILITY .....		35
6.1	Introduction .....	35
6.2	Factor analysis.....	35
6.2.1	Preliminary factor analysis.....	35
6.2.2	Further factor analysis .....	37
6.3	Reliability test.....	39
Chapter 7.....		41
DATA ANALYSIS AND HYPOTHESES TEST .....		41
7.1	Introduction .....	41
7.2	Descriptive statistics .....	41
7.3	Hypotheses test .....	41
Chapter 8.....		45
DISCUSSION AND IMPLICATIONS.....		45
8.1	Introduction .....	45
8.2	Discussion of results.....	45
8.3	Theoretical implications.....	45
8.4	Managerial implications.....	46
8.5	Limitation and future research .....	47



References: .....	48
Appendices.....	54

## **LIST OF FIGURES, TABLES AND ABBREVIATIONS**

### **List of Tables**

Table 1: Stages and description of loyalty phases .....	12
Table 2 Major communication types .....	18
Table 3: Factor analysis of LSQ dimensions .....	36
Table 4: Final result of factory analysis.....	38
Table 5: Measures of construct .....	39
Table 6: Correlation matrix and descriptive statistics .....	42
Table 7: Regression analysis with customer loyalty as dependent variable.....	43

### **List of figures**

Figure 1: Loyalty matrix (Dick & Basu, 1994) .....	13
Figure 2: Research model for the investigation of customer loyalty.....	16
Figure 3: Six representation of relationship between satisfaction and loyalty (Oliver, 1999) .....	20
Figure 4: Research design for this study, Adopted from (Malhotra & Birks, 2006).....	28
Figure 5: Construction Operationalization, Adopted from (Strube, 2000) .....	32
Figure 6: Construct operationalization for customer satisfaction and loyalty, Adopted from (Strube, 2000) .....	32

### **List of abbreviations**

<b>CRM</b>	<b>:</b>	<b>Customer relationship management</b>
<b>LSQ</b>	<b>:</b>	<b>Logistics service quality</b>

<b>LEED</b>	<b>:</b>	<b>Leadership in Energy and Environmental Design</b>
<b>EFA</b>	<b>:</b>	<b>Exploratory factor analysis</b>
<b>KMO</b>	<b>:</b>	<b>Kaiser-Mayer-Olkin measure of sampling</b>
<b>OLS</b>	<b>:</b>	<b>Ordinary least square</b>
<b>NOK</b>	<b>:</b>	<b>Norwegian Kroner</b>

## Chapter 1.

# INTRODUCTION

### **1.1 Introduction**

This chapter presents the background of the study together with research problems, research objects and contribution of the study.

### **1.2 Background information**

Customer relationship management (CRM) is an important part of relationship marketing and has become one of the most recent academic and practical topics in marketing and business field (Mohammad and Rashid, 2012). In recent years, the effect of CRM on service industry has attracted researchers' attentions from both operation management and marketing perspectives due to the fact that CRM strongly focuses on the management and development of profitable customers relationships (Wang, 2012) and (Buttle, 2004). Customer relationship management shares the belief that establishing a sustainable and long term relationship with customers is the foundation for obtaining loyal customers who are assumed to be more profitable than non-loyal ones (Dowling, 2002). The importance of CRM in service industry is growing as this approach helps organizations to identify and retain the most profitable customers and also improve the profitability of less profitable customers (Ryals, Knox, and Maklan, 2000). Rigby, Schefter, and Richheld (2002), explains that CRM is composed of divergent aspects and deals with identifying, satisfying, retaining and maximizing the value of a company's best customers.

It has become extremely important for service organizations to adopt CRM as it is difficult for service organizations to survive just by attracting new customers in highly competitive market (Yoo and Bai, 2013). Customer satisfaction and a long-term relationship between customers and the hotel industry is becoming gradually important because of the highly positive correlation between customer's overall satisfaction levels and the probability of their return to the same hotel (Choi and Chu, 2001). Since, the cost of attracting new customers is higher than the cost of retaining the existing ones; hotel organizations are putting much effort on retaining old customers and finding ways to increase their loyalty towards the hotel. Customer loyalty is gradually being recognized as an important way leading to long-term success as finding new customers and doing business with them takes more time, effort and money.

In service industry, companies can no longer have a loyal customer by only having a variety of tangible products. They are more responsible for creating differentiation through offering combinations of product and services to maintain long-term relationship with customers (Cerri, 2012). In a hotel industry, companies are obliged to meet customer demands in a consistent manner because of the increasing demands of customers to have things their way and at the time they want. Therefore, it is important for hotel organizations to understand the impact of Logistics Service Quality (i.e. firm's ability to execute order fulfillment service dependably and accurately, to provide customer personnel that are knowledgeable and empathetic to the needs of customers) in differentiating similar physical product and services. By doing so, hotel organizations can attract and satisfy customers which in long run helps to establish long term relationship with customers. According to Bowersox, Mentzer, and Spen, (1995) leveraging a firm's logistics capabilities is an important way to build closer relationship with customers which in long run helps to create loyalty among customers.

Therefore, understanding the relationship between logistics service quality, customer satisfaction and customer loyalty is crucial to predict customer relationship outcomes. Similarly, identifying major logistics service quality dimensions is important for managers in the hotel industry as it identifies the bundles of service attributes consumers find important (Wilkins, Merrilees, and Herington, 2007). Most of the researchers have used service quality as internal factor and customer satisfaction as external factor to influence customer loyalty (Yoo and Bai, 2013). Therefore, the study of interplay between logistics service quality, satisfaction and loyalty is important for hotel industry to identify the relationship pattern among those variables and make strategies to retain their profitable customers.

### **1.3 Research Problem**

Traditionally, study of logistics has been focused mainly upon operational aspects like inventory capabilities and order cycle time (Davis, 2006) (Mentzer, Flint, and Hult, 2001). But in recent days researchers have realized that customers want other elements of service other than traditional aspects of logistics. According to Mentzer, Flint and Hult (2001), building logistics service quality by focusing customer is important to improve service offering and be a tool for

differentiation which is the most important task of service organizations to increase customer satisfaction and loyalty. Therefore, today, researchers need to know more about the overall concept of LSQ from the perspective of the customer and whether LSQ has an effect on customer satisfaction and customer loyalty (Mentzer, Flint, and Hult, 2001).

As the previous studies were not focused on the relationship between logistics service quality, customer satisfaction and customer quality in hotel industry, this study focuses on examining the relationship between these three variables at Thon hotel Molde fjord. Many researchers have suggested that logistics competencies complement marketing efforts, however, empirical evidence is lacking on which logistics service quality has a meaning to customers and whether it varies with different customer segments (Mentzer, Flint and Hult, 2001). Therefore, this study also examines the dimensions of LSQ affecting the customer satisfaction and loyalty. Knowing important dimensions of LSQ affecting customer satisfaction and loyalty helps Thon hotel to improve those dimensions to increase satisfaction and loyalty. Similarly, previous studies have focused on the simple relationship between service quality, customer satisfaction and customer loyalty of a hotel industry.

There are only few studies that have included customer segmentation (e.g. age, gender, income level, education level). This study attempts to study those three variables including other aspects of customer segmentation (i.e. hotel staying purpose and guest types). Furthermore, this study tries to cover the interaction effect of LSQ dimensions and guest type which is rare in previous studies.

#### **1.4 Objective of the study**

The primary objective of the study is to measure and understand the relationship between logistic service quality, customer satisfaction and customer loyalty of the case company (Thon hotel Molde fjord). Therefore, the two-two relationship between dimensions of logistics service quality, customer satisfaction and customer loyalty should be tested correspondingly which will provide us a result whether there are positive relationships between those variables. More specifically, this study aims to identify the impact of logistics quality dimensions (operational logistics quality, relational logistics quality, communication and front desk capabilities) on customer satisfaction and customer loyalty. Another important objective of this study is to find

out if LSQ dimensions and customer satisfaction has a positive and significant effect on customer loyalty. Furthermore, this study also includes customer segmentation to identify if different customer segment have different effect on customer loyalty. And finally interaction effect of dimensions of LSQ and guest type will be examined.

## **1.5 Contribution of the study**

This study attempts to extend the body of research on the traditional relationship between service quality, customer satisfaction and loyalty phenomenon by including the logistics aspects of service quality. Few researchers (for instance Stank et al., 2003, Mentzer, Flint and Hult 2001) have examined these relationships in the past. However, this study adds to that knowledge by including control variables which will attempt to identify different customer segment on the basis of their loyalty profiles. This helps the managers of Thon hotel Molde fjord to decide what level of logistics service should be provided to different customer groups.

## **1.6 Organization of the study**

This study is organized into 8 chapters. The first chapter provides an overview of the background information, research problems objectives and contribution of the study. Theoretical perspective of logistics service quality, customer satisfaction and customer loyalty is discussed in chapter two while chapter three focuses on research model and hypotheses. Similarly, chapter four presents the research methodology that has been used for this study. Operationalization and measurement of variables is presented in chapter five followed by overview of data analysis in chapter six. Test of hypotheses is presented on chapter seven and finally conclusions of the study including summary of the findings, managerial implications, limitations and area of further research is discussed in chapter eight.

## Chapter 2.

# LITERATURE REVIEW

### 2.1 Introduction

This chapter provides an overview of the literature reviewed for this study which focuses mainly upon logistics service quality, customer satisfaction, customer loyalty and their measurement. Theories of these three variables will be the foundation for further study. Although the focus of this study is logistics service quality, an overview of general service quality is also presented as according to Mentzer, Flint and Hult (2001), one important approach to investigate LSQ further is to go along with the service quality literature established in marketing. Therefore, section 2.1 presents the theories about service quality and its measurement method. Section 2.2 then describes the theory regarding LSQ and its measurement. Section 2.3 presents the concepts of customer satisfaction and presents the argument about the importance of its measurement. Similarly the last section 2.4 presents different definitions and types of loyalty and measurement methods which will further be used in this study.

### 2.2 Service quality

Quality is the keyword for survival of organizations in the global economy (Rahaman, Abdullah, and Rahman, 2011). Service quality is the customers' attitude or global judgment of a company's service over time (Lam and Zhang, 1999). Rahaman, Abdullah, and Rahman (2011) define Service quality *"as an approach to manage business processes in order to ensure full satisfaction of the customers which will help to increase competitiveness and effectiveness of the industry"*.

Parasuraman, Zeithaml, and Berry (1985) and Rahaman, Abdullah, and Rahman (2011) define service quality as the difference between consumers' perceptions of services and their expectations about such services offered by a firm. The smaller the gap between perceptions and expectations of customers regarding the service offered by a firm, the better will be the quality of service and customer satisfaction (Su, 2004).

Grönroos (1984) noted that the quality of a service as perceived by customers consists of three dimensions: functional (the process of service delivery to customers), technical (the outcomes generated by the service to the customers), and image (how the customers view the company). Further, the writer mentions, considering those dimensions, the quality of the service is dependent upon two variables: the expected service and the perceived service. Most of the researchers define service quality with respect to gap between perceived and expected service. However, Yoo and Bai (2013) view service quality as a components of product which is perceived by a customer.

### **2.2.1. Measurement of service quality**

The appearance of service quality and its measurement has attracted the attention of numerous researchers in the past few decades (Miguel et al., 2007) because of the belief that it has a strong positive relationship with customer satisfaction and customer loyalty. Research has shown repeatedly that service quality influences organizational outcome for instance: market share (Yuksel and Yuksel, 2002) improve customer relations, enhance corporate image and promote customer loyalty (Caruana, 2002). In addition, according to Sanayei, Shahin, and Taheri (2012), measurement of service quality allows for the comparison of quality related problems before and after which later helps in the establishment of clear standards for service delivery.

As a result, there has been a lot of research about service quality in the field of management and service industries. For instance, research done in the area of banking by Kranias and Bourlessa (2013) & Zeithaml, Berry, and Parasuraman (1996), research done in the area of hospitality industry by Su( 2004), research in the area of telecommunication by Fujun, Griffin, and Babin (2009) and so on.

There are various approaches described by scholars to measure service quality. For instance, According to Wilkins, Merrilees, and Herington (2007), there are three main types of service quality in hotels which are grouped as physical product, service experience and quality food and beverage. They further argue that the three groupings are the big three factors that matters from a consumer's perspective and as such provide a means that hotel managers can integrate their operations so as to optimize the delivery of services (Wilkins, Merrilees, and Herington, 2007).



Grönroos (1984) suggest measurement of service quality by taking difference between expected service and perceived service.

Though, there are various approaches to measure service quality, SERVQUAL, originally postulated in 1985 by Parasuraman, Zeithaml and Berry, and revised in later years, is the most recognized approach to measure service quality (Wilkins, Merrilees, and Herington, 2007) (Brady, Cronin, and Brand, 2002).

The study by Parasuraman et al., (1988) presented ten dimensions of service quality: tangibles, reliability, responsiveness, competence, courtesy, credibility, security, access, communication, and understanding the customer. Parasuraman et al. (1988) later came up with five dimensions. The five dimensions identified to measure service quality *are tangibles, reliability, responsiveness, assurance and empathy*. The SERVQUAL framework developed by Parasuraman et al. in 1988 is a method of evaluating service quality for service industries that was developed from research done in various industries which suggests that customer satisfaction is based on multiple factors rather than a single factor. Furthermore, Parasuraman et al (1996) suggested that the dimensions identified were transferable across industries (Wilkins, Merrilees, and Herington, 2007). Later some researchers for instance; Cronin and Taylor (1992) came up with SERVPERF framework as a substitution for SERVQUAL model which considers only performance (i.e. the measurement of perception of customer regarding service quality performance of a specific firm). Other researchers who supported SERVPERF model are Lee, Lee, and Yoo (2000) and Zeithaml, Berry, and Parasuraman (1996). SERVPERF model suggest that performance only measure is superior to the measurement of difference between performances minus expectation models. Though there are a lot of criticisms about the scale for the measurement of service quality developed by Parasuraman et al. (1988), it is still the most recognized and used scale in research at different fields.

### **2.3 Logistics service quality:**

Usually, logistics research approaches have focused mainly on dimensions like inventory level, facility location and business logistics network design (Keller et al., 2002). Understanding it from the perspective of customer has not been considered in many previous researches.

