T.C.
TOKAT GAZIOSMANPASA UNIVERSITY
INSTITUTE OF GRADUATE EDUCATION
DEPARTMENT OF BUSINESS ADMINISTRATION
PRODUCTION MANAGEMENT AND MARKETING MASTER PROGRAM
M.SC RESEARCH

IMPACT OF E-SERVICE QUALITY ON CUSTOMER SATISFACTION AND LOYALTY (A CASE STUDY IN DUHOK PROVINCE)

Prepared by
Mateen Sulaiman HUSSEIN

Department of Business Administration Production Management and Marketing
Master thesis

Advisor

Assoc. Prof. Dr. Elif Boyraz

TOKAT - 2024

T.C.

TOKAT GAZIOSMANPASHA UNIVERSITY

INSTITUTE OF GRADUATE STUDIES

DEPARTMENT OF PRODUCTION MANAGEMENT AND MARKETING

M.SC RESEARCH

IMPACT OF E-SERVICE QUALITY ON CUSTOMER SATISFACTION AND LOYALTY (A CASE STUDY IN DUHOK PROVINCE).

Mateen Sulaiman HUSSEIN

Advisor

Assoc. Prof. Dr. Elif Boyraz

TOKAT - 2024

SCIENTIFIC ETHICS PAGE

According to the thesis writing guide of Tokat Gaziosmanpaşa University Institute of Graduate Education , My Master's thesis named “Impact of E-Service Quality on Customer Satisfaction and Loyalty” that I have prepared under the consultancy of “Assoc. Prof. Dr. Elif Boyraz” is based on scientific ethical values and rules. I hereby declare that it is an appropriate, original work, and I will accept any legal sanctions if it is determined otherwise.

Signature

Mateen Sulaiman Hussein

JURY ACCEPTANCE AND APPROVAL

The defense examination of the thesis study titled “Impact of E-Service Quality on Customer Satisfaction and Loyalty’’ is prepared by Mateen Sulaiman HUSSEIN was held on 28/08/2024 it has been accepted by jury members as a Master’s Thesis at Tokat Gaziosmanpaşa University, Graduate Education Institute, Department of Business Administration, Production Management and Marketing.

Jury Members (Title, Name Surname)	Signature

CONFIRMATION

2024/08/28

Director of Graduate Education Institute

ÖZET

Bu çalışma, Kuzey Irak'taki Duhok Vilayeti sakinlerine odaklanarak e-hizmet kalitesinin müşteri memnuniyeti ve sadakati üzerindeki etkisini araştırmaktadır. Nicel bir araştırma metodolojisi kullanılarak, çevrimiçi pazar platformlarını aktif olarak kullanan 300 kişilik bir örneklemden veri toplanmıştır. Eşit temsili sağlamak için kolayda örnekleme yöntemi kullanılmıştır. Örneklemin 172'si erkek, 128'i kadın olarak tanımlanmıştır. Çalışmada e-hizmet kalitesini, müşteri memnuniyetini ve sadakatini değerlendirmek için Farisa (2018) tarafından geliştirilen ölçekler kullanılmıştır. Bulgular, e-hizmet kalitesi ile müşteri memnuniyeti ve sadakati arasında güçlü bir pozitif korelasyon olduğunu ortaya koymaktadır; bu da e-hizmet kalitesindeki iyileştirmelerin müşteriler arasında daha fazla memnuniyet ve sadakate yol açtığını göstermektedir. Cinsiyet farklılıkları araştırılmış ve sonuçlar e-hizmet kalitesi algıları ile müşteri memnuniyeti ve sadakati üzerinde önemli bir etki olmadığını göstermiştir. Bu durum, elektronik hizmet kalitesine ilişkin algıların şekillenmesinde cinsiyetler arasındaki görüşlerin tutarlılığının altını çizmektedir. Çalışma, dijital dünyada müşteri sadakatini ve memnuniyetini artırmada kaliteli hizmet sunumunun kritik rolüne ışık tutmaktadır. Bu içgörüler, e-hizmet sunumlarını geliştirmeyi ve müşteri beklentilerini etkin bir şekilde karşılayacak deneyimleri uyarlamayı amaçlayan işletmeler ve politika yapıcılar için değerlidir. Genel olarak çalışma, e-hizmet kalitesi bağlamında müşteri algılarını etkileyen faktörlerin incelikli bir şekilde anlaşılmasına katkıda bulunmakta ve müşteri deneyimlerini şekillendirmede cinsiyetler arasındaki görüş birliğini vurgulamaktadır.

Anahtar kelimeler: E-hizmet kalitesi, müşteri memnuniyeti ve sadakati

ABSTRACT

This study investigates the impact of e-service quality on customer satisfaction and loyalty, focusing on residents of Duhok Province in Northern Iraq. Employing a quantitative research methodology, data was collected from a sample of 300 individuals actively utilizing online market platforms. Convenience sampling was utilized to ensure equal representation. Of the sample, 172 participants identified as male, and 128 as female. The study utilized scales developed by Farisa (2018) to assess e-service quality, customer satisfaction, and loyalty. Findings reveal a strong positive correlation between e-service quality and customer satisfaction and loyalty, indicating that improvements in e-service quality lead to enhanced satisfaction and loyalty among customers. Gender differences were explored, with results indicating no significant influence on perceptions of e-service quality and customer satisfaction and loyalty. This underscores the consistency in opinions across genders in shaping perceptions of electronic service quality. The study sheds light on the critical role of quality service delivery in fostering customer loyalty and satisfaction in the digital realm. These insights are valuable for businesses and policymakers aiming to enhance e-service offerings and tailor experiences to meet customer expectations effectively. Overall, the study contributes to a nuanced understanding of factors influencing customer perceptions in the context of e-service quality and highlights the uniformity of opinions across genders in shaping customer experiences.

Key words: E-service quality, customer satisfaction and loyalty

ACKNOWLEDGEMENTS

We praise and thank God who gave us the gift of knowledge and reason and gave us the determination and will to complete this work.

I would like to thank my supervisor Prof. Dr. Elif Boyraz for guiding me and providing me with the tools that I needed to successfully complete my thesis.

I’m in debted to my family, especially my father, mother, and my wife who unconditionally loved, trusted, supported and believed in me and in my choices.

DEDICATED TO

Praise be to God, the Great, the Generous, He opens to whomever He wills of His servants with the truth, and He is the All-Knowing Fattah.

I dedicate this humble deed to those who are my pride and my treasure, to those who have supported me throughout life, and those to whom pleasing God is linked, to the candle of my way and the balm of my life, Father. Mother and my wife. To my sisters, brothers.