However, today, study of logistics phenomenon from customer's side is being used in the field of organizational behavior, marketing and strategic management research and practice (Keller et al., 2002) due to the reason that understanding logistics phenomenon from the customer's perspective helps organizations to enhance its service offering which in long run can be a tool for differentiation (Mentzer, Flint, and Hult, 2001). Similarly, the inclusion of customers' perception in measuring service quality with SERVQUAL scale is another reason to attract logistics researchers to apply this scale in the research of logistics context (Cerri, 2012).

### **2.3.1 Measuring logistics service quality:**

Measurement of logistics service quality has followed the scale introduced by Parasuraman et al. (1988) by many researchers. However, there are few researchers that have focused on different scales for the measurement of logistics aspects of service quality. Mentzer and his colleagues are considered to be the main contributors in the area of logistics service quality. Mentzer's study was the first study to place more importance on the customer perspective rather than the traditional way of looking only at operational dimensions of service. Mentzer, Flint, and Hult (2001) came up with nine dimensions to measure logistics service quality which includes:

- personnel contact quality= customer's orientation of the supplier's logistics contact people.
- order release quantities= related to the concept of product availability.
- information quality= customers perception of the information provided by the supplier regarding product and services from which customers may choose.
- ordering procedures= The efficiency and effectiveness of the procedure followed by the suppliers.
- order accuracy= related to how closely shipments match customers orders upon arrival.
- order condition= related to lack of damages to orders.
- order quality= how well the product work they conform to product specifications and customer need.
- order discrepancy handling= how well discrepancies in order addresses after order arrives.
- and timeliness= whether order arrives at the customer location when promised.

Similarly, Maltz and Maltz, (1998) divided dimensions of logistics service quality into two categories. First one is basic logistics service (which includes cycle time, on-time delivery, and inventory) and second one is responsiveness (which includes ability to adapt to market driven change). Like Maltz and Maltz (1998) and Stank et al., (2003) also came up with two dimensions named operational logistics service and relational logistics service.

**a. Operational logistics service quality**

Operational elements of logistics service include physical features of the service, and also consist of the supplier's ability to provide the promised service dependably and accurately. According to Stank, Goldsby, and Vickery (1999), reliability is closely related with operational logistics performance as it is also concerned with dependability and accuracy of the service.

**b. Relational logistics service quality**

It is conceptualized as personnel contact quality which referred to the customer orientation of the supplier's customer service contact people. This included whether the customers perceived the employee as knowledgeable, empathized with their situation, and helped customers to resolve their problems. Like reliability, responsiveness is associated with relational logistics performance, as it is concerned with measurement of willingness to help and providing prompt service (Stank et al., 2003).

According to Cho, Ozment, and Sink (2008), logistics performance primarily deals with delivery speed and reliability but there are other researchers that have also included responsiveness, communication, order handling and distribution in their studies to measure logistics performance. For instance, Emerson and Grimm (1996), added communication as an additional logistics dimension together with logistics and marketing aspects of customer service. Therefore, in this study, logistics service quality includes 4 dimensions. They are operational logistics service quality, relational logistics service quality, communication/information system, and front desk capabilities. Scales that is used for this study is also similar to the SERVQUAL scale as reliability and responsiveness attempts to measure same concept like operational and relational dimensions of LSQ.

## **2.4 Customer satisfaction**

Customer satisfaction has been a subject of great interest to organizations and researchers as customers are important stakeholders in organizations and to satisfy customers is a priority to management to maintain their profitability and sustainability. One of the biggest current challenges of management of any industry including hotel industry is to provide good service quality and maintain customer satisfaction (Su, 2004). Customer satisfaction has been a popular topic in marketing field, business field and academic research since the study of customer effort, expectations and satisfaction started (Cardozo, 1965). Customer satisfaction is regarded as an important tool in both manufacturing and service industry to increase sales and generate profits. Hence, maintaining strong and positive relationship with customers in order to satisfy them and increase their loyalty towards the company is crucial.

Customer satisfaction may be termed as a business philosophy which tends to create value for their customers through fulfilling various responsibilities (i.e. anticipating and managing their expectations, and demonstrating ability and responsibility to satisfy their needs). There are many definitions about customer satisfaction given by different scholars. For instance, Lam and Zhang (1999), explain customer satisfaction as a specific business transaction. Gunderson, Heide, and Olsson (1996) define customer satisfaction as, “a guest’s post consumption judgment of a product or service that can, in turn, be measured by assessing guest’s evaluation of a performance on specific attributes.” Similarly, according to Wang and Jen Shieh (2006), Customer satisfaction is defined as “the levels of service quality performances that meets users’ expectations”. Satisfaction is the consumer's sense that consumption provides outcomes against a standard of pleasure versus displeasure (Oliver, 1999).

### **2.4.1 Importance of measuring customer satisfaction**

Whether it is service industry or manufacturing industry, organizations are obliged to create strong relationship with its customers. Hence, in order to create relationship with customers, companies need to conduct research to answer questions about how they can satisfy customers and whether they are satisfied with what the organization offers to them in terms of product quality, service quality, price, etc.

The purpose of measuring customer satisfaction is to assess the quality of the existing management practices and identify directions for improvement (Su, 2004). Since satisfaction is perceived as one of the external factor to determine loyalty (Yoo and Bai, 2013), measurement of customer satisfaction is important for organizations to identify whether their customer are satisfied are not and to get idea to satisfy them to increase their loyalty in long run. Similarly, according to Gilbert and Horsnell (1998), the aim of measuring and managing satisfaction is to obtain a higher rate of customer retention and improve a company's market share and profits. Many scholars and service marketers have explored consumers' cognitive and affective responses to the perception of service attributes in order to benefit by providing what consumers need in an effective and efficient manner (Rahaman, Abdullah, and Rahman, 2011).

Both researchers and practitioners give high importance to customer satisfaction, because, a high degree of customer satisfaction can lead to customer retention and increased market share (Yuksel and Yuksel, 2002). Understanding what factors influence consumer satisfaction can help business owners and managers to design and deliver appropriate offers that supply to market demand. Customer satisfaction has repeatedly been suggested to be the leading determinant of loyalty (Lam and Burton, 2006). Through surveys of customer satisfaction, customers can help management to determine which service areas are most in need of improvement (Su, 2004).

## **2.5 Customer loyalty**

Customer loyalty has received much attention since the 1990s as relationship marketing has become a popular marketing scheme to maintain customer service (Yoo and Bai, 2013). Moreover, it emerged as a necessity because customer loyalty has been recognized as a major source of competitive advantage for firms by having a powerful impact on performance (Yoo and Bai, 2013).

Sanayei, Shahin, and Taheri (2012) define loyalty as “a degree of continuity in patronage, customer's disposition in terms of preferences and intentions and a psychological process resulting in brand commitment.” Similarly, Gremler and Brown (1996) define customer loyalty as “the degree to which a customer exhibits repeat purchasing behavior from a service provider, possesses a positive attitudinal disposition toward the provider, and considers using only this provider when a need for this service exists.” Dick and Basu (1994) view customer loyalty as

the power of a relationship between an individual’s relative attitude and repeat patronage where the social norms and situational factors plays as a mediator of relationship.

Understanding the determinants of repurchase behavior will let management to adjust their services by improving the specific attributes of satisfaction and services which are highly related to repurchase to increase loyalty (Yoo and Bai, 2013). Loyal customers represent not only a secure source of revenues, but also act as an information channels that indirectly link networks of friends, relatives and other potential customers to the firm (Reid and Reid, 1993). Another important benefit of loyal customers according to Patrick (2004) is that they may be less price sensitive in compared to non loyal customers. Businesses, including the hospitality sector discovered the importance of retaining their existing customers as a key success factor. It is known from the past research that loyal customers’ visit frequency is higher than non-loyal customers and also make more purchase than non-loyal customers do (Yoo and Bai, 2013).

**Loyalty Phases:**

Oliver (1999) mentions 4 phases of loyalty: Cognitive, affective, conative and action. Following table represents the stages and description of loyalty phases:

**Table 1: Stages and description of loyalty phases**

<b>Stage</b>	<b>Identifying marker</b>	<b>Description</b>
Cognitive	Loyalty to information such as price, features, and so forth	Based on brand belief only (brand performance aspects)
Affective	Loyalty to liking “I buy it because I like it”	A liking or attitude toward the brand developed on the basis of cumulatively satisfying usage occasions. (brand likeableness)
Conative	Loyalty to an intention “I am committed to buying it”	Behavioral intention stage influenced by repeated episodes of positive affect towards the brand. (wanting to rebuy the brand)
Action	Loyalty to action inertia, coupled with the overcoming of obstacles.	Motivated intention in the previous loyalty stage is transformed into readiness of act (committed to the action of rebuying).

Source: (Oliver, 1999)

Sanayei, Shahin, and Taheri (2012) mention 3 major dimensions of customer loyalty in service industry, which are: attitudinal, behavioral and cognitive. While reviewing business and hospitality research about customer loyalty, Yoo and Bei (2013) also found that most of the researchers mention attitudinal, behavioral and cognitive as three main dimensions to measure loyalty. Sanayei, Shahin and Taheri (2012) further explain attitudinal dimension includes attributes such as word of mouth, purchase intentions and complaining behavior. Similarly, behavioral dimensions includes brand allegiance, price elasticity, number of brand is purchased in a given time. And cognitive dimensions include preference to service organizations and the belief that service organizations provides best offer and suiting customer needs. Dick and Basu (1994) suggest only behavioral and attitudinal dimensions to measure loyalty where attitudinal dimension includes cognitive (informational determinants towards a bank), affective (feelings toward a brand) and conative (behavioral character toward a brand).

Further, Dick and Basu (1994) mention four types of loyalty as a result of combination of relative attitude and repeat patronage.

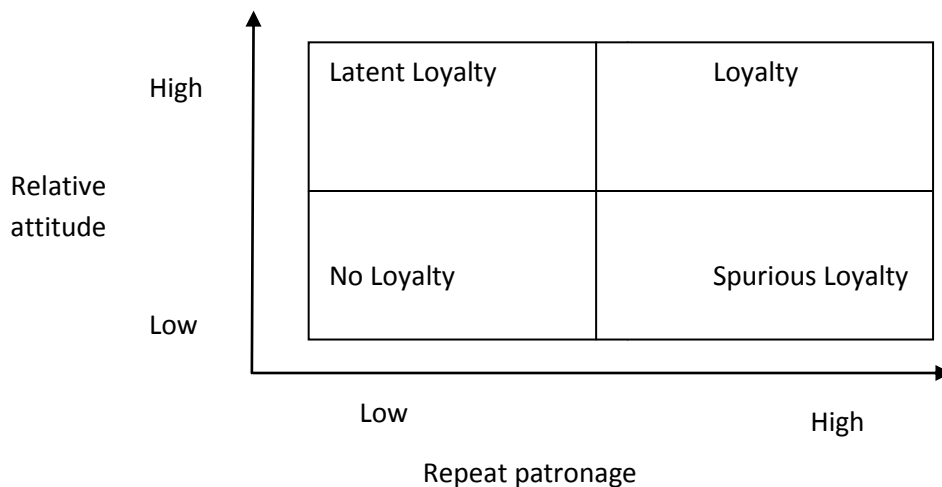


Figure 1: Loyalty matrix (Dick and Basu, 1994)

### **No loyalty:**

Combination of low relative attitude with low repeat patronage results an absence of loyalty which may appear due to the dynamics of a specific market place where competing brands are seen similar.

### **Spurious loyalty:**

Combination of low relative attitude and high repeat patronage result in spurious loyalty which may appear due to the fact that consumer perceives little differentiation among brands and undertakes repeat purchase on the basis of situational causes.

### **Latent loyalty:**

Combination of high relative attitude and low repeat patronage result in latent loyalty and this is probably due to market place environment where non attitudinal influences such as subjective norms and situational effects are at least equally if not more influential than attitude in determining patronage behavior.

### **Loyalty:**

Combination of high relative attitude and repeat patronage result in loyalty which is the most favored situation than other explained above.

According to (Yoo and Bai, 2013), different researches have been found to use different dimensions to measure loyalty. For instance, business journals are found to use behavioral dimensions to measure loyalty while, hospitality journals are more interested in using affective dimension of loyalty. However, this study includes items from both dimensions to measure loyalty of Thon hotel Molde fjord.



## Chapter 3.

### **RESEARCH MODEL AND HYPOTHESES**

#### **3.1 Introduction**

This chapter gives an overview of the research model used for the study and also presents the research hypotheses for further testing. Based on the literature reviewed on chapter two about LSQ, customer satisfaction and customer loyalty a model is developed that seeks to explain the interplay between these three variables. Particularly, the research model consists of four parts: Dimensions of LSQ, customer satisfaction, customer loyalty. And these three parts were linked by eight hypotheses which are tested by integrating customer survey of Thon hotel Molde fjord. Discussion about the control variables is included in the last section 3.7 to give other extra alternative explanation in this study.

#### **3.2 Overview of the model**

The model presented in this chapter explains how the dimensions of logistics service quality are related to customer satisfaction and loyalty as shown in figure. This study mainly aims at testing the effect of independent variables on dependent variable. Dependent variable in this study is customer loyalty and independent variables are dimensions of logistics service quality and customer satisfaction. Therefore identifying the effect of logistics service quality dimensions and customer satisfaction on customer loyalty is the main purpose of this study. Similarly, how the introduction of different control variables affects the relationship between dependent and independent variables will be studied further as shown in the model below.