CONTENTS

LIST OF FIGURES

LİST OF TABLES

INTRODUCTION

In the contemporary era of digitalization, enterprises are progressively utilizing electronic service platforms as a medium for customer interaction and service provision. Consequently, the caliber of such e-services has emerged as a pivotal determinant in cultivating customer contentment and allegiance (Parasuraman et al., 2005: 7).

Electronic service, frequently abbreviated as e-service, constitutes a comprehensive term encompassing services facilitated through information and communication technologies (ICTs). The notion of e-service exhibits versatility and pertinence across diverse domains and disciplines. Principally, electronic services (e-services) find application within two primary domains: E-business, colloquially referred to as e-commerce, and E-government, which pertains to activities beyond commercial transactions. The Computer Language Company (2009) defines e-services as an all-encompassing concept encompassing services accessible through the internet. These electronic services encompass e-commerce transactional services responsible for overseeing online orders, application hosting provided by application service providers (ASPs), and any computational capabilities accessible through the internet. According to Chun Hai (2007: 6), e-services can be defined as services accessible on the internet that enable transactions related to buying and selling, setting them apart from conventional websites primarily offering descriptive information. In a similar context, Zeithaml and Bitner (2003: 12) characterized e-service as services distributed through the internet.

Wilson (1998) articulated that an electronic service (e-service) denotes a set of actions or a sequence of activities occurring in the course of engagement between a service provider and a customer, facilitated through an electronic medium.

The contemporary research landscape in the realms of information systems (IS) and public administration (PA) places substantial emphasis on the topics of electronic government (e-government) and the utilization of electronic services within public sector entities, referred to as public e-services. This is evident in the scholarly work of (Dawes, 2009: 26; Scholl, 2010: 11). This observation is unsurprising, given the growing development and utilization of electronic services within the public sector. Nevertheless, what may be unexpected is the considerable array of terminologies employed to delineate the electronic services offered by government entities (Ancarani, 2005: 15).

In the last two to three decades, the social sciences have increasingly underscored the significance of services, prompting recurrent discussions regarding the delineation and essence of services. These dialogues have encompassed scholars such as (Hill, 1977: 314) up to (Chesbrough and Spohrer 2006: 35). In contemporary times, with the advent of e-commerce and e-business as outlined by Barua et al. (2001: 36), scholars and authorities have embarked upon deliberations concerning the concept of e-services. Nevertheless, a notable deficiency still exists concerning a precise definition and a thorough understanding of e-services and the fundamental concept and framework they encompass (Scupola, 2008: 13).

In the present-day scenario, business and technology have evolved into interconnected elements of a unified business approach. The progress of technology, notably the swift evolution of the Internet, has ushered in profound alterations within the business domain, spanning e-business, e-commerce, and the realm of social media (Octavia and Tamerlane, 2017: 9). The aim of this study is to determine the impact of e-service quality on customer satisfaction and loyalty in Duhok province.

CHAPTER ONE

1. Concept of E-service

1.1 Related Concepts

The concept of "e-service" pertains to the provision of services through the Internet, including both electronic commerce and non-commercial services such as e-government. E-services cover a wide array of offerings that are continuously accessible online, facilitating transactions like buying and selling. These websites stand apart from traditional ones, which mainly provide informational content. Since the early 2000s, there has been a growing scholarly interest in the study of e-services. (VanRiel et al., 2011: 359).

Gronroos et al. (2000: 243) introduced the NetOffer model, which outlines various essential service concepts presented within a consistently available virtual marketplace. This model emphasizes the inclusion of value-added services that engage both customers and media. In the realm of e-commerce, although expectations may be lower, customers can still use experience-based criteria and traditional services as benchmarks for evaluating e-services. (Zeithaml et al., 2000: 20).

VanRiel et al., (2011: 359) suggested five different elements in electronic services:

1) Core services
2) Conditional services
3) Support services
4) Additional services
5) User interfaces which allow purchasers to access to a variety of electronic services.

Service quality refers to the extent to which a service provider's performance meets or exceeds a customer's expectations. High service quality satisfies various customer needs and enhances competitive advantages. When a service performs at or above the expected level, it is deemed to have met the quality standards. On the other hand, if the performance is below expectations, it indicates that the service was of inferior quality. (Rahman et al., 2020: 39).

Gummesson (1979: 308) proposed a theoretical framework linking service quality with perception and trust. Similarly, Gronroos (1982: 30) introduced the concept of overall service quality, describing it as the customer's perception of the difference between their expected and actual service experiences. Traditionally, service quality is viewed as an evaluation of how well service performance aligns with customer expectations. Furthermore, Parasuraman et al. (1988: 12) delineate service quality as the appraisal of a particular service provider, emerging from the contrast between the firm's performance and the customer's industry-related expectations. This conceptualization subsequently gave rise to the formulation of a service quality evaluation instrument recognized as SERVQUAL. Within the domain of research on service quality scales, two primary thematic trajectories can be discerned:

1- The Nordic viewpoint, as delineated by Gronroos (1982: 30), utilizes generic service terminology to elucidate the notion of service quality, encompassing elements such as functional and technical aspects.
2- The North American standpoint, as articulated by Parasuraman et al. (1988: 12), employs service attributes as a means to characterize service quality within measurement scales, encompassing dimensions such as reliability, responsiveness, empathy, assurance, and tangibility.

Moreover, a multitude of research frameworks related to the assessment of service quality have attracted considerable scholarly interest. These encompass, among others, models like technical and functional quality, the GAP model, composite service quality, the ideal service quality threshold, quality benchmarks, correlations with information technology, holistic attributes, quality assessment in retail contexts, internal service quality, and electronic service quality (e-SQ) (Santos, 2003: 233).

E-service quality, denoted as e-SQ, pertains to the assessment of service quality in the digital marketplace. It assumes a pivotal role in shaping the outcomes and efficiency of online platforms while exerting a significant impact on customer contentment (Cristobal et al., 2007: 317).