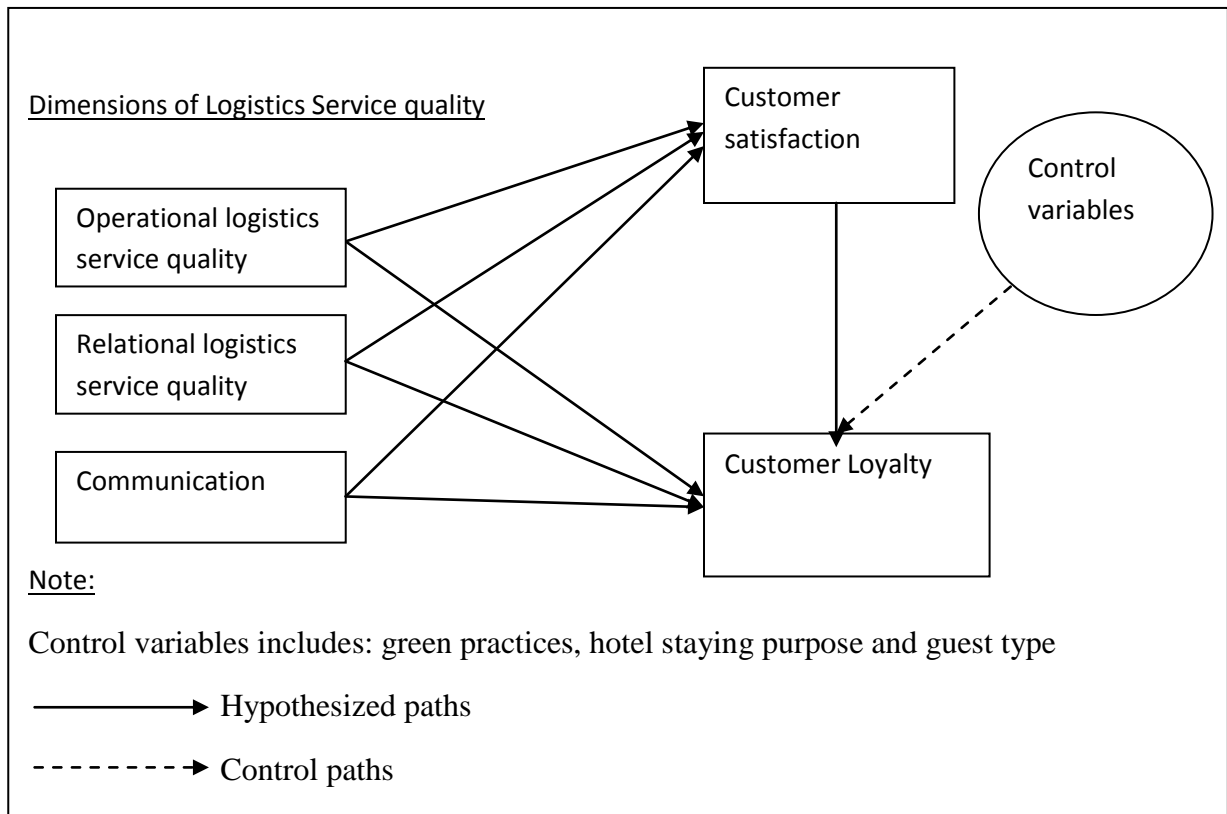


Figure 2: Research model for the investigation of customer loyalty

### 3.3 Relationship between Logistics service quality and customer satisfaction

There has always been some confusion and argument over the relationship between service quality and customer satisfaction. According to Sonne (1999), there are three main distinct views regarding the relationship between service quality and customer satisfaction:

- Some researcher view service quality and customer satisfaction as the same thing as they attempt to measure the same basic concept.
- Satisfaction with the specific transaction leads the perception of the overall quality of the organization and therefore it is considered as antecedent of perceived quality.
- Concept of satisfaction and quality are two different thing where, perceived quality affect customer satisfaction.

However, generally, it is accepted that service quality is antecedent to customer satisfaction (Cronin and Taylor, 1992). Saeed et al., (2011), mention three antecedents; price, quality and image of service that are significantly related to customer satisfaction. In the study of Maghzi et al., (2011), it is found that service quality has a strong correlation with customer satisfaction in the hotel industry. Similarly, study done by Liang (2008) about luxury hotels in US found customer satisfaction as a determining factor and correlated to customer loyalty positively.

Even though many researchers has proved that service quality has a positive relationship with customer satisfaction, there are few researches that has tried to explore the relationship between logistics service quality and customer satisfaction in hotel industry. Moreover, there is lack of research on the actual relationship of logistics service quality dimensions and customer satisfaction in hotel industry (Markovic and Jankovic, 2013).

Logistics studies have concluded that operational performances relative to services have significant positive links to customer satisfaction (Daugherty, Stank, and Ellinger, 1998). However, Stank et al. (2003) found that operational performance did not have a significant relationship with satisfaction. They concluded that operational performance is an “order qualifier” and not a differentiator in the eyes of customers. Research done by Munusamy, Chelliah, and Hor (2010) in banking sector in Malaysia found no significant impact of reliability/operational logistics service on customer satisfaction. While, another research done in hotel industry in Croatia found strong relationship between reliability and customer satisfaction. Reliability turned out to be the second important dimensions of service quality to determine customer satisfaction after assurance in the study of Markovic and Jankovic (2013). Similarly, in another study of hotels in Malaysia done by Fah and kandasamy (2011) found that reliability has a significant relationship with customer satisfaction in Malaysian hotels. Mohammad and Alhamadani (2011) also found significant relationship between reliability and customer satisfaction in commercial banks in Jordan. Although the findings are inconsistent, there is an indication of positive relationship between operational logistics performance and satisfaction.

Davis (2006) argue that some studies shows only marginal support for the relationship between relational performance and satisfaction. According to Munusamy, Chelliah, and Hor (2010), responsiveness has relationship but no significant effect on customer satisfaction. They further

conclude that responsiveness is a need in providing quality service, but not a must. However, the study conducted by Micu, Aivaz, and Capatina,(2012) found that relational dimensions is the most significant determinant of customer satisfaction in e-commerce context.

**Table 2 Major communication types: (Keller , 2009)**

Advertising	any paid form of non-personal presentation and promotion of ideas, goods or services by an identified sponsor
Sales promotion	a variety of short-term incentives to encourage trial or purchase of a product or service
Events and experiences	Company-sponsored activities and programs designed to create daily or special brand-related interactions.
Public relations and publicity	A variety of programs designed to promote or protect a company's image or its individual products.
Direct marketing	Use of mail, telephone, fax, email or Internet to communicate directly with customers.
Interactive marketing	On-line activities and programs designed to engage customers or prospects and directly or indirectly raise awareness, improve image or elicit sales of products and services.
Word-of-mouth marketing	People-to-people oral, written or electronic communications which relate to the merits or experiences of purchasing or using products or services.
Personal selling	Face-to-face interaction with one or more prospective purchasers for the purpose of making presentations, answering questions and procuring orders.

Source: (Keller, 2009)

According to Parasuraman et al., (1998), communication in measurement of service quality represents an understandable manner and use of language by the service provider. However, measurement of communication with respect to logistics service quality includes much more than that. It also includes information and technology system hotel used to communicate with customers and also used for communicating customer information within other departments to provide effective and fast service. Table 2 shows different types of communication mention by Keller (2009) which is a basis for developing items for the measurement of communication in this study. Communication and information system attempts to improve customer satisfaction through improving operation efficiency through product availability, delivery accuracy, responsiveness and flexibility.

There are only few studies that have explored the relationship between communication and customer satisfaction. According to Lam, Cheung, and Lau (2013), effective use of interpersonal communication has a significant effect on customer relationship which is considered as a foundation for customer satisfaction. Similarly, in a study done by Khristianto (2012) found significant impact of website information quality on customer satisfaction in online shopping. Moreover, Keller (2009) stated that marketing communications activities have to be integrated to deliver a consistent message and accomplish the strategic positioning which is an important factor to enhance both customer satisfaction and loyalty.

Hence, from the above argument regarding different dimensions of service quality, following hypothesis may be formed:

***H1.a: Operational logistics performance has a positive effect on customer satisfaction***

***H1.b: Relational logistics performance has a positive effect on customer satisfaction***

***H1.c: Communication has a positive effect on customer satisfaction***

### **3.4 Relationship between customer satisfaction and customer loyalty:**

There are several viewpoints regarding the relationship between customer satisfaction and customer loyalty. Caruana (2002) view customer satisfaction as an antecedent to customer loyalty. Study conducted by Jani and Han (2014) regarding the relationships of Personality,

satisfaction, image, ambience, and loyalty in the hotel industry found that Satisfaction has a significant impact on hotel image and guests' loyalty. However, Shahin, Abandi, and Javadi, (2011) found insignificant relationship between customer satisfaction and customer loyalty. Oliver (1999) mentions satisfaction is not a core element of customer loyalty but it is difficult to entertain loyalty development without satisfaction especially after loyalty has been established.

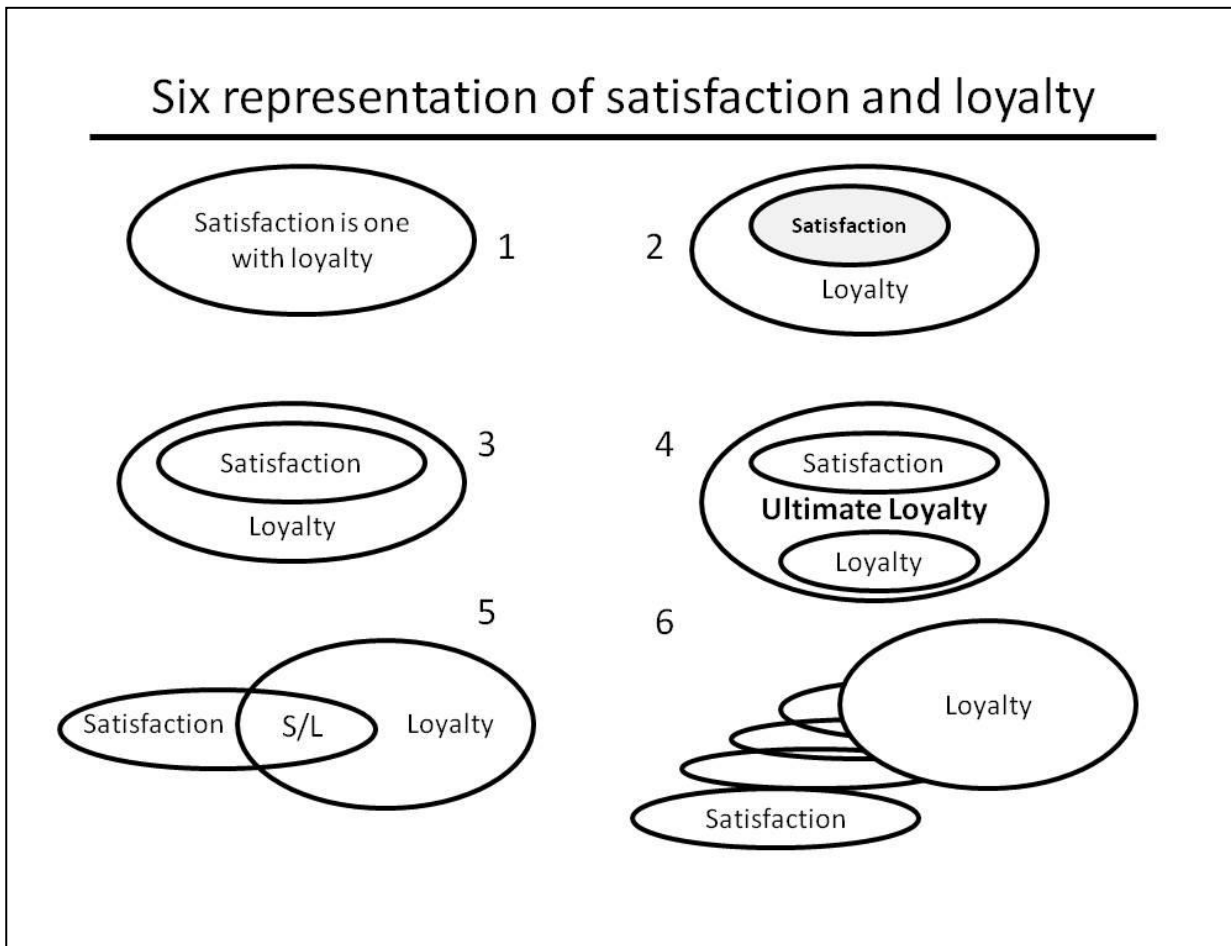


Figure 3: Six representation of relationship between satisfaction and loyalty (Oliver, 1999)

Panel 1: Satisfaction and loyalty are separate manifestation of same concept

Panel 2: Satisfaction is core concept of loyalty, without which loyalty cannot exist

Panel 3: Satisfaction is an ingredient of loyalty but only one of its components

Panel 4: satisfaction and loyalty are components of ultimate loyalty.

Panel 5: Some fraction of satisfaction is found in loyalty but not key to very essence of loyalty

Panel 6: Satisfaction is the beginning of transitioning sequence that culminates in a separate loyalty states.

With the summary of above figure, Oliver (1999) agree more with panel 6 by explaining; for satisfaction to affect loyalty, frequent or cumulative satisfaction is required so that individual satisfaction episodes become aggregated or blended. Moreover, it is clear, that Oliver (1999) showed strong relationship between customer satisfaction and customer loyalty where, satisfaction is the basic element to determine customer loyalty. Therefore, second hypothesis for the study can be formed as:

***H 2: Customer satisfaction has a positive effect on customer loyalty.***

### **3.5 Relationship between logistics service quality and customer loyalty**

There have been a lot of studies done about the relationship between service quality and customer loyalty. But the relationship is still not yet clear due to the fact that published studies are from different industries. Some researcher came up with unclear relationship between service quality and loyalty, whereas, some researchers came up with strong and positive relationship between these two variables. For instance, according to Bloemer et al., (1998) and Sanayei et al., (2012), service quality has a strong and positive relationship between loyalty and willingness to pay. Similarly, Kuruuzum and Koksall (2010) also suggest that service quality has a strong effect on the loyalty of hotel customers. Study conducted by Bloemer, Ruyter, and Wetzels (1998) across four industries in Belgium came up with the conclusion that dimensions of service quality and service loyalty has different relationship across different industry though Zeithaml, Berry, and Parasuraman (1996) suggested a strong association between overall service quality and service loyalty across multiple companies. For instance, in entertainment industry, word of mouth is strongly influenced by responsiveness and tangibility. Where as in fast food industry, word of mouth is influenced by assurance and empathy. Similarly, study done by Kranias and Bourlessa (2013) about the bank customers shows that only convenience dimensions of service quality influenced strongly customer loyalty and other dimensions has no significant relationship with customer loyalty.