According to Parasuraman et al. (2005: 213), e-SQ can be defined as the degree to which a website enables efficient and effective shopping, purchasing, and delivery processes. This definition underscores that the concept of e-SQ encompasses a wide array of elements spanning from antecedent factors preceding the purchase, such as usability, product details, ordering instructions, and safeguarding of personal data, to subsequent factors after the purchase, including distribution, customer support, and return procedures. Additionally, Parasuraman et al. (2005: 213) advocate the use of two separate measurement tools to evaluate e-SQ, specifically the foundational E-S-QUAL scale and the comprehensive E-RecS-QUAL scale. The E-S-QUAL scale encompasses multiple facets, with a particular emphasis on system accessibility, privacy, contentment, and effectiveness. It is noteworthy that the efficiency dimension within this scale encompasses both the ease and expeditiousness associated with website navigation and utilization. The achievement dimension relates to the website's capacity to fulfill the anticipated requisites concerning product availability and delivery. System availability, on the other hand, pertains to the precision with which the website executes its technical operations. Privacy concerns the extent to which the website ensures security and enacts safeguards for customer information. It is evident that E-S-QUAL encompasses the holistic customer experience on a website. Conversely, E-RecS-QUAL, a component of E-S-QUAL, is specifically designed to tackle service-related issues and customer inquiries. It offers customers unmediated communication channels with websites. The E-RecS-QUAL scale encompasses three discrete facets: responsiveness, reparation, and interaction. Precisely, responsiveness pertains to the effective resolution of concerns and the provision of feedback by the website. Compensation concerns the website's ability to provide suitable redress or compensatory measures to customers in response to any encountered issues. Contact involves the proactive support process, which can include assistance via telephone or virtual agents. After conducting an extensive review of pertinent research on e-SQ, the author consolidates and elucidates the concept as comprising several pivotal factors, including ease of navigation, site aesthetics and personalization, dependability, promptness, security/privacy, and the caliber of information provided. Elevated e-SQ plays a pivotal role in enabling customers to harness the potential benefits presented by the Internet. Furthermore, Parasuraman (2000: 307) identified a spectrum of themes within the online landscape, encompassing positive facets like adaptability, convenience, and effectiveness, alongside adverse factors such as security vulnerabilities, diminished control, and the prospect of obsolescence. These elements are intricately interconnected with service quality in multiple dimensions. According to Santos (2003: 233), the interactive nature of the Internet facilitates effective information retrieval and assimilation, adeptly addressing customer requirements. Additionally, online platforms facilitate a more straightforward comparison of technical specifications and pricing for products compared to conventional distribution channels. Henceforth, online service quality takes on a pivotal role in customers' considerations, as they expect service quality on a comparable level to what traditional service providers can deliver.

E-SQ plays a central role in fostering business expansion for providers of online services. The integration of interactive website functionalities, a variety of multimedia content, and customizable features collectively serve to entice enterprises engaged in the realm of e-commerce. Furthermore, online enterprises endeavor to surpass their rivals by providing exceptional services, a crucial element in nurturing customer allegiance. Consequently, the prioritization of e-SQ becomes indispensable within the domain of e-commerce. By adeptly harnessing the Internet, businesses can leverage its potency as a formidable instrument for elevating overall service quality and instituting elevated benchmarks across diverse sectors (Griffith and Palmer, 1999: 3).

1.2 Attributes of e-SQ and the Overall e-SQ

To categorize both products and services, numerous characteristics and corresponding measurement scales have been established. Various models have been utilized to evaluate e-service quality (e-SQ), with specific attributes chosen for each model based on the specific research context. It is noteworthy that attributes such as web design, security, and privacy is commonly highlighted in numerous research studies. Conversely, attributes such as system availability and delivery conditions have received comparatively less attention in academic research (Parasuraman et al., 1988, p. 12). Additionally, different models demonstrate both theoretical similarities and distinctions. For example, Wolfinbarger and Gilly (2003: 183) explore the e-TailQ framework among diverse consumer groups, including Internet surfers, purpose-driven shoppers, repeat buyers, and those purchasing books or music. While website design and order fulfillment emerge as particularly significant across all groups, attributes such as customer service and security or privacy are considered comparatively less critical. Among the various measurement scales used to assess e-service quality (e-SQ), e-TailQ and E-S-QUAL are prominent (Parasuraman et al., 1988: 12) encompass the most extensive array of attributes, each comprising 13 distinct elements. These scales are frequently referenced in academic literature. In a recent research endeavor conducted by Blut et al. (2015), a total of 16 e-SQ attributes were identified and subjected to scrutiny.

1.3 Components of e-SQ Quality to Its Outcomes

Drawing on the foundational concepts of customer satisfaction and service quality, the multi-attribute approach provides a conceptual framework for understanding e-service quality. This multi-dimensional perspective is grounded in means-end chain theory, which explains how customers evaluate their consumption experiences. In means-end chain theory, individual attributes are interconnected with broader dimensions, and each of these dimensions is sequentially related to a more inclusive higher-order construct. This process can be effectively summarized and understood as e-SQ. From the perspective of consumer psychology, means-end chain theory highlights that consumers are able to assess their satisfaction by reflecting on specific and consistent conditions at the attribute level. As a result, this evaluation process is expected to lead to the integration and connection of higher-order dimensions. In other words, these dimensions have the potential to uncover various higher-level categorizations depending on consumer goals and the context of consumption (Gardial et al., 1994: 548).

In the realm of e-service, the means-end chain concept is both precise and theoretically robust (Blut et al., 2015). For example, customers are able to assess their consumption experiences based on specific factors, such as "product selection." This assessment can be related to higher-order performance dimensions, such as "website design." These dimensions are interconnected with e-service quality, which subsequently impacts crucial outcomes, including customer behavioral intentions, satisfaction (e.g., repurchase intentions), and behavior (e.g., word-of-mouth). The relationship between theoretical concepts and empirical research is essential for evaluating the importance of each type of attribute and dimension (LaTour and Peat, 1979: 431).

1.4 E-Service Definitions

There are multiple definitions of e-services, with some focusing on the delivery process and infrastructure (such as digital networks), while others include both the delivery process and the benefits or outcomes of the service. Nonetheless, a shared element in all these definitions is the emphasis on the electronic delivery aspect of e-services (Hofacker et al. 2007: 13).

In 2001, Tiwana and Balasubramaniam presented one of the earliest definitions of e-services, offering the following characterization (Tiwana and Balasubramaniam, 2001):

Our view of e-services includes Internet-based applications that adeptly fulfill service needs by integrating dispersed, specialized resources to enable complex transactions, often in real-time. E-services cover a broad spectrum of digitally delivered services, such as supply chain management, customer relationship management, accounting, order processing, resource management, and other similar functions performed via online platforms (Tiwana and Balasubramaniam, 2001).

The concept under discussion relates to software and the emerging trend of delivering software as a service (SaaS). In the context of SaaS, "service" refers to software vendors who develop, host, and manage applications for users. Instead of purchasing the software outright, users pay for access and usage. Thus, the 2001 definition proposed by Tiwana and Balasubramaniam underscores a key advantage of the e-service concept: the increasing tendency to offer software functionalities as a service (Tiwana and Balasubramaniam, 2001).

This broader understanding of e-services extends beyond the SaaS model. It includes both informational services directly provided to end-users, such as news updates, and back-office operations carried out without the customer's immediate awareness. According to Janssen (2009), this expansive definition encompasses all digitally delivered services, regardless of whether they are aimed at end-users (Business-to-Consumer, B2C) or business users (Business-to-Business, B2B). In a paper by Piccinelli and Stammers (2001) during their tenure at Hewlett-Packard, an e-service is defined as:

An e-service is defined as any resource available via the Internet, aimed at generating revenue or improving operational efficiencies (Piccinelli & Stammers, 2001).

This definition is both inclusive and exclusive; it covers a broad array of services delivered via the Internet while excluding those that cannot be digitally transmitted. It stipulates that for a service to qualify as an e-service, it must be capable of being digitized and delivered through digital networks, thus excluding services that, although marketed and sold online, cannot be physically provided over the Internet (Iqbal et al., 2003: 51).

This definition does not exclude services that support those which cannot be delivered digitally. For example, travel agencies illustrate this concept well: they facilitate the sale of travel services but do not directly provide the travel or accommodation services themselves. Such services are often considered as examples of e-services, as stated by Iqbal et al. (2003: 51).

E-services include services that are developed, delivered, and/or utilized through information and communication technology (ICT) networks, encompassing both Internet-based systems and mobile platforms (Scupola, 2008).

Table 1: A summary of e-services definitions

Delivery and infrastructure view	**Production, delivery and outcome view**
Those services that can be delivered electronically (Javalgi et al, 2004: 560).	Any asset that is accessible through the Internet with the aim of generating revenue streams or enhancing operational efficiencies (Piccinelli and Stammers, 2001).
Provision of services over electronic networks (Rust and Kannan, 2003: 46).	An act or performance that creates and provides benefits for customers through a process that is stored as an algorithm and typically implemented by networked software (Hofacker et al., 2007).
Interactive services that are delivered on the Internet using advanced telecommunications, information, and multimedia technologies (Boyer et al, 2002).	E-services as Internet-based applications that fulfill service needs by seamlessly bringing together distributed, specialized resources to enable complex (often real-time) transactions (Tiwana and Balasubramaniam, 2001)

1.5 E-service classifications

This section focuses on the classification of electronic services. We present two primary categorization frameworks, beginning with the e-co model developed by Lind et al. (2007). This model aims to address four key questions:

- What do I/we want to achieve? (The Vision).
- What does the situation look like today? (The current situation) The e-Co Model Citizen´s Driving e-Service Quality 7.
- By which means do I/we go from today in order to arrive at desired goals? (The means to change).
- A rational individual should also be able to reflect over whether the situation has become better after the realization of the three first points (The reflection).

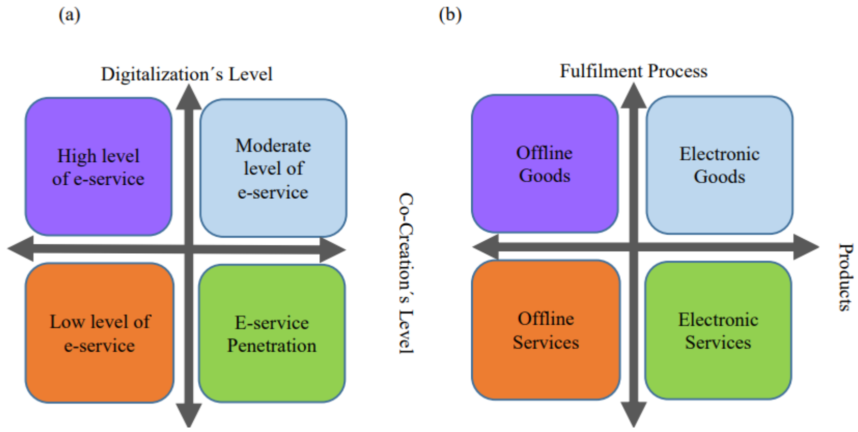
The model comprises four sequential stages, with the final stage linking back to the initial stage. This connection facilitates a reflection on the achievement of the intended goals and the potential necessity for reevaluating the model. Central to the e-co model is the fundamental assumption that individuals who formulate their "vision" place a higher intrinsic value on themselves.

The E-ladder model presents a dual-stage framework. The Stage ANAO-OGO model, developed by the Australian National Auditing Office in 1999, aims to categorize government agencies based on their provision of electronic services through the Internet. This framework systematically divides service delivery into four distinct stages, highlighting its role in capturing the evolution and improvement of electronic services.

Formulated by The Swedish Agency for Administrative Development (SAFAD) in 2000, the SAFAD model is influenced by the previously mentioned Australian model. It recognizes the close relationship between technological elements and service standards in the context of emerging e-Government services. Similar to the Australian model, the SAFAD model features diagonal stages with distinct functionalities. In contrast, the stage models proposed by Goldkuhl and Person in 2006 offer different frameworks, including three distinct aspects. Notably, the e-diamond model is among these frameworks. The e-diamond model identifies three fundamental polarities as distinct constructs: coordinated e-services, personalized e-services, and a continuum ranging from informative to performative e-services. To further elucidate the distinctions between the roles of communicators, specifically citizens and government entities, Lind and Goldkuhl (2008) introduced an additional polarity labeled "citizen-government," thereby enhancing the e-diamond model.

The subsequent classification proposed by Sheth and Sharma in 2007 utilizes a two-dimensional framework (see Figure 1a). The first dimension addresses the extent of digitization, referring to how much a product or service can be digitized. The second dimension relates to the potential for co-creation, which involves the collaborative participation of marketers and customers in various aspects of product or service design, production, and consumption. Similarly, the fulfillment-product categorization scheme (illustrated in Figure 1b) categorizes Internet retailing into four distinct categories: offline goods, offline services, electronic goods, and electronic services.

Figure 1: (a) Classification of service and product. (b) Fulfillment-product classification (Sheth and Sharma 2007).



1.6 Characteristics of E-Services

After outlining the definitions of e-services in the preceding section, our next focus is to analyze the attributes associated with e-services, as detailed in Table 3. For this analysis, we will use a categorization framework developed by Hofacker et al. (2007), which defines three distinct prototypes of e-services (Hofacker et al., 2007):

1- E-services serve as supplementary extensions to conventional offline services and physical products. Illustrative examples include online seat reservation services provided by airlines and travel agencies (Hofacker et al., 2007).

2- E-services as substitutes for existing offline services. Examples can be e-newspapers (Ihlstrom Eriksson et al., 2008) or online auctions such as e-bay (Wang et al., 2008: 126).

3- Novel core e-services that are distinct and innovative. Illustrative examples include online computer games or search engines such as Google (Vragov, 2009).

In addition, according to Scupola (2008), there are three main characteristics of e-services:

- The service is accessible via the Internet or other electronic networks.
- The service is consumed either directly or indirectly via the Internet or other electronic networks.
- The consumer might be subject to a fee when availing of the e-service, such as an additional charge for buying a movie ticket online. Nevertheless, it is essential to emphasize that this does not uniformly apply, as exemplified by specific e-services offered by governmental entities (Scupola, 2008).