Though, the past research has tried to explore the relationship between service quality and customer loyalty, but there are not many studies done about the relationship between dimensions of logistics service quality and customer loyalty. Few studies have tried to present empirical evidence of the relationship between dimensions of logistics service quality and customer loyalty. Using logistics processes to create “customer focused” service quality enables firms to create distinctiveness for its customers (Kandampully, 1998) thereby creating a competitive advantage as well as enhancing customer loyalty (Davis, 2006).

Logistics plays a very important role in ensuring customer loyalty. However, logistics performance may not be significant in explaining customer loyalty when viewed in isolation, but should be viewed as a part of a large set of operational factors and relational factors in influencing customer loyalty (Ramanathan, 2010). Operational logistics performance is proven to have a positive relationship with customer loyalty. Reliability which is also similar to operational logistics service in this study is found to have a positive and significant impact on customer loyalty in a study done with Malaysian banks (Kheng, Mahamad, and Ramayah, 2010).

Responsiveness which is similar to relational logistics service quality in our study is found to have a positive relationship but no significant effect on customer loyalty in banking sector (Munusamy, Chelliah, and Hor, 2010). Further, they conclude in their study that responsiveness is a need in providing quality service in a banking sector, but not a must. However, in another study done by Daugherty, Stank and Ellinger (1998) found positive relationship between relational logistics performance and customer loyalty.

Similarly, providing right information at the right time to the customers is important to increase customer value and customer loyalty in long run. Service provider should reach to the customer through a mean of communication, customized service and comfort to the customer in order to increase their loyalty (Hashim et al., 2011).

According to Minghetti (2013), there are 5 main points where guest communicate with different departments of hotel: Information and query, booking, check in, stay, and check out. Accurate and sufficient information in the phase of information and query helps customers to make their decision easy and this further helps to increase their value. Use of effective information system while booking helps to pass the accurate information of the customers with other department and



thus enabling the entire department to coordinate which again adds value to the customers. Similarly, understandable language used by hotel staff during the stay of customer in the hotel helps to increase customer value. Transparency while charging bills is equally important to increase customer value. Therefore, strategic use of communication and information system with customers helps to effect customer loyalty positively. According to Lam, Cheung, and Lau (2013), interpersonal communication is one of the CRM tactics that plays an important role in building customer relationship and further has a positive impact on customer loyalty.

In addition to this Hashim et al., (2011) mention that communicating latest information about the hotel service and pricing is more important in building loyalty through trust among the non-members than members. This is less important to the members because once the customer decide to be loyal to the hotel and established a strong relationship with the hotel, pricing and other elements of service remains less important to influence loyalty (Hashim et al., 2011). However, lack of information about the hotel services and pricing, use of not understandable language by hotel employee provides a surprise element to customers which influence their trust and thus loyalty too. Therefore, proper use of communication and information system is more important to non-members than members of the hotel.

Hence, from the above empirical evidence about the relationship between logistics service quality and customer loyalty, following hypotheses can be formed:

*H3a. Operational logistics performance has a positive effect on customer loyalty*

*H3b. Relational logistics has a positive effect on customer loyalty.*

*H3c. Communication has a positive effect on customer loyalty.*

*H3.d. Communication has a strong effect on loyalty of non-members than members.*

### **3.6 Relationship among logistics service quality, customer satisfaction and customer loyalty**

The relationship between logistics service quality, customer satisfaction and customer loyalty is still unclear as different researchers have concluded with different result. Caruana (2002) suggested that the satisfaction plays the mediating effect on the relationship between quality and loyalty. On the other side, according to the meta-analysis conducted by Carrillat et al., (2009)

service quality impacts purchase intentions and thus customers' loyalty in a direct as well as in an indirect way through satisfaction. Furthermore, service quality and customer satisfaction were found to be related to customer loyalty through repurchase intentions (Choi and Chu, 2001), (Caruana, 2002).

According to Dick and Basu (1994), perceived service quality is viewed as a key determinant of satisfaction with potential consequences for repeat patronage. Study done by Oliver (1999) concluded that satisfaction is a necessary step in loyalty formation; however, it becomes less important when loyalty begins to set through other mechanisms. He further mentions roles of personal determinism and social bonding at the personal and institutional level as other mechanisms to set loyalty.

According to Dick and Basu (1994), increase in satisfaction above a critical level also increases repeat purchase and vice versa. However, loyalty is not affected over the broad range of satisfaction/dissatisfaction between these critical points. Study conducted by Choi and Chu (2001) found staff service quality, room qualities and value as the most influential factors in determining customer satisfaction and their likelihood of returning to the hotel. In a Survey of 295 customers in Malaysia rural tourism conducted by Osman and Sentosa (2013) confirmed that customer satisfaction have significant and positive partial mediating effect on service quality and customer loyalty relationship.

Previous research revealed that service quality, customer satisfaction and loyalty programs are the important factors to increase customer loyalty towards the organization (Hafeez and Muhammad, 2012) and (Sabir et al., Akhtar, 2013). Furthermore, Hafeez and Muhammad (2012), banks should focus on building customer loyalty by offering both quality products and services for better and greater customer satisfaction to get success. Despite of many conflict arguments regarding the relationship between service quality, customer satisfaction and customer loyalty, this study attempts to test following hypothesis:

***H4: There is a positive and significant impact of service quality and customer satisfaction on customer loyalty***

### 3.7 Control variables

In a study of relationship between logistics service quality, customer satisfaction and customer loyalty, it is important to identify whether customers have distinct evaluation on loyalty with different customer segmentation. Such identification helps organizations to group customers based on their transactional, demographic and psychographic data and then study behavioral pattern within these group to develop different loyalty program. Customer segmentation is considered as an effective method for managing different customers with distinct preferences (Hong and Kim, 2012) so that priority can be placed on delivering customized rewards or personalized experiences to connect with profitable/ high-value customers (Weissenberg, Katz, and Narula, 2013). Hong and Kim (2012) defines customer segmentation “as the process of dividing heterogeneous customers into homogeneous groups on the basis of common attributes and is essential for handling a variety of customers with rich sets of diverse customer preferences more efficiently.” Companies should apply different marketing strategies to different segmented group through customer segmentation to maintain lengthy relationships with customers (Hong and Kim, 2012).

#### a) **Impact of Hotel staying purpose on loyalty:**

In a survey of 4000 travelers in USA, leisure travelers are found more loyal to their preferred brand and hotel personnel than business travelers. In that survey about half of the customers who stayed in a hotel in the past six month and enrolled only in one loyalty program were leisure travelers (Weissenberg, Katz, and Narula, 2013). They also found that 69% of leisure traveler would be loyal to their preferred brand. Weissenberg et al., (2013) mention the reason behind the loyalty from leisure travelers is the fact that they pay out of their pocket and purchase their reward point unlike the business travelers whose payment is done by business side. Similarly, leisure travelers choose hotels on the basis of word of mouth from their family members, friends and relatives and thus show more loyalty than business travelers (Weissenberg, Katz, and Narula, 2013).

#### b) **Impact of membership on loyalty:**

There has been no or only few research done regarding the effect of hotel membership on loyalty. Weissenberg, Katz, and Narula (2013) who studies effect of hotel loyalty programme on

customers in USA describes hotel's approach of building customer loyalty is incomplete in a sense that rewarding customers with point based discounts to encourage repeat purchase has built a false sense of security. Similarly, in that study it was found that among the hotel loyalty members, 43% strongly disagree with the statement "I will not switch to a competing brand that announces a better loyalty program" (Weissenberg, Katz, and Narula, 2013). Hotel loyalty program members are generally not loyal and even switches brand as per the offers from the competing brands. Consumer engaged in different brand loyalty programs across different consumer based industries are found to be faithful or devoted to any brands by only little percentage (Weissenberg, Katz, and Narula, 2013).

**c) Impact of green logistics on customer loyalty:**

Although there has been a study about customer satisfaction and loyalty in different fields, but a study of relationship between environmental hotel practices and customer satisfaction and loyalty is not available. Result from previous studies shows that green hotel practices have a positive relationship on guest satisfaction level and loyalty. Initially the reasons behind the adoption of green practices by hotels were governmental pressure, the desire to preserve resources by reducing waste, and conserving energy and waste. However, in recent days, implementing green practices has been very important from customer's perspective as well. Lee, Han, and Kim (2010) provide empirical evidence in their study that a green hotel image can result in favorable intentions by hotel guests. Green practices for instance; recycling, purchasing local produce, implementing rigorous LEED (Leadership in Energy and Environmental Design) certificate standards, towels and linen re use program, water saving devices in public space and guest room are found to be adopted by different hotels in their operations (Berezan, Raab, Yoo, and Love, 2013).

Similarly, according to Berezan, Raab, Yoo, and Love (2013), hotel guests expect some environmental attributes as a basic attributes of service offering of the hotel. Robinot and Giannelloni (2010), mention that it is important for hotels to include these attributes in their service offering to avoid customer dis-satisfaction. Furthermore, previous studies shows that hotel customer considered adaptation of clean and renewable energy sources as a plus attributes of services which increased their satisfaction level and contribute to customer loyalty.

## Chapter 4.

# RESEARCH METHODOLOGY

### 4.1 Introduction

This chapter presents an overview of research method applied in this study. This chapter consists of two parts. Part A consists of research design adopted in this study, and introduction to Thon Hotel Molde fjord while part B presents questionnaire development, sampling procedure, data collection technique and procedure used for this study.

### Part A

### 4.2 Research design:

The classification of research designs vary according to writers. According to Chisnall (1992), research design includes three types (exploratory, descriptive and causal). Malhotra & Birks (2006) classified research design into exploratory and conclusive. This study includes the research design explained by Malhotra and Birks (2006).

The primary objective of conclusive research is to formulate and test hypotheses and to explain the relationships between variables of the study. On the other hand exploratory research aims at identifying the real nature of research problems and also formulating relevant hypotheses for further studies (Chisnall, 1992). In conclusive research, key informants are clearly defined, large samples are used and data are analyzed by quantitative/statistical techniques. But in exploratory research, the procedure for information source is unstructured, samples are usually small and data are analyses through both qualitative and quantitative techniques.

Further, (Malhotra and Birks, 2006) divide conclusive research into descriptive and casual. Causal research in conclusive research is used to study the cause and effect relationships among variables through experimentation (Malhotra and Birks, 2006). On the other hand descriptive research in marketing is used to describe an industrial phenomenon, characteristics of organizations, market demand, and customer profile (Chisnall, 1992). Again, Descriptive research can be categorized into two categories: cross sectional or longitudinal. Cross sectional

research design is applied when data are collected from the pre-defined sample of population elements only once. Whereas fixed sample or sample of population elements are measured repeatedly in longitudinal research design. Therefore, this study is considered to be classified as cross sectional design which falls under the category of descriptive and conclusive research.

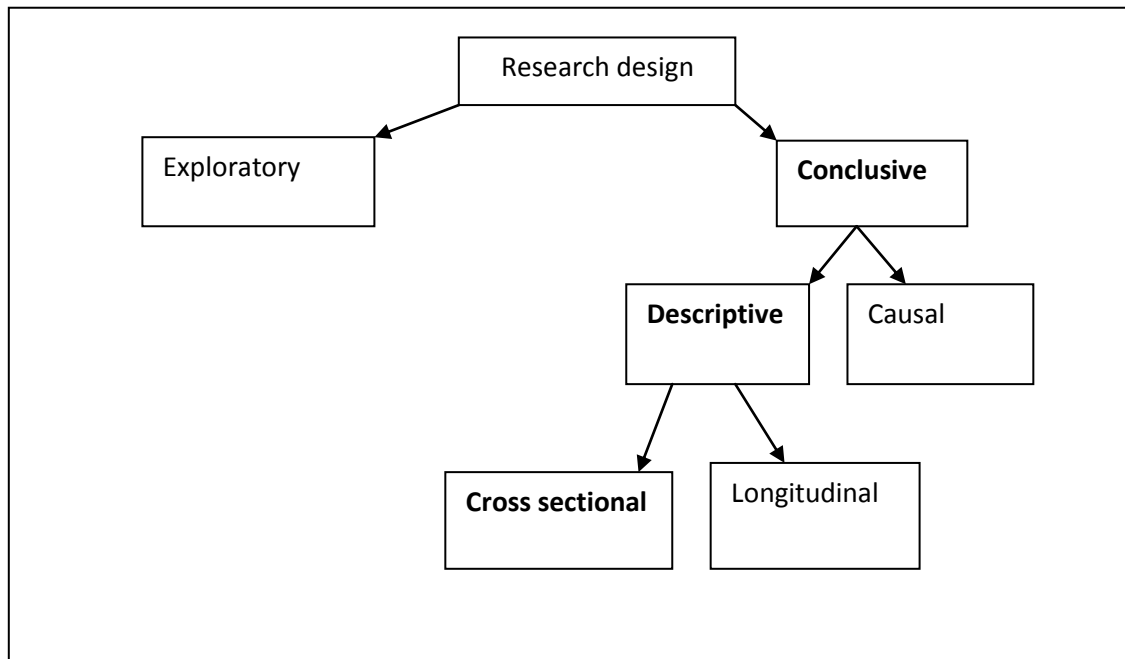


Figure 4: Research design for this study, Adopted from (Malhotra and Birks, 2006)

### 4.3 Introduction to Thon Hotel Molde Fjord

Thon Hotel Molde fjord is a part of the largest chain hotel owned by Olav thon group and located in the centre of Molde town in Norway. Olav thon group is operating its hotel business all over Norway, Sweden, Brussels and Rotterdam. Customer satisfaction has always been a priority in thon hotels and thus it offers three concepts that help customers to choose the right hotel. They are:

- Budget: smart and simple
- City: comfort in central location
- Conference: professional conference hotel.

Thon hotel Molde fjord is a central and a business hotel which provides customers with great location advantage and business customers with all the facilities they need for business conference. The hotel has 84 rooms in total and offers customized rooms for family, disabled and people with allergies. Thon hotel is using membership program to enhance the loyalty of its customers. It is offering different scheme that benefits its customer. For instance, Thon member has 3 levels: Gold (the starting level for all new members), Platinum (Minimum 10 nights in a twelve month period If the requirement for 10 nights in a twelve month period is not fulfilled, a Platinum member will be returned to Gold level) and Black (Minimum 30 nights in a twelve month period). Calculation of the membership level is based on calendar year. Upgrade of the membership is done consecutively when reaching the minimum requirements as described above where as downgrade of the membership is done in February every year (Thon Hotel Moldefjord, 2014).