A significant portion of the theoretical literature on e-services is located within the fields of service and service marketing. This literature primarily examines e-services that either replace or complement traditional offline products or services. This corpus of literature predominantly adopts a commercial standpoint in its exploration of e-services (Hofacker et al., 2007). Nevertheless, numerous research efforts have explored e-services that do not have an inherent commercial focus. These studies often concentrate on e-services provided by government entities or those created and developed collaboratively by users, such as wikis. Such research examines non-commercial e-services, analyzing their complex dimensions and implications (Gogia, 2008). By adopting a broader perspective on e-services that extends beyond service marketing and electronic commerce, we can identify four fundamental classifications of e-services:

- **Business-to-business (B-to-B):** These classifications play a crucial role in advancing supply chain integration and coordination, as demonstrated by examples like outsourced printing services and facilities (Penttinen et al., 2008). It is important to note that B2B suppliers often develop more sophisticated electronic fulfillment systems compared to their B2C retail counterparts. Additionally, they may operate within the underlying infrastructure (Janssen, 2009).
- **Business-to-consumer (B-to-C):** The majority of these categories predominantly encompass commercial e-services, exemplified by entities such as e-banking, e-newspapers (Ihlstrøm et al., 2008), and certain portal types (Pejic-Bach and Pejic-Bach, 2008).
- **Government to business (G-to-B) or to consumer (G-to-C)** : These e-services do not possess a commercial orientation and can be illustrated by instances such as online provision of social security services to remote regions, telemedicine (Gogia, 2008), or electronic libraries (Scupola and Nicolajsen, 2009).
- **Consumer-to-consumer (C-to-C):** This encompasses a significant portion of the academic discourse related to virtual environments and digital communities, exemplified by platforms such as wikis and online dating.

Table 2: A summary of e-service characteristics (Hofacker et al., 2007)

Types of e-services	B-to-B	B-to-C	G-to-B and G-to-C	C-to-C

Characteristics/ focus	Collaboration and relationship building	Selling to and retaining the customer	User/citizen empowerment, e-democracy, city/ rural areas divide	Peer-to-peer value creation
Examples	Supply chain management in outsourced printing services and facilities, SaaS	E-retailing, e-customer relationship management, e-banking, e-newspapers, Web portals	Online tax returns, evoting, e-libraries, telemedicine, remote social security services	Online auctions, consumer driven e-marketplaces, online gaming, online communities (newsgroups). wikis

1.7 The E-Services Concept

E-services represent an innovative framework for leveraging the internet's capabilities, facilitating the online execution of business activities while ensuring wide accessibility. The following sections outline the foundational structure of this framework and explore the advantages it offers to the field of electronic commerce (Kuno, 2000: 12).

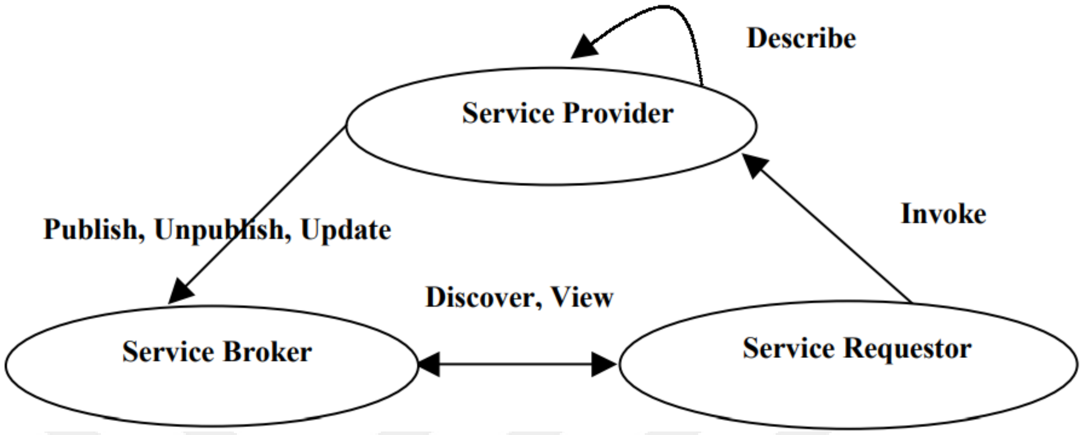
1.7.1 The E-Services Architecture

A service-oriented environment must offer the necessary support for a range of essential activities:

1- An e-service needs to be created and described.
2- An e-service needs to be published to one or more Intranet or Internet repositories for potential users to locate.
3- An e-service needs to be located by potential users.
4- An e-service must be invoked to be of any benefit.
5- An e-service may need to be unpublished when it is no longer available or needed, or may need to be updated to satisfy new requirements.

In addition to these fundamental activities, there are supplementary tasks essential for fully leveraging the e-services architecture. These tasks include integrating e-services with existing infrastructure, as well as managing and maintaining them. However, we argue that the e-services architecture requires a core set of fundamental functions, such as describing, publishing, unpublishing, updating, discovering, and invoking. It also encompasses three distinct roles: the service provider, service requester, and service broker, as outlined by Kuno in 2000 (p. 12). Figure 2 illustrates the e-services architecture.

Figure 2: E-Services Architecture (Kuno, 2000: 12).



- ✓ **Service Provider:** The term "service provider" refers to the entity responsible for delivering software applications as services designed to meet particular needs. The service provider is tasked with making these services available via the internet by engaging in activities such as publishing, unpublishing, and updating them. In business terminology, the service provider is recognized as the owner of the service, while from an architectural standpoint, they represent the framework that hosts the service's implementation.
- ✓ **Service Requestor:** The term "requestor" refers to the entity with a specific need that can be fulfilled by an available internet service. In business contexts, the requestor represents the organization or individual requiring a particular function to be performed. From an architectural perspective, the requestor is the application responsible for locating and initiating the invocation of a service. The requestor may take various forms, including a human user accessing the service via a desktop or mobile browser, an application program, or another e-service. It identifies the necessary services through the Service Broker and establishes connections with the services provided by the Service Provider.
- ✓ **Service Broker:** The service broker operates as a searchable repository containing detailed descriptions of various services, facilitating service providers in presenting their offerings and assisting service requesters in locating and accessing precise information about the services they need. Conceptually, it functions similarly to a directory, much like the traditional telephone yellow

pages. Notable examples of service brokers include the e-speak E-services Village, UDDI (Universal Description, Discovery, and Integration), and X Methods (Kuno, 2000: 12).

1.8 Anticipated Advantages of E-Services

We can focus on the anticipated benefits of e-service approach as compared to today's applications (van den Heuvel et al., 2001).