Following are the main attractions of the membership programs offered by Thon hotel Molde fjord:

- Customers get several benefits when staying at both our hotels and more than 450 other hotels worldwide
- Customers can earn frequent flyer miles with SAS Euro Bonus every time you stay at hotel
- The membership levels Platinum and Black will give customer access to Local Experiences.
- And customers will receive exciting and relevant travel offers

Similarly, customers are free to spend their bonus on free accommodation, gift vouchers, restaurant vouchers in Brussels, Belgium and car rental. The Thon Member program is an electronically-based service so all the members have access to their membership information, including points earned, transaction list and member profile at their. Therefore, Thon hotel shows transparency on their transaction with customers.

Hotel is practicing green concepts since long time. One of the important steps Thon hotel has done to be green is the way it is making a considerable environmental investment for reducing

waste level and saving energy, and for environmentally sound consumption. Hotel is re-using hotel amenities which are possible do so. For instance, coffee cups, glasses, towels, bed linens etc. There are many hotels which use plastic cups to reduce their daily operating cost and does not bother to practice green. However, Thon hotel believes in following green practices which benefits both hotels and customers in long term.

There are other hotels in Molde (Rica-Seilet, Alexandra etc) which are competing with Thon Hotel Mold fjord. Therefore Thon must identify what factors of logistics service quality influence customer satisfaction and loyalty to compete with its competitors. Following are the questionnaire used to study customers of Thon:

## **Part B**

### **4.4 Questionnaire development**

Questionnaire is developed based on LSQ scale to measure dimensions of logistics service quality. However it also includes other added dimensions like communication and front desk capabilities as new dimensions for this study. LSQ scale is also similar to the SERVQUAL scale as reliability and responsiveness attempts to measure same underlying aspects. Furthermore, questionnaire is developed to measure customer's perception regarding the dimensions of LSQ provided by the hotel. Questionnaire is also developed to measure their satisfaction level which consists eight single items and reflects customers overall satisfaction. Questionnaire to measure customer loyalty is based on the attitudinal and behavioral approach recommended by most of the researchers. Questions related to respondent's demographic (gender, age and income level) were also used to measure respondent's demographic information.

Since the sampling frame of the study is dominated by Norwegians, Questionnaire was translated into Norwegian language by the help of receptionist in Thon hotel Mold fjord. During the time, she also helped me to change some of the questions as she was well known about the characteristics of customers. Before I proceed with actual data collection, preliminary data collection was conducted with 20 customers to find out if the questionnaire is understood by all



customers and also to find out if there is a need to modify or remove any questions. The entire customers were comfortable with questionnaire. Then I used the same questionnaire in Norwegian as well as in English language for further Data collection.

#### **4.5 Sampling procedure, data collection technique and procedure**

Non probability sampling procedure with convenience sampling is used to collect the data which involves selection of the most readily available people for a study. The reason behind using such procedure instead of probability sampling is the time frame allowed by the director of the hotel to collect data. Since, it cost more time for receptionists to distribute and collect questionnaire from each customer, I was allowed to collect data for not more than 2 weeks. Another reason is the lack of enough customers because of the off season. Total 150 sample size was used to collect the data.

Questionnaire with structured questions is used to collect the data. Data collection in this study is conducted by the help of front desk personnel. Questionnaire in both Norwegian and English was given to receptionists of Thon hotel Molde fjord and they distributed the questionnaire to the guest at the time of check-in. And guests were requested to drop the filled questionnaire at the front desk when they check-out.

## OPERATIONALIZATION AND MEASUREMENT OF VARIABLES

### 5.1 Introduction

This chapter discusses about the operationalization and measurement of variables used for this study.

### 5.2 Operationalization of Latent variables

Latent variables refer to the theoretical variables that cannot observe directly. Therefore, in order to observe such kind of variable, researcher should first establish understandable rules for observation. Following is the way researchers can operationalize variables to measure it.

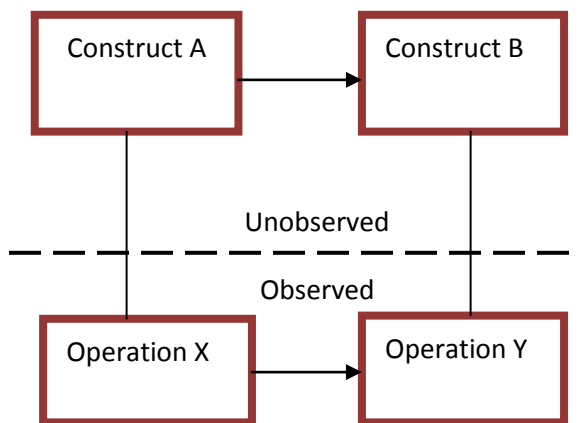


Figure 5: Construction Operationalization, Adopted from (Strube, 2000)

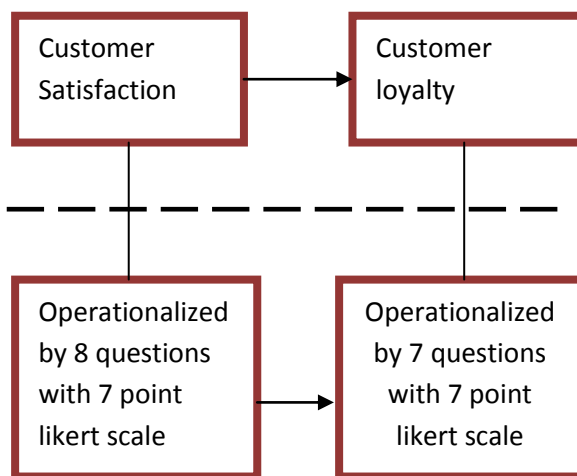


Figure 6: Construct operationalization for customer satisfaction and loyalty, Adopted from (Strube, 2000)

### 5.3 Measurement of variables

All the constructs are comprised of seven items which are anchored from 1 strongly disagree to 7 strongly agree.

- **Operational logistics service quality**

OPL.1.	The receptionists keeps the transactions record accurately
OPL.2.	My reservation was handled accurately
OPL.3.	Housekeeper attempts to clean the room on time with perfection
OPL.4.	My room was ready as it was promised (i.e. having the right items in the order as promised)
OPL.5.	Room was ready on arrival (timeliness of services)

- **Relational logistics service quality**

REL.1.	Employees are never too busy to respond to my request/questions
REL.2.	Receptionists makes an effort to understand my need and choice
REL.3.	Customized and personalized services are available upon request. (e.g. management of extra bed, sofa bed, connections of two rooms etc)
REL.4.	Flexible and competent employee to handle customer complaints and problems

- **Communication**

COM.1.	Accurate and valid information about the hotel was provided in its website
COM.2.	No or less error in recording and processing room reservations ( i.e. error in personal information, types of rooms, and date to stay at hotel)
COM.3.	Understandable language was used by receptionist to communicate with customer
COM.4.	Transparency is shown in every transaction
COM.5.	Different kinds of sales promotions are available on its websites

- **Front desk capabilities**

FDC.1.	Check-in & check-out procedure are easy, fast and convenient
FDC.2.	Reservation process was easy and effectively done
FDC.3.	The product/ service knowledge and experience of personnel is adequate
FDC.4.	The Facilities were confidently located in lobby area

- **Customer satisfaction**

C.SATS.1.	Overall, I am satisfied with hotel's logistic services
C.SATS.2.	I am satisfied with the hotel service charges/ price
C.SATS.3.	I am satisfied with the green practices of hotel
C.SATS.4.	I am satisfied with the employee expertise to handle guest (e.g. check in procedure, guest problem solving etc)
C.SATS.5.	I am satisfied with the capabilities of front desk personal of Thon hotel Mold fjord staff to deal with customers
C.SATS.6.	I am satisfied with the way hotel communicate with its customers
C.SATS.7.	I am satisfied with the responsiveness of hotel personnel to its customers
C.SATS.8.	I am satisfied with the reliability of service quality provided by thon hotel Molde fjord

- **Loyalty**

Loyalty.1.	I would like to stay at Thon hotel next time
Loyalty.2.	I would like to choose Thon hotel even if there are other similar hotels.
Loyalty.3.	I would like to choose Thon hotel even if its price rose
Loyalty.4.	I would like to recommend Thon hotel to other people
Loyalty.5.	In some situation, I can tolerate Thon hotel's small mistakes
Loyalty.6.	I think I have built a good relationship with Thon hotel
Loyalty.7.	I think I am a loyal customer of Thon hotel

## Chapter 6.

# VALIDATION AND RELIABILITY

## 6.1 Introduction

Before going through the analysis of casual relationship between variables, one should measure the reliability and validity of the scale of latent variables used in the model (Jarvis, Machenzie, and Podsakoff, 2003). Therefore, this chapter includes the test of data in terms of reliability and validity. More specifically, SPSS version 19 was used with exploratory factor analysis and Cronbach's Alpha to measure construct validity (mainly Discriminant validity), internal consistency and reliability. Discriminant validity is the degree to which latent variable discriminates from other latent variables for instance, A discriminates from B, C, D, and E (Andrew and John, 2009). Further they describe that Discriminant validity indicated that a latent variable is able to report for more variance in the observed variables associated with it than other constructs within the conceptual and the measurement error (i.e. similar external, unmeasured influences) (Andrew and John, 2009). According to them, the way to measure Discriminant validity is to conduct exploratory factor analysis (EFA) and looking at cross-loading items.

## 6.2 Factor analysis

In this study, exploratory factor analysis (EFA) is used which is a statistical method applied to identify the underlying relationships between measured variables (Anand and Selvaraj, 2012). One of the main objectives of exploratory factor analysis is to evaluate the dimensionality of a set of multiple indicators. According to (Conway and Huffcut, 2003) it can be an important tool for understanding latent construct, refining measures and evaluating construct validity.

### 6.2.1 Preliminary factor analysis

There are many decisions that are made during the EFA is performed. We will focus primarily on three EFA decisions that are important for the outcome: (a) the factor extraction model used, (b) the number of factors retained, and (c) the method used to rotate factors (assuming more than one factor is retained) (Conway and Huffcut, 2003).

In this study, there are four dimensions of service quality which has been used to collect the data with 18 items. Examining whether all the items will load on the previous dimensions and which items are correlated is important for further study. Therefore, the preliminary factor analysis is conducted with all the dimensions of service quality and principal component analysis was used for extraction method. Eigen values greater than one criterion is used for the number of factors (or components) to retain for further study. Two basic types of analytical rotations: orthogonal rotations (forcing uncorrelated factors), and oblique rotations (allowing correlated factors) are used to rotate factors. The most popular orthogonal rotation is varimax, which attempts to maximize the variance of squared loadings on a factor (Conway and Huffcut, 2003). Therefore, Varimax rotation method has been used in this study.

**Table 3: Factor analysis of LSQ dimensions**

<b>Rotated Component Matrix<sup>a</sup></b>			
	Component		
	1	2	3
RELSQU 2	.733	.304	.063
RELSQU 3	.694	.306	.188
RELSQU 4	.727	.220	.289
Front desk cap 1	.740	.247	.043
Front desk cap 3	.756	.308	.272
Front desk cap 4	.722	.074	.214
OPERQU 1	.110	.730	.323
OPERQU 2	.172	.760	.137
OPERQU 4	.327	.742	.194
OPERQU 5	.351	.735	.178
Front desk cap 2	.456	.619	.172
Communication 3	.301	.278	.783
Communication 4	.106	.248	.877
Communication 2	.318	.177	.458

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Operational logistics service quality 3, relational logistics service quality 1 and communication 1 and 5 are deleted due to low factor loading. Moreover, those items were floating over different variables and not loaded high one single variable. Front desk capability items 1/3/4 loaded on

relational logistics service quality. The reason might be the fact that they all measure the same thing. For instance, item “Check-in & check-out procedure are easy, fast and convenient” is also related to the measurement of employee’s ability to provide prompt service. Similarly, another item “The product/ service knowledge and experience of personnel is adequate” is more related to relational logistics service quality. Therefore, these items loaded on relational logistics quality makes sense and can be used to measure relational logistics service quality.

Front desk capability item 2 loaded on operational logistics service quality as it measures the reliability aspects of service quality. And finally item RELSQU 2/3/4 and Front desk cap 1/3/4 can be used to measure relational logistics service quality. Similarly, item OPERQU 1/2/4/5 and Front desk cap 2 can be used to measure operational logistics service quality. And communication 3/4/5 can be used to measure communication. All the items have cross loading above 0.6 which indicates satisfactory discriminant validity of the variables. However, communication 2 has low cross loading. This study includes this item to measure communication because if we deleted that item then there will be only two item remaining to measure communication variable. At least three items to measure a single variable is taken positively. Similarly, factor analysis for customer satisfaction and customer loyalty were done respectively using the same method. All the item loadings of customer satisfaction and customer loyalty were above 0.7 except customer satisfaction 2 and therefore it is deleted.

### **6.2.2 Further factor analysis**

After deleting all the items which have low cross loadings in preliminary factor analysis, all the items of LSQ, customer satisfaction and customer loyalty were again examined together using factor analysis. The value of KMO=0.916 and Bartlett's Test of Sphericity was significant (approximate chi-Square=2857.673, df =325, p=0.000) which indicates that the strength of the relationship among the variables are strong enough to do factor analysis of data.

Table 4: Final result of factory analysis

**Rotated Component Matrix<sup>a</sup>**

	Component				
	1	2	3	4	5
Loyalty 1	.721	.123	.324	.305	.307
Loyalty 2	.810	.251	.165	.068	.169
Loyalty 3	.692	.183	.245	.154	.240
Loyalty 4	.815	.178	.223	.200	.167
Loyalty 6	.757	.162	.250	.313	.065
Loyalty 7	.859	.205	.231	.098	.014
RELSQU 2	.058	.720	.190	.289	.033
RELSQU 3	.174	.683	.103	.264	.186
RELSQU 4	.230	.675	.245	.144	.226
Front desk cap 1	.233	.712	.159	.194	-.049
Front desk cap 3	.267	.720	.233	.231	.186
Front desk cap 4	.140	.674	.329	-.024	.155
Customer sats 3	.287	.226	.675	-.019	.253
Customer sats 4	.275	.219	.787	.210	.140
Customer sats 5	.299	.224	.676	.344	.080
Customer sats 6	.115	.353	.623	.293	.129
Customer sats 7	.350	.281	.658	.249	.131
Customer sats 8	.400	.188	.644	.339	.129
OPERQU 1	.220	.089	.311	.631	.263
OPERQU 2	.113	.186	.168	.732	.114
OPERQU 4	.169	.287	.325	.681	.148
OPERQU 5	.311	.315	.235	.646	.118
Front desk cap 2	.251	.483	-.017	.611	.173
Communication 2	.069	.324	.171	.150	.465
Communication 3	.206	.283	.192	.256	.743
Communication 4	.330	.067	.198	.204	.780

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

From the table above, final conclusion can be done about factor analysis result as follows:



Loyalty 1/2/3/4/6 and 7 can be considered as the items to measure loyalty. Item 5 has been removed due to low cross loading. Similarly, relational logistics service 2/3/4 and front desk capabilities 1/3/4 can be included to measure relational logistics service. Measurement of customer satisfaction can be done by including customer satisfaction 3/4/5/6/7 and 8. Customer satisfaction 1 and 2 has been removed due to low cross loadings. Item operational logistics service 1/2/4/5 and front desk capabilities 2 can be used to measure operational logistics service. And finally communication item 2/3/4 can be used to measure communication.

### 6.3 Reliability test

Measurement of Cronbach’s Alpha is one of the important and highly used methods to measure the reliability among variables. The coefficient alpha above 0.70 provides good estimates of internal consistency and reliability of data (Nunnally and Bernstein, 1994) and thus this measure has been used to test the internal consistency and reliability of variables in this study. Cronbach’s Alpha for relational logistics service quality, operational logistics quality, communication, customer satisfaction and customer loyalty were above 0.70. Thus, it is proven that scales used for this study is reliable.

**Table 5: Measures of construct**

Scales	Sample of items. (Response format: 7-Point Likert-type scales with end points strongly disagree and strongly agree)
Operational logistics service quality 5 items $\alpha = 0.875$	OPERLOG 1: The receptionists keeps the transactions record accurately OPERLOG 2: My reservation was handled accurately OPERLOG4: My room was ready as it was promised (i.e. having the right items in the order as promised) OPERLOG5: Room was ready on arrival (timeliness of services) FRONTDESK2: Reservation process was easy and effectively done
Relational	RELLOG 2: Receptionists makes an effort to understand my need and choice RELLOG 3: Customized and personalized services are available upon request.

logistics service quality 6 items $\alpha= 0.883$	(e.g. management of extra bed, sofa bed, connections of two rooms etc) RELLOG 4: Flexible and competent employee to handle customer complaints and problems FRONTDESK 1: Check-in & check-out procedure are easy, fast and convenient FRONTDESK 3: The product/ service knowledge and experience of personnel is adequate FRONTDESK 4: The Facilities were confidently located
Communication 3. items $\alpha= 0.740$	COMM 2: No or less error in recording and processing room reservations (i.e. error in personal information, types of rooms, and date to stay at hotel ) COMM 3: Understandable language was used by receptionist to communicate with customer COMM 4: Transparency is shown in every transaction
Customer satisfaction 6 items $\alpha= 0.907$	CUS SATS 3: I am satisfied with the green practices of hotel CUS SATS 4: I am satisfied with the employee expertise to handle guest (e.g. check in procedure, guest problem solving etc) CUS SATS 5: I am satisfied with the competence of Thon hotel Mold fjord staff to deal with customers CUS SATS 6: I am satisfied with the way hotel communicate with its customers CUS SATS 7: I am satisfied with the responsiveness of hotel personnel to its customers CUS SATS 8: I am satisfied with the reliability of service quality provided by thon hotel Molde fjord
Customer loyalty 6 items $\alpha= 0.923$	CUS LOYALTY 1: I would like to stay at Thon hotel next time CUS LOYALTY 2: I would like to choose Thon hotel even if there are other similar hotels. CUS LOYALTY 3: I would like to choose Thon hotel even if its price raised CUS LOYALTY 4: I would like to recommend Thon hotel to other people CUS LOYALTY 6: I think I have built a good relationship with Thon hotel CUS LOYALTY 7: I think I am a loyal customer of Thon hotel

## Chapter 7.

### DATA ANALYSIS AND HYPOTHESES TEST

#### 7.1 Introduction

This chapter presents the analysis of data using Ordinary Least Squares (OLS) method and test of hypotheses that were developed earlier in chapter three.

#### 7.2 Descriptive statistics

Total number of sample size for this study consists of 150 customers of Thon hotel Molde fjord. Among which 89 were male and remaining 61 were female. The major customer group falls under the age between 40-50 years which consists of 26.7 % of the sample size. Similarly majority of customers have disposable income above 40000 NOK (i.e. 40.7% of the total sample size). The sample size includes 65 member and 85 non-members which shows that nonmembers were slightly higher than members to stay at hotel during the data collection period. Moreover, 44 customers were on vacation, 74 were on business purpose and remaining 32 were staying at hotel due to other reasons.

#### 7.3 Hypotheses test

##### Regression Model:

Multiple regression analysis with the Ordinary Least Square (OLS) method was used to examine the hypotheses that have been claimed for this study. Two dummy variables were incorporated in the model. Following is the OSL-regression model estimated for this study:

$$\text{Loyalty} = b_0 + b_1 \text{OPLSQU} + b_2 \text{RLSQU} + b_3 \text{COMMU} + b_4 \text{CUS SATS} + b_5 \text{GREEN PRAC} + b_6 \text{Guest type} + b_7 \text{COMMU} * \text{Guest type} + b_8 \text{Hotel staying purpose} + \varepsilon$$

**Notice:** following dummy variables were transformed by using SPSS version 19.

Hotel staying purpose “1”=vacation, and “0”=business

Guest type “1”=members and “0”=non members

The overall goodness of fit for the model was good ( $R_{adj}^2 = .579$ ,  $F= 26.598$ ,  $P<0.01$ ) which shows that the model present an adequate description of data.

**Table 6: Correlation matrix and descriptive statistics**

<b>Variables</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>
1. Operational logistics service quality	1	0.65**	0.593**	0.67**	0.585**	0.571**	0.066	0.288**	0.319**
2. Relational logistics service quality		1	0.567**	0.656**	0.548**	0.776**	0.008	0.366**	0.397**
3. Communication			1	0.595**	0.559**	0.421**	-0.02	0.168*	0.219**
4. Customer satisfaction				1	0.688**	0.647**	-0.03	0.387**	0.422**
5. Loyalty					1	0.571**	-0.15	0.432**	0.451**
6. Green practices						1	0.008	0.36**	0.384**
7. Hotel staying purpose							1	-0.18*	-0.18*
8. Guest type								1	0.997**
9. Communication × Guest type									1
Mean values	6.415	6.323	6.611	6.301	5.527	6.071	0.29	0.43	2.902
Standard deviation	0.48	0.504	0.451	0.509	1.019	0.518	0.457	0.497	3.342
** Correlation is significant at the 0.01 level (2-tailed)									
* Correlation is significant at the 0.05 level (2-tailed)									

From the table 5, we can see that customer satisfaction is positively correlated to all dimensions of Logistics service quality. For instance, correlation between operational logistics service quality customer satisfaction is ( $r = 0.585$ ,  $p<0.01$ ), correlation between relational logistics service quality and customer satisfaction is ( $r = 0.548$ ,  $p<0.01$ ), and correlation between communication and customer satisfaction is ( $r = 0.559$ ,  $p<0.01$ ). Therefore hypotheses 1a, 1b, and 1c were supported. Similarly, Customer satisfaction is positively correlated with customer loyalty (where,  $r = 0.688$ ,  $p<0.01$ ). Therefore, we can say that customer satisfaction has a strong and positive relationship with customer loyalty and hypothesis H2 is supported with this result. Similarly, customer loyalty is positively related to all the dimensions of LSQ. However, loyalty is highly correlated to operational logistics service quality. Therefore, hypotheses 3a, 3b and 3c are fulfilled.

## Regression analysis, Dependent variable is customer loyalty

Table 7: Regression analysis with customer loyalty as dependent variable

Variables	Estimated coefficients	t-values
Operational logistics service quality	0.295	1.726 <sup>c</sup>
Relational logistics service quality	0.213	1.087
Communication	0.710	3.844 <sup>a</sup>
Customer satisfaction	0.714	4.124 <sup>a</sup>
Green practices	0.418	2.380 <sup>b</sup>
Guest type	4.502	2.673 <sup>a</sup>
Communication × guest type	-0.628	-2.472 <sup>b</sup>
Hotel staying purpose	-0.244	-1.997 <sup>b</sup>
Constant	-6.806	-5.880

<sup>a</sup> indicates significant at  $p < 0.01$

<sup>b</sup> indicates significant at  $p < 0.05$

<sup>c</sup> indicates significant at  $p < 0.1$

### Hypothesis 3a,

From the table above, it is proved that operational logistics service quality has a positive and significant impact on customer loyalty ( $b_1=0.295$ ,  $t=1.726$ ,  $p < 0.1$ ). Result shows that operational logistics service quality determines the loyalty among customers. Increase in timeliness, consistency, regularity and accuracy of logistics service increases customer loyalty.

### Hypothesis 3b,

Result from the above table regarding relational logistics service quality ( $b_2=0.213$ ,  $t=1.087$ ) however does not support hypothesis 3b. It shows that customers see this dimensions as a must service quality that hotel should provide to its customers. It does not determine the customer loyalty.

### **Hypothesis 3c,**

Result regarding communication ( $b_3 = 0.710$ ,  $t = 3.844$ ,  $p < 0.01$ ) shows that it has a positive and significant effect on customer loyalty. This shows that understandable language used by receptionist to communicate with customer, transparency in every transaction with customers and less error in recording and processing room positively influence the customer loyalty. Thus, the hypothesis 3c is supported.

### **Hypothesis 4,**

Green practices of the hotel have a positive and significant effect on customer loyalty. It is proven by the result ( $b_5 = 0.418$ ,  $t = 2.380$ ,  $p < 0.05$ ) that green practices of the hotel certainly influence the loyalty of customers.

When the dummy variable (guest type was introduced in the model), result ( $b_6 = 4.502$ ,  $t = 2.673$ ,  $p < 0.01$ ) shows that members are found to be more loyal than non members. Similarly, when the interaction between communication and type of guest was introduced in the model result ( $b_7 = -0.628$ ,  $t = -2.472$ ,  $p < 0.05$ ) shows that communication influence the loyalty among non-members more than members. Leisure travelers are found to be more loyal than business travelers ( $b_8 = -0.244$ ,  $t = -1.997$ ,  $p < 0.05$ ). Customer satisfaction has a strong positive effect on customer loyalty which proves from the result of regression model ( $b_4 = 0.714$ ,  $t = 4.124$ ,  $p < 0.01$ ).

## Chapter 8.

# DISCUSSION AND IMPLICATIONS

### 8.1 Introduction

This section is about the discussion of the findings revealed in previous chapters. Further, theoretical and managerial implications are also discussed with possible future research.

### 8.2 Discussion of results

The findings and result of this case study present the interrelationship between dimensions of logistics service quality, customer satisfaction and customer loyalty. From the study it was found that all the dimensions of logistics service quality, customer satisfaction, and customer loyalty have a positive correlation with each other and customer satisfaction and logistics service quality are found to be strong determinants of customer loyalty. More specifically, operational logistic service quality and communication are found to have a significant impact on customer loyalty. However, relational logistics quality does not have a significant impact on customer loyalty. Our result is consistent with the findings of (Munusamy, Chelliah, & Hor, 2010).

This study also investigated the impact of control variables on customer loyalty and the result showed that green practices of hotels have a strong effect on customer loyalty. Green attributes are important factors to establish a long term relationship with customers in the case company. Moreover, members are found to be more loyal than non-members in the study of the case company. This study has also investigated the interaction effect of communication and the guest type. The results from the empirical study found that communication affected more to the loyalty of nonmembers than members. Furthermore, leisure travelers or customers on vacation are found to be more loyal than business travelers which might be the fact that business travelers don't care much about being loyal to the hotel as in most of the cases hotel charge is paid by business.

### 8.3 Theoretical implications

Several researchers have tried to explore the relationship between logistics service quality, customer satisfaction and loyalty. However, analysis of those three phenomena in the hotel industry is not common. Therefore, this study contributes to the area of the hotel industry. This

research mainly focused upon the interrelationship between LSQ, satisfaction and loyalty and found out that there are positive correlation between these three variables and two of the LSQ dimensions (except relational logistics service quality). Another finding is that customer satisfaction has a significant impact on loyalty in the case of Thon hotel Molde fjord. Result from this study is consistent with most of the previous studies. However, result from this study is not compatible with researchers like Stank et al., (2003), who found that there is no significant impact of operational logistics service quality on customer loyalty. Another researcher: Micu, Aivaz, & Capatina (2012) found out that relational logistics service quality is the most important determinant of loyalty, however this finding is not consistent with my findings. The inconsistencies that is seen might be because of different research areas and different sample sizes.