- **Interoperability:** Interactions among e-services are facilitated through the use of an XML-based interface definition language and a communication protocol. This approach ensures that interconnected e-services can function seamlessly across different platforms and programming languages, eliminating the need for developers to modify their development environments. Additionally, the e-services architecture supports interoperability between traditional legacy applications and e-services by allowing legacy applications to be exposed as services. This capability enhances alignment between legacy systems and e-services, as well as interoperability among various e-services or combinations of e-services and legacy applications.
- **Just-in-Time Integration:** Traditional system architectures frequently exhibit rigid interdependencies among their components, making them vulnerable to disruptions and difficult to modify in response to changes. Adjustments or improvements to subsystems often lead to the failure of previously established, static connections. In contrast, e-service systems support significant decoupling and the dynamic integration of new applications and services. Their design focuses on constructing applications by discovering and coordinating network-accessible services. This approach leads to systems that can self-configure, adapt flexibly, and demonstrate robustness, thereby reducing the risks associated with single points of failure.
- **Easy and Fast Deployment:** Organizations utilizing the e-service model are expected to launch new services and products without the substantial investments and time delays commonly associated with traditional enterprise operations. They can leverage high-quality component services without the need to develop these services internally, a practice known as outsourcing.

- **Efficient Application Development:** The application development process becomes significantly more efficient, as existing e-services can be repurposed and integrated to create new e-services. An e-service has the ability to merge with other e-services, thereby providing a more advanced and comprehensive set of functionalities.
- **Strong Encapsulation**: Each component operates as a service, with the focus on the behavior the service provides rather than its specific implementation. This simplifies system complexity by allowing application designers to concentrate on the functionality of the services they use, rather than the detailed technical aspects of how those services are built (van den Heuvel et al., 2001).

CHAPTER TWO

2. E-Service Quality

The first systematic definition of website service quality was introduced through research by Zeithaml, Parasuraman, and Malhotra in 2001. They defined e-SQ as the extent to which a website enables efficient and seamless processes for navigating, selecting, purchasing, and receiving products and services (Zeithaml et al., 2001: 362). Online shopping offers consumers a significantly more efficient and effective way to meet their needs compared to traditional shopping methods (Monsuwe et al., 2004: 102). Online patrons anticipate receiving a degree of service quality that matches or even surpasses the standards experienced by traditional shoppers (Lee and Lin, 2005: 161). In the realm of electronic commerce, an increasing number of scholars have recently turned their attention to the role of e-service quality as a critical strategy for attracting new customers and retaining existing ones. As a result, gaining a comprehensive understanding of the factors that influence online customer satisfaction has become highly important in this field (McKinney et al., 2002: 296). "E-service quality" refers to the comprehensive evaluations and appraisals conducted by customers concerning the quality of services offered by a particular company within the digital marketplace (Santos 2003: 233). Numerous measurement scales have been introduced explicitly for the assessment of e-services, with several of them originating from the SERVQUAL model. An example of such a scale is SITEQUAL, crafted by Yoo and Donthu (2001), which evaluates e-service quality by considering aspects like user-friendliness, visual appeal, processing speed, and security (Yoo and Donthu, 2001: 31). Wolfinbarger and Gilly (2003) introduced a set of five criteria to gauge e-service quality: (a) Website design, (b) Fulfillment, (c) Reliability, (d) Security/Privacy, (e) Customer service. In this context, Santo (2003) delves into the aspects of e-service quality, encompassing foundational dimensions like user-friendliness, connectivity, architecture and arrangement, and website aesthetics, along with operational dimensions such as dependability, assistance, effectiveness, communication, security, and motivation. Bressolles (2006: 19) developed a measurement scale known as NETQUAL, which includes seven dimensions: Information, User-friendliness, Reliability/Fulfillment, Website design, Security/Privacy, and Interactivity/Personalization.

2.1 Measuring E-Service Quality

Numerous scholars have crafted their individual methodologies for assessing e-service quality. Parasuraman et al. (2005: 213) posit that e-service quality encompasses the effectiveness and efficiency of online activities, including browsing, purchasing, and the delivery of products/services. In contrast, Yoo and Donthu (2001: 31) present the SITEQUAL framework, delineating four facets of e-service quality: accessibility, responsiveness, aesthetic design, and interaction. Loiacono et al. (2002: 432) have introduced the WEBQUAL model as a tool for evaluating service quality within the realm of e-services. They introduce a comprehensive framework comprising 12 dimensions to encapsulate e-service quality, encompassing attributes like adaptability of information, trustworthiness, design, visual requisites, user flow, business processes, interaction, response time, user intuition, creativity, overall communication, and substitutability. Wolfinbarger and Gilly (2003: 183) propose the EtailQ model, categorizing e-service quality into four dimensions: website design, performance or reliability, privacy or security, and customer service. Yaobin and Tao (2005: 96) further incorporate goodwill as a significant factor, in addition to serviceability, accessibility, and security, underscoring its significance in the context of online transactions.

2.1.1 Information

Insufficient information quality can adversely affect enterprises, leading to potential outcomes such as customer dissatisfaction, elevated expenses, diminished decision-making effectiveness, and a compromised capacity to formulate, implement, and enforce organizational protocols (Redman, 1998: 79). As emphasized by Redman (1998), the operational, tactical, and strategic achievements of organizations are closely intertwined with the quality of their information resources. Insufficient information quality can lead to instances where customers are billed for items or services they did not purchase and products are mistakenly dispatched to incorrect addresses. The inadequacy in the quality of information constitutes a notable obstacle in the creation of robust business strategies and can be argued to be the foremost hindrance to their formulation (Redman, 1998: 79).

As expressed by Fisher and Kingma (2001: 109), the concept of information dimension is recognized as being intricate. Wang and Strong (1996: 5) present a model that encompasses four essential dimensions crucial for customers when they are in search of information. Their proposed framework comprises the following elements:

1) The information must be reachable,
2) The information must be interpretable,
3) The information must be related, and
4) The information must be correct.

The elements outlined earlier were labeled as intrinsic information quality, contextual information quality, representational information quality, and accessible information quality. Within intrinsic information quality, factors such as accuracy, credibility, and reputation of the provided information come into play. Contextual information quality underscores the necessity of evaluating the quality of information within the context of the particular task being undertaken. This involves ensuring that the information (data) is pertinent, timely, comprehensive, and appropriately tailored to optimize its utility (Wang & Strong, 1996: 5).

The representational information quality dimension comprises two key aspects: the structure of the information and the significance conveyed by the data. This dimension includes numerous attributes that contribute to the quality of information, including clarity, ease of comprehension, consistency in presentation, and succinctness. The ultimate dimension in the typology of information quality relates to the accessibility of information, encompassing the ease of finding or accessing information on a website while considering its security measures. Furthermore, in the absence of sales personnel to address customers' queries, this dimension becomes increasingly crucial for online retailers, underscoring the imperative for vital information to be easily accessible on their webpages (Kim and Stoel, 2004: 109). The study conducted by Lynch and Ariely (2000) demonstrated that the ability to find crucial information on a website, especially pertaining to price and product quality, significantly influenced satisfaction with the online shopping process, contentment with the purchased item, and the inclination to endorse or support the brand. Lee and Kozar (2006: 83) propose that a higher degree of information quality correlates with an increased probability of online customers choosing a specific website for their online shopping requirements. Hence, it is imperative to evaluate whether the information quality offered by the 55 scrutinized websites conforms to user requisites and anticipations. Drawing from prior research, the evaluation of information quality can be predicated on its pertinence, timeliness, and clarity. Pertinence encompasses the extent and comprehensiveness of pertinent data, as well as the overall comprehensiveness of the information provided. Timeliness pertains to the freshness and consistent updating of the information. Comprehensibility involves the simplicity of understanding and the clarity of the information delivered. Prior research has illustrated the substantial influence of pertinent information, timeliness, and comprehensibility in augmenting information quality (McKinney et al., 2002: 296). Accuracy, timeliness, succinctness, and comprehensiveness are some of the frequently employed criteria for appraising the substance of information (Madu and Madu, 2002: 246).

Francis and White (2002: 263) ascertained that the presence of ample information or detailed product descriptions positively affects a customer's intent. Conversely, Novak et al. (2000: 22) argue that information quality plays a crucial role in providing an engaging experience. The caliber of information offered holds substantial significance in shaping the performance of a website. Hence, website information must possess relevance, currency, and clarity to markedly influence the perceptions and contentment of online customers (Feindt et al., 2002: 51).

As asserted by Schubert and Selz (1999), information constitutes a substantial component of online service quality, and the dissemination of comprehensive information pertaining to the shopping procedure is underscored as a pivotal element in establishing a successful e-commerce platform. This holds particular significance for internet-based clothing retailers since customers lack the ability to physically test clothing items for factors like fit, fabric, or color. As a result, online shoppers heavily depend on the information provided on the website to make well-informed buying choices. Therefore, when essential information necessary for an online purchase is lacking, online shoppers are more inclined to exit the website and explore alternative options offered by competitors (Song and Zinkhan, 2003: 106).

2.1.2 Ease of Use

"Ease of use" pertains to the degree to which individuals perceive the utilization of an information system to be straightforward and uncomplicated (Al-Momani and Noor, 2009: 50). It also encompasses the simplicity with which customers can perform external online research and move around within the website. This dimension encompasses three fundamental facets. Firstly, navigation relates to the effortless capacity of users to find information within a website, which constitutes a vital element within the multifaceted framework of e-travel service quality (Kaynama and Black, 2000: 63). Given the absence of direct staff interaction, online customers bear the sole responsibility of independently seeking out information and products. In cases where they encounter persistent challenges or confusion while navigating, it is expected that they may discontinue their task. Navigation plays a pivotal role in ensuring the delivery of satisfactory services, as indicated by prior research. The second facet, denoted as "access," relates to the user's capability to acquire resources, encompassing travel-related information and service attributes, via airline websites. This encompasses factors such as the simplicity of connectivity and the speed of data retrieval (Cox and Dale, 2001: 121). When online users experience delays in accessing a website or retrieving information, there is a strong likelihood that they will exit and seek alternative sites. Consequently, access to the website stands as a pivotal element affecting service effectiveness. The third component within this dimension pertains to transactional functions, which allow customers to perceive the site as intuitive, straightforward, and user-friendly for carrying out transactions (Cox and Dale, 2001: 121).

Various elements, including effortless control, simplified payment procedures, and straightforward cancellation choices, indicate the degree to which customers believe that utilizing the website will necessitate minimal or no exertion on their part. Desmet and Hekkert (2007: 111) propose that a website should not only exhibit an attractive and visually pleasing design but also prioritize usability to evoke favorable emotional states in users. Consequently, a well-crafted website should ensure a superior level of usability. An aesthetically pleasing design can elicit feelings of enjoyment throughout the website usage (Flavian and Gurrea, 2008: 26). As a result, an appropriate degree of user-friendliness, combined with an agreeable atmosphere, holds the capacity to foster a positive predisposition towards engagement. Moreover, a heightened perception of usability can lead to increased levels of contentment, confidence, and allegiance to a specific website (Chen et al., 1999: 585). Information arrangement and website navigation represent two pivotal facets of usability. Website navigation pertains to the simplicity with which users can effectively discover information without encountering notable hindrances. If users grapple with understanding the website's layout or structure, it can result in frustration and abandonment. An effectively designed navigation system holds significant importance, as users are more likely to return to a website that they perceive as featuring an instinctive and efficient navigation structure (Krug, 2000). Similarly, it is vital for users to quickly discern the type of content, how information is organized, and how to find the specific information they are looking for on a website. An integral aspect of website navigation is furnishing users with distinct cues about their present location, available destinations, accessible routes, and their browsing history. When clickable images are informative, they serve as navigational signals that convey all these messages in terms of usability (Chen et al., 1999: 585).

2.1.3 Design

The design of websites bears substantial significance for online retail establishments. Considerable research has investigated the influence of web design on the performance of e-services. Design encompasses the visual representation of content and information, which includes aspects like an uncomplicated, lucid, and uniform layout, efficient utilization of the framework, offering a site map to ease user navigation, succinct and well-organized menus, and the consistent display of the company logo on every page, contributing to enhanced branding efforts. Additionally, the judicious utilization of color, graphics, images, and animations, along with appropriately sized web pages, enhances the cohesiveness and visual attractiveness of web design. The design or visual appeal of a website is often the first impression noticed by users. Creating a website should prioritize strong usability, ensuring that various elements are user-friendly. In addition to textual content, the strategic use of graphics enhances effective information communication. As noted by Wolfinbarger and Gilly (2001: 34), users prefer to avoid irrelevant graphics but highly value the ability to download larger images and view various angles of the photographs they are interested in.

In the context of a clothing-focused retail website, Eroglu, Machleit, and Davis (2003) found that aspects of visual design had a notable impact on user satisfaction with the site. Their findings suggest that an attractive web design can engage customers by eliciting positive emotions linked to the online interaction. Studies have demonstrated that inadequate graphic design elements and presentation styles can result in confusion and negatively affect consumers' willingness to browse or make purchases on an online platform. Navigation design encompasses the organization and arrangement used to either facilitate or hinder users as they move through different sections of a website (Gardiner, 2004). Navigation components, including menus, directories, frames, buttons, site maps, subject trees, search engines, image maps, and color schemes, should assist users in forming a mental map of their current position and the interrelations among different sections and pages. The inclusion of a site map, which enables website users to comprehend the site's overall structure and navigate it effortlessly, proves advantageous (Hudson et al., 2004: 305).