Although the study of customer research has a long history, only few researchers have focused on inclusion of logistics aspects of service quality to measure customer satisfaction and loyalty. This study fulfills this gap by analyzing these three concepts in hotel industry. Similarly, many researchers have tried to explore these three concepts with other demographic variables (like age, gender, education level and income level). This study contributes to the existing theory by including hotel staying purpose and membership to explore new ideas in this field. These new variables can be potentially important for the study of interrelationship between LSQ, customer satisfaction and loyalty. Another important finding of this study that adds to current literatures is that green practices are found to have a significant impact on customer loyalty. Finally, interaction effect of communication with guest type was found to be an important contribution from this study which shows that communication variable of LSQ is more important for nonmembers than members to increase their loyalty. This result matches with the findings of (Hashim et al., 2011)

#### **8.4 Managerial implications**

Research activities conducted for a certain focal firm provides effective analysis and suggestions that the firm can use to revise their strategies and develop new plan by adjusting the result gained from the analysis. Since there are other hotels in Molde which are competing with Thon hotel, it should develop strategies in a way that customers establish their loyalty towards it. Particularly



in this study, the outcome of the interrelationship between LSQ, customer satisfaction and loyalty provides Thon hotel Molde fjord some implications to understand their customers more closely, develop plans to satisfy their customers and keep their customers for the long term. From our analysis, it is proven that operational logistics service quality, communication and customer satisfaction has a positive and significant impact on customer loyalty. Therefore, in order to compete with other hotels in Molde, Thon hotel must concentrate on the way to improve operational and communication aspects of LSQ and customer satisfaction too. Furthermore, hotel should concentrate more upon the communication aspects of LSQ so that they can increase the loyalty among non-members.

Another important analysis from this study is regarding membership which shows that members are found to be more loyal than nonmembers. Therefore, Thon hotel should offer different schemes which are of value to customers so that customers become a member of the hotel to get advantage of those membership schemes. Similarly, customers on vacation are found to be more loyal than business travelers. In order to satisfy business travelers and increase their loyalty, hotel should develop strategies that comfort their stay (for instance, concentrating more on their demand and needs) and build a long term relationship with the hotel.

## **8.5 Limitation and future research**

Since the hotel industry in Norway is more seasonal, there are more customers in hotel in summer than in any other season. Few tourists visit during winter and stay at hotel thus, this study is dominated by Norwegian customers. This is because the data was collected in winter season. More diverse customers from different part of the world could have been a part of the sample size if the data collection was done in summer. Collecting data from diverse customers could have resulted in different results than the findings found in this study. Therefore, collection of data in different season from diverse customers is crucial for further study. Since, the data that is used in this study is obtained from hotels industry; the result may not be generalized to other industries. The factor analysis of the dimensions of LSQ presents some problem with the scale development. More research work in this field is important to develop and refine the dimensions of logistics service quality. Lastly, further study is recommended by including other dimensions in addition to the dimensions used in this study.

## References:

- Anand, S. V., and Selvaraj, M. (2012). The impact of service quality on customer satisfaction and loyalty in Indian banking sector: An empirical study through SERVPERF. *International Journal of Management and Business Research* , 2 (2):151-163.
- Andrew, M. F., and John, M. R. (2009). Factor Analysis and Discriminant Validity: A Brief Review of Some Practical Issues. *Australia New Zealand Marketing Academy Conference* , :1-9.
- Berezan, O., Raab, C., Yoo, M., and Love, C. (2013). Sustainable hotel practices and dationality: The impact on guest satisfaction and guest intention to return. *International Journal of Hospitality management* , 34: 227-233.
- Bloemer, J., Ruyter, K. D., and Wetzels, m. (1998). Reviewing the studies of the inter-relationship between service quality, customer satisfaction, and customer loyalty. *European Journal of marketing* , 33: 1082-1106.
- Brady, M. K., Cronin, J. J., and Brand, R. R. (2002). Performance-only measurement of service quality: a replication and extension. *Journal of Business Research* , 55: 17-31.
- Buttle, F. (2004). *Customer Relationship Management- concepts and tools*. Oxford: Butterworth-Heinemann.
- Bowersox, D.J., Mentzer, T.J., and Thomas, S.W. (1995). "Logistics leverage". *Journal of Business Strategies*, 12:36-49.
- Cardozo, R. N. (1965). An experimental study of customer effort, expectation and satisfaction. *Journal of Marketing research* , 2:244-249.
- Carrillat, F., Jaramillo, F., and Mulki, J. P. (2009). Examining the Impact of Service Quality: A Meta-Analysis of Empirical Evidence. *Journal of Marketing Theory and Practice* , 17: 95-110.
- Caruana, A. (2002). Service loyalty: the effects of service quality and the mediating role of customer satisfaction. *European Journal of marketng* ,36: 811-830.
- Cerri, S. (2012). The impact of the quality of logistics activities on customer commitment, loyalty and firm perofrmance. *Journal of Advanced Research in Management* ,3 :79-83.
- Chisnall, P. M. (1992). *Marketing Research*. England: McGRAW-HILL.
- Cho, J.J., Ozment, J., Sink, H. (2008). Logistics capability, logistics outsourcing and firm performance in an e-commerce market. *International Journal of Physical Distribution and Logistics management* , 38(5): 336-359
- Choi, T., and Chu, R. (2001). Determinants of hotel guests' satisfaction and repeat patronage in Hong Kong hotel. *International Journal of Hospitality Management* ,20: 277-297.

Conway, J. M., and Huffcut, A. I. (2003). A Review and Evaluation of Exploratory Factor Analysis Practices in Organizational Research. *Organizational Research Methods* ,6(2): 147-168.

Cronin, J., and Taylor, S. (1992). SERVPERF versus SERVQUAL: reconciling performance based and perceptions minus expectations measurement of service quality. *Journal of Marketing* ,58: 55-68.

Daugherty, P. J., Stank, T. P., and Ellinger, A. E. (1998). Leveraging logistics/distribution capabilities: the effect of logistics service on market share. *Journal of Business Logistics* ,19(2): 35-51.

Davis, E. R. (2006). *The Role of Logistics Service Quality in Creating Customer Loyalty*. University of Tennessee, Knoxville.

Dick, S. A., & Basu, K. (1994). Customer loyalty: Towards an integrated conceptual framework. *Journal of Academy of Marketing Science* , 99-113.

Dowling, G. (2002). Customer Relationship management: In B2C markets, often less is more. *California Management Review* ,44 :87-104.

Emerson, C.J., Grimm, C.M. (1996). Logistics and marketing components of customer service: an empirical test of the Mentzer, Gomes and Krapfel model. *International Journal of Physical Distribution and Logistics Management* , 26(8):29-42

Fah, L. K., and kandasamy, S. (2011). An investigation of service quality and customer satisfaction among hotels in Langkawi. *Proceedings of Internal Conference on Management* : 731-749.

Fujun, L., Griffin, M., and Babin, B. J. (2009). How quality, value, image, and satisfaction create loyalty at a Chinese telecom. *Journal of Business Research* , 62: 980-986.

Gilbert, D., and Horsnell, S. (1998). Customer satisfaction measurement practice in United Kingdom hotels. *Journal of Hospitality of Tourism Research* ,22: 450-464.

Gremler, D. D., and Brown, S. W. (1996). Service loyalty: it's nature, importance and implications. *Advancing Service quality* , :171-180.

Grönroos, C. (1984). A service quality model and its marketing implications. *European Journal of Marketing* ,18: 36-44.

Gunderson, M., Heide, M., and Olsson, U. (1996). *Hotel guest satisfaction among business travelers*. Cornell Hotel and Restaurant Administration Quarterly.

Hafeez, S., and Muhammad, B. (2012). The Impact of Service Quality, Customer Satisfaction and Loyalty Programs on Customer's Loyalty: Evidence from Banking Sector of Pakistan. . *International Journal of Business and Social Science* ,3(16) : 200-209.

Hashim, R. A., Mashudi, P. M., Hudi, Z. H., Rashid, S., Abu, N. K., and Ahmad, R. (2011). Influence of relationship quality on hotel guest's loyalty: A case study of a Malaysian budget hotel. *Canadian Journal of Scientific and Industrial Research* , 2(6): 220-229.

- Hong, T., and Kim, E. (2012). Segmenting customers in online stores based on factors that affect the customer's intention to purchase. *Expert Systems with Applications* ,39:2127-2131.
- Jani, D., and Han, H. (2014). Personality, satisfaction, image, ambience, and loyalty: Testing their relationships in the hotel industry. *International Journal of Hospitality Management* ,37: 11-20.
- Jarvis, C. B., Machenzie, S. B., & Podsakoff, P. M. (2003). A critical review of construct indicators and measurement model misspecification in marketing and customer research. *Journal of Consumer Research* ,30(2) :199-218.
- Kandampully, J. (1998). Service quality to service loyalty: a relationship which goes beyond customer services. *Total Quality Management* , 9(6): 431-443.
- Keller, K. L. (2009). Building strong brands in a modern marketing communications environment. *Journal of Marketing Communications* , 15(3) : 139-155.
- Keller, S. B., Savitskie, K., Stank, P. T., and Lynch, D. F. (2002). A summery and analysis of multi-item scales used in logistics research. *Journal of Business Research* , 23(2): 83-282.
- Kheng, L. L., Mahamad, O., & Ramayah, T. (2010). The impact of service quality on customer loyalty: Astudy of Banks in Penang, Malaysis. *International Journal of Marketing Studies* , vol 2, no.2. 57-66.
- Khristianto, W. (2012). The influence of information system quality and service quality on customer satisfaction and customer loyalty in online shopping. *International Journal of Academic Research* , 4(2): 1-14.
- Kranias, A., and Bourlessa, M. (2013). Investigating the relationship between service quality and loyalty in Greek banking sector. *Procedia Economics and Finance* , 5: 453 – 458 .
- Kuruuzum, and Koksai. (2010). The impact of service quality on behavioral intention in hospitality industry. *International Journal of Business and management Studies* , 2:1309-8047.
- Lam, R., and Burton, S. (2006). SME banking loyalty (and disloyalty): a qualitative study in Hong Kong. *International Journal of Bank Marketing* , 24:37-52.
- Lam, T., and Zhang, H. (1999). Service quality of travel agents: the case of travel agents in Hong Kong. *Tourism management* , 20: 341-349.
- Lam, Y. C., Cheung, R., and Lau, M. M. (2013). The influence of internet-based customer relationship management. *Contemporary management* , 9(4): 419-440.
- Lee, H., Lee, Y., and Yoo, D. (2000). The determinants of perceived service quality and its relationship with satisfaction. *Journal of service Marketing* , Vol 14; 217-231.
- Liang, D. (2008). The determining factors of customer loyalty for luxury hotels in US. *The Journal of International Management Studies* , Vol 3: 167-175.

- Maghzi, A., Abbaspour, B., Eskandarian, M., and Hamid, A. B. (2011). Brand Trust in Hotel Industry: Influence of Service Quality and . *2nd International Conference on Business, Economics and Tourism Management* :42-46. Singapore: IACSIT Press.
- Malhotra, N. K., and Birks, D. F. (2006). *Marketing research: an applied approach*. Essex, England: Prentice-Hall.
- Maltz,Arnold., and Maltz, Elliot (1998). Customer service in distributor channel empirical findings. *Journal of Business Logistics*, 19(2): 103-130
- Markovic, S., and Jankovic, S. R. (2013). Exploring the relationship between service quality and customer satisfaction in Croatia hotel industry. *Tourism and Hospitality Management* , 19: 149-164.
- Mentzer, J. T., Flint, D. J., and Hult, T. M. (2001). Logistics service quality as a segment-customized process. *Journal of Marketing* , Vol;65 no.2. p- 82-104.
- Micu, A., Aivaz, K., and Capatina, A. (2012). Implication of logistics service quality on the satisfaction level and retention rate of an e-commerce retailer's customer. *Economic Computation and Economic Cybernetics Studies and Research* , 47(2): 147-155.
- Miguel, P. A., Silva, M. T., Chiosini, E. L., and Schützer, K. (2007). Assessment of service quality dimensions: a study in a vehicle repair service chain. *In PoMS college of service operations and EurOMA conference New Challenges in Service Operations*. London.
- Minghetti, V. (2013). Building customer value in the hospitality industry: towards the definition of a customer-centric information system. *Information Technology and Tourism* ,6 :141-152.
- Mohammad, A. A., and Rashid, B. B. (2012). Customer relation management (CRM) in Hotel industry: A framework proposal on the relationship among CRM dimensions, marketing capabilities and hotel performance. *International review of Marketing* , 2: 220-230.
- Mohammad, A., and Alhamadani, S. (2011). Service quality perspectives and customer satisfaction in commercial banks working in Jordan. *Middle Eastern Finance and Economics* , 14.
- Munusamy, J., Chelliah, S., and Hor, M. W. (2010). Service quality delivery and its impact on customer satisfaction in the banking sector in Malaysia. *International Journal of Innovation, Management and Technology* , 1 :398-404.
- Nunnally, J. C., and Bernstein, I. H. (1994). *Psychometric theory (3rd ed.)*. New York: McGRAW-HILL.
- Oliver, R. L. (1999). Whence consumer Loyalty? *Journal of Marketing* , 63: 33-43.
- Osman, Z., and Sentosa, I. (2013). Mediating Effect of Customer Satisfaction on Service Quality and Customer Loyalty Relationship in Malaysian Rural Tourism. *International Journal of Economics Business and Management Studies* ,2: 25-37.

- Parasuraman, A., Zeithaml, V. A., and Berry, L. L. (1985). A conceptual model of service quality and its implication for future research. *Journal of Marketing* , 49: 41-50.
- Parasuraman, A., Zeithaml, V. A., and Berry, L. L. (1988). A multiple scale for measuring-item scale for measuring consumer perception of service quality. *Journal of Retailing*, 64(1): 12-40
- Patrick, J. F. (2004). Are loyal visitors desired visitors? *Tourism Management* , 463-470.
- Rahaman, M. M., Abdullah, M., and Rahman, D. A. (2011). Measuring Service Quality using SERVQUAL Model: A Study on PCBs (Private Commercial Banks) in Bangladesh. *Business Management Dynamics* ,1: 1-11.
- Ramanathan, R. (2010). The moderating roles of risk and efficiency on the relationship between logistics performance and customer loyalty in e-commerce. *Transportation Research Part E:Logistics and Transportation Review* , 46: 950-962.
- Rigby, D.K., Reichheld. F.F., and Schefter, P. (2002). *Avoiding four perils of Customer Relationship Management*: Business Harvard Review.
- Robinot, E., Giannelloni. (2010). Do hotels "green" attributes contribute to customer satisfaction?". *Journal of Service Marketing*, 24(2): 157-169.
- Ryals, L., Knox, S. D., and Maklan, S. (2000). *Customer relationship Management*. London: Prentice-Hall.
- Sabir, R. I., Irfan, M., Sarwar, M. A., Sarwar, B., & Akhtar, N. (2013). The Impact of Service Quality, Customer Satisfaction and Loyalty Programs on Customer's Loyalty: An Evidence from Telecommunication Sector . *Journal of Asian Business Strategy* , 3(11) :306-314.
- Saeed, I., Nihazi, A. M., Arif, M., and Jehan, N. (2011). Antecedents of Customer satisfaction and its outcomes A study of Pakistani service sector. *Interdisciplinary Journal of Contemporary Research in Business* ,11 (8):877-887.
- Sanayei, A., Shahin, A., and Taheri, A. (2012). The influence of service quality on service loyalty case study: Irangate Company. *International Journal of Academic Research in Business & Social Sciences* ,2: 480-489.
- Sonne, A. M. (1999). determinants of customer satisfaction with professional services-A study of consultant services. *Okonomics Fiskeriforskning* , 9(2): 97-107.
- Stank,T.P., Goldsby, T.J., Vickery, S. K. (1999). Effect of service supplier performance on statistics and loyalty of store managers in the fast food industry. *Journal of Operation management*, 17(4): 429-447
- Stank, T. P., Goldsby, T. J., Vickery, S. K., and Savitskie, K. (2003). Logistics service performance: establishing its influence on market share. *Journal of Business Logistics* ,4 (1): 27-56.
- Strube, M. J. (2000). *Reliability and generalizability theory in Grimm, L. G. and Yanold, P. R. (eds.)*. Washington D.C: American Psychological Association.

Su, A. Y.-L. (2004). Customer satisfaction measurement practice in Taiwan hotels. *International Journal of Hospitality management* , 23: 397–408.

Wang, M., and Jen Shieh, C. (2006). The relationship between service quality and customer satisfaction: the example of CJCJ library. *Journal of Information & Optimization Sciences* , 27:193-209.

Wang, X. L. (2012). Relationship or revenue: Potential management conflict between customer relationship management and hotel revenue management. *International Journal of Hospitality management* , 31 :864-874.

Weissenberg, A., Katz, A., and Narula, A. (2013). *A Restoration in Hotel Loyalty: Developing a blueprint for reinventing loyalty programs*. Deloitte Development LLC.

Wilkins, H., Merrilees, B., and Herington, C. (2007). Towards an understanding of total service qualities in hotels. *Journal of hospitality management* , 26: 840–853.

Yoo, M., and Bai, B. (2013). Customer loyalty marketing research: A comparative approach between hospitality and business journals. *International Journal of Hospitality management* , 33: 166-177.

Yuksel, A., and Yuksel, A. (2002). Measurement of tourist satisfaction with restaurant services: A segment-based approach. *Journal of vacation Marketing* , 9:52-68.

Zeithaml, V., Berry, L., and Parasuraman, A. (1996). The Behavioral Consequences of Service Quality. *Journal of Marketing* , 60: 31-46.

(2014, 5 27). Retrieved 5 27, 2014, from Thon Hotel Moldefjord:

[http://www.thonhotels.no/hoteller/land/norge/molde/thon-hotel-moldefjord/?\\_s\\_ref=v9T7P246S&kw=thon%20hotel%20moldefjord&creative=14520587109&gclid=CjgKEAjwzlucBRDzjlz9qMOB3TASJABBIwL18aor3ZfRYDk9f3navvLXySLPFi8IZ2CWGjFz6yUVX\\_D\\_BwE](http://www.thonhotels.no/hoteller/land/norge/molde/thon-hotel-moldefjord/?_s_ref=v9T7P246S&kw=thon%20hotel%20moldefjord&creative=14520587109&gclid=CjgKEAjwzlucBRDzjlz9qMOB3TASJABBIwL18aor3ZfRYDk9f3navvLXySLPFi8IZ2CWGjFz6yUVX_D_BwE)

## Appendices

### Appendix 1: Descriptive statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
OPERQU 1	150	5	7	6.41	.614
OPERQU 2	150	5	7	6.39	.622
OPERQU 3	150	4	7	6.29	.700
OPERQU 4	150	5	7	6.46	.631
OPERQU 5	150	5	7	6.42	.582
RELSQU 1	150	4	7	6.25	.675
RELSQU 2	150	5	7	6.35	.646
RELSQU 3	150	5	7	6.34	.622
RELSQU 4	150	5	7	6.37	.639
Front desk cap 1	150	5	7	6.26	.596
Front desk cap 2	150	5	7	6.40	.556
Front desk cap 3	150	4	7	6.33	.652
Front desk cap 4	150	5	7	6.29	.649
Communication 1	150	5	7	6.50	.528
Communication 2	150	5	7	6.59	.521
Communication 3	150	5	7	6.67	.514
Communication 4	150	3	7	6.58	.627
Communication 5	150	3	7	6.18	.844
Valid N (listwise)	150				

### Appendix 2: Sample characteristics

Measures	Item	Frequency	%
Gender	Male	89	40.7
	Female	61	59.3
Age	Under 20	16	10.7
	Between 20-30	32	21.3
	Between 30-40	29	19.3
	Between 40-50	40	26.7
	Above 50	33	22.0
Monthly disposal income	Below 20000 NOK	25	16.7
	20000-30000 NOK	28	18.7
	30000-40000 NOK	36	24.0
	Above 40000 NOK	61	40.7



Hotel staying purpose	Vacation	44	29.3
	Business	74	49.3
	others	32	21.3
Guest type	Members	65	43.3
	Non-members	85	56.7

### Appendix 3: Correlation

**Correlations**

		OPLSQU	RLSQU	COMMU	CUS_SATS	LOYALTY	GREENPRAC	Hotel Staying Purpose	Guest Types	Intercommguesttype
OPLSQU	Pearson Correlation	1	.650**	.593**	.670**	.585**	.571**	.066	.288**	.319**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.423	.000	.000
	N	150	150	150	150	150	150	150	150	150
RLSQU	Pearson Correlation	.650**	1	.567**	.656**	.548**	.776**	.008	.366**	.397**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.923	.000	.000
	N	150	150	150	150	150	150	150	150	150
COMMU	Pearson Correlation	.593**	.567**	1	.595**	.559**	.421**	-.018	.168*	.219**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.826	.040	.007
	N	150	150	150	150	150	150	150	150	150
CUS_SATS	Pearson Correlation	.670**	.656**	.595**	1	.688**	.647**	-.026	.387**	.422**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.748	.000	.000
	N	150	150	150	150	150	150	150	150	150
LOYALTY	Pearson Correlation	.585**	.548**	.559**	.688**	1	.571**	-.148	.432**	.451**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.070	.000	.000
	N	150	150	150	150	150	150	150	150	150
GREENPRAC	Pearson Correlation	.571**	.776**	.421**	.647**	.571**	1	.008	.360**	.384**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.920	.000	.000
	N	150	150	150	150	150	150	150	150	150
Hotel Staying Purpose	Pearson Correlation	.066	.008	-.018	-.026	-.148	.008	1	-.179*	-.175*
	Sig. (2-tailed)	.423	.923	.826	.748	.070	.920		.028	.033
	N	150	150	150	150	150	150	150	150	150
Guest Types	Pearson Correlation	.288**	.366**	.168*	.387**	.432**	.360**	-.179*	1	.997**
	Sig. (2-tailed)	.000	.000	.040	.000	.000	.000	.028		.000
	N	150	150	150	150	150	150	150	150	150
Intercommguesttype	Pearson Correlation	.319**	.397**	.219**	.422**	.451**	.384**	-.175*	.997**	1
	Sig. (2-tailed)	.000	.000	.007	.000	.000	.000	.033	.000	
	N	150	150	150	150	150	150	150	150	150

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

#### Appendix 4: ANOVA

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.776 <sup>a</sup>	.601	.579	.66111

- a. Predictors: (Constant), Hotel Staying Purpose, RLSQU, Guest Types, COMMU, OPLSQU, CUS\_SATS, GREENPRAC, Intercommguesttype

#### Appendix 5 (a): Scale : operational logistics service quality

Cronbach's Alpha	N of Items
.857	5

#### Appendix 5 (b): Scale : Relational logistics service quality

Cronbach's Alpha	N of Items
.883	6

#### Appendix 5 (c): Scale : Communication

Cronbach's Alpha	N of Items
.740	3

**Appendix 5 (d): Scale : Customer satisfaction**

Cronbach's Alpha	N of Items
.907	6

**Appendix 5 (e): Scale: Customer Loyalty**

Cronbach's Alpha	N of Items
.923	6

**KMO and Bartlett's Test**

---

**Appendix 6 : KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.916	
Bartlett's Test of Sphericity	Approx. Chi-Square	2857.673
	df	325
	Sig.	.000

## Appendix 7: Questionnaire

Survey of Thon hotel Molde fjord's logistics service quality, customer satisfaction and customer loyalty

### Part A:

**Personal information** (Please kindly complete the following by ticking where appropriate)

1. **Gender** : Male  Female

2. **Age group:**

Below 20

Between 20-30

Between 30-40

Between 40-50

Above 50

3. **Income level**

Below 20000 NOK

Between 20000-30000 NOK

Between 30000-40000 NOK

Above 40000 NOK

4. **Purpose of stay at hotel:** Vacation  business  others

5. **Type of guest:** Member  Non-member

**Part B**

(Please circle the number that represents your views regarding the following statement for Logistics service quality, customer satisfaction and customer loyalty). Where, 1= strongly disagree, 2=disagree, 3=slightly disagree, 4=neither disagree nor agree, 5=slightly agree, 6=agree, and 7= strongly agree.

**1. Logistics service Quality**

	<b>a. Operational logistics service quality</b>	<b>Strongly Disagree</b>					<b>Strongly Agree</b>
OPERQU1.	The receptionists keeps the transactions record accurately	1 7	2	3	4	5	6
OPERQU2.	My reservation was handled accurately	1 6	2 7	3	4	5	
OPERQU3.	Housekeeper attempts to clean the room on time with perfection	1 6	2 7	3	4	5	
OPERQU4.	My room was ready as it was promised (i.e. having the right items in the order as promised)	1 6	2 7	3	4	5	
OPERQU5.	Room was ready on arrival (timeliness of services)	1 6	2 7	3	4	5	

	<b>b. Relational logistics service quality</b>	<b>Strongly Disagree</b>					<b>Strongly Agree</b>
RELSQU1.	Employees are never too busy to respond to my request/questions	1 7	2	3	4	5	6
RELSQU2.	Receptionists makes an effort to understand my need and choice	1 7	2	3	4	5	6
RELSQU3.	Customized and personalized services are available upon request. (e.g. management of extra bed, sofa bed, connections of two rooms etc)	1 7	2	3	4	5	6
RELSQU4.	Flexible and competent employee to handle customer complaints and problems	1 7	2	3	4	5	6

	<b>c. Front desk capabilities</b>	<b>Strongly Disagree</b>			<b>Strongly Agree</b>		
Com.1.	Check-in & check-out procedure are easy, fast and convenient	1	2	3	4	5	6
Com.2.	Reservation process was easy and effectively done	1	2	3	4	5	6
Com.3.	The product/ service knowledge and experience of personnel is adequate	1	2	3	4	5	6

	<b>d. Communication(clear, appropriate and timely)</b>						
Comu 1.	Accurate and valid information about the hotel was provided in its website	1	2	3	4	5	6
Comu 2.	No or less error in recording and processing room reservations ( i.e. error in personal information, types of rooms, and date to stay at hotel)	1	2	3	4	5	6
Comu 3.	Understandable language was used by receptionist to communicate with customer	1	2	3	4	5	6
Comu 4.	Transparency is shown in every transaction	1	2	3	4	5	6
Comu 5.	Different kinds of sales promotions are available on its websites	1	2	3	4	5	6

	<b>e. Green practices</b>	1	2	3	4	5	6	7
Green prac1.	Efficient use of energy and water (e.g. Automatic light control in the hallways and restroom, Automatic water saving systems in restrooms)							
Green prac2.	Written recommendations to guests about environmentally protection in the hotel (e.g. recommendations to re-use of towels, glass, cup etc)	1	2	3	4	5	6	7
Green prac3.	Environmentally friendly and healthy equipment ( e.g. floor coverings, paintings are made from natural materials and environmentally friendly substances)	1	2	3	4	5	6	7

Green prac4.	Green packaging is used for hotel amenities (E.g. use of paper to pack soap, tissue paper etc.)	1	2	3	4	5	6	7
Green prac5.	Operations and office equipment are recycled. (e.g. glass, cups, table clothes etc)	1	2	3	4	5	6	7

## **2. Customer satisfaction**

		<b>Strongly Disagree</b>				<b>Strongly Agree</b>		
C1	Overall, I am satisfied with hotel's logistic services	1	2	3	4	5	6	7
C2	I am satisfied with the hotel service charges/ price	1	2	3	4	5	6	7
C3	I am satisfied with the green practices of hotel	1	2	3	4	5	6	7
C4	I am satisfied with the employee expertise to handle guest (e.g. check in procedure, guest problem solving etc)	1	2	3	4	5	6	7
C5	I am satisfied with the competence of Thon hotel Molde fjord staff to deal with customers	1	2	3	4	5	6	7
C6	I am satisfied with the way hotel communicate with its customers	1	2	3	4	5	6	7
C7	I am satisfied with the responsiveness of hotel personnel to its customers	1	2	3	4	5	6	7
C8	I am satisfied with the reliability of service quality provided by thon hotel Molde fjord	1	2	3	4	5	6	7

## **3. Customer loyalty**

		<b>Strongly Disagree</b>				<b>Strongly Agree</b>		
C.L.1	I would like to stay at Thon hotel next time	1	2	3	4	5	6	7

C.L.2	I would like to choose Thon hotel even if there are other similar hotels.	1	2	3	4	5	6	7
C.L.3	I would like to choose Thon hotel even if its price raised	1	2	3	4	5	6	7
C.L.4	I would like to recommend Thon hotel to other people	1	2	3	4	5	6	7
C.L.5	In some situation, I can tolerate Thon hotel's small mistakes	1	2	3	4	5	6	7
C.L.6	I think I have built a good relationship with Thon hotel	1	2	3	4	5	6	7
C.L.7	I think I am a loyal customer of Thon hotel	1	2	3	4	5	6	7