2.1.4 Reliability

Reliability concerns the ability to consistently and precisely provide the committed service. This includes aspects like maintaining the website up-to-date in a timely manner, promptly responding to customer queries, ensuring accuracy in online purchasing and invoicing procedures, timely deliveries, and secure safeguarding of personal information (Lee & Lin, 2005: 161). Yang (2001) identified this factor as a crucial indicator of reliability within the context of online service quality. The importance of reliability has been emphasized within the domain of information technology-based services. Zhu, Wymer, and Chen (2002: 69) additionally assert that the reliability aspect significantly enhances the perception of service quality and customer satisfaction. It is crucial for online retailers to guarantee error-free and secure online transactions, thereby fostering a feeling of ease and trust among customers during their online shopping encounters (Lee & Lin, 2005: 161). The availability dimension pertains to the extent to which online information resources can provide customers with readily accessible and sought-after products/services. This dimension also encompasses the complexities related to connecting web pages and facilitating informed purchasing choices (Madu & Madu, 2002: 246). However, technical software glitches pose difficulties in the realm of online shopping. When consumers interact with a website for browsing or making purchases, operational issues like broken links and unresponsive buttons result in frustration and may prompt them to leave the site. Consequently, the online retailer misses out on a valuable chance to foster customer loyalty. Santos (2003: 233) emphasizes that ensuring the absence of broken links and links leading to non-existent or incomplete websites is crucial for maintaining the overall quality of e-service (Santos 2003: 233).

This dimension encompasses aspects like product availability, on-time product delivery, and the precision of service commitments, all of which are significant considerations (Zeithaml et al., 2002a). As noted by Kim and Stoel (2004: 109), when customers are informed about a product being out of stock after they've chosen to make a purchase, they tend to experience more pronounced negative emotions and exhibit reduced intent to make a purchase, compared to when they receive this notification before making their selection. Yang and Fang, 2004: 302 pointed out that the fulfillment of specific commitments and the assurance of consistent service are fundamental elements of service quality that influence both customer satisfaction and dissatisfaction. Reliability directly contributes to enhancing perceived service quality and customer satisfaction (Lee and Lin, 2005: 161).

2.1.5 Security/Privacy

The privacy aspect concerns the degree of security and safeguarding of customer information offered by a website (Parasuraman, et al., 2005: 213). Maintaining privacy is a significant consideration in the domain of online retail, as consumers are understandably wary of potential threats and risks related to sharing personal data with unfamiliar entities. The misuse and mishandling of personal information have resulted in many people being cautious about conducting online transactions. As a result, online retailers have grown more aware of the importance of providing strong consumer privacy policies to address these privacy apprehensions. The security and privacy dimension has consistently emerged as the most critical factor impacting the perception of service quality among individuals who have not made purchases. Furthermore, it has been observed to have a significant effect on customers' intent to make purchases, their satisfaction levels, and their overall evaluation of website quality (Yoo and Donthu, 2001: 31). While security pertains to the technical aspects of website security and payment methods, this dimension also includes factors like the company's reputation, trustworthiness, and the general level of confidentiality maintained between consumers and those within the organization. It also involves actively engaging consumers in the communication process (Van Riel, et al., 2001: 359).

While some studies have suggested that privacy and security may not significantly impact perceptions of website quality or satisfaction (Kim and Stoel, 2004: 109), comprehensive research consistently highlights the importance of security and privacy in the context of online retailing (Santos, 2003: 233). The security dimension is regarded as vital concerning the quality and satisfaction with the service, especially within the distinctive context of the Internet. The lack of security assurance has been pinpointed as a principal barrier preventing customers from participating in online shopping, as emphasized by Ranganathan and Ganapathy (2002: 457). Their research affirms the substantial impact of privacy and security on the intent to engage in a purchase. Moreover, studies have evidenced that trust in the firm and the broader e-service quality context positively affect service quality and customer satisfaction, as corroborated by Lee and Lin (2005: 161). Furthermore, security includes the privacy aspects essential for conducting online transactions efficiently (Zeithaml, et al., 2002b: 362). Previous studies have underlined customers' worries about potential access or unauthorized utilization of their transactions and personal information by third parties on the Internet. Privacy has consistently emerged as a central topic discussed by various scholars, including Zeithaml et al. (2002b: 362), who regard privacy as a fundamental dimension employed by consumers to evaluate website quality (or e-service quality).

2.1.6 In reactivity/Personalization

Interactivity relates to the website's capacity to actively engage and communicate with its customers within an online environment (Zeithaml et al., 2002a). One critical facet of responsiveness involves addressing customer inquiries and concerns through email in a polite manner. Responsiveness also includes efficiently handling issues and returns via the website (Parasuraman et al., 2005: 213), as well as demonstrating a willingness to aid online customers. One aspect of responsiveness is assessing the speed with which a customer's query is resolved. Responsiveness assesses the online retailer's ability to furnish appropriate problem-solving guidance to customers, establish procedures for managing returns, and offer online assurances. The notion of responsiveness can be analyzed from two angles: load time and search time. Load time pertains to the swiftness with which a web page or website loads, guaranteeing rapid access to information for customers. Search time is associated with how effectively customers can locate the information or products they are searching for within the website's search feature. Both load time and search time collectively contribute to the overall responsiveness of an online retailer (Wan et al., 2000: 153). Search time is predominantly influenced by the size of the database, while loading time is a factor that web designers must carefully consider during the webpage design phase. The importance of a responsive website cannot be overstated for end users, and customers expect online stores to promptly address their inquiries. Responsiveness encompasses the willingness of an online shop to consistently provide valuable services to its customers (Kim andStoel, 2004: 109).

Personalization or customization contributes to the development of a more engaging and positive virtual encounter, simultaneously boosting interactivity and depth, both of which are influential factors affecting telepresence. Telepresence, in its own right, has an impact on flow, effectiveness, and contentment. Illustrations of personalization can involve actions such as sending follow-up emails after a purchase and creating an individualized interactive online space customized for each specific customer. Additional elements of personalization encompass avenues for customer interaction, such as discussion forums and dedicated customer support hotlines (Lee and Lin, 2005: 161).

The importance of customer data becomes even more evident in the interactive functionalities of specific e-commerce websites. For instance, in the context of booking flights, online customers appreciate the opportunity to explore additional options that might not be as easily accessible in offline scenarios. Furthermore, customers enjoy the convenience of being able to print and save information, a capability that is not available during a telephone conversation with a travel agent (Wolfinbarger and Gilly, 2001: 34). Personalization involves delivering tailored attention, which can include personalized thank-you messages from online retailers and providing a platform for customers to ask questions or offer feedback. Lack of real-time interaction can be a barrier to potential customers making online purchases. Previous studies have explored how customer service offered by e-commerce businesses affects customers' perceptions of service quality and satisfaction (Wolfinbarger and Gilly, 2003: 183). The incorporation of personalization features in an online setting has not shown a substantial improvement in the overall quality of electronic services or customer satisfaction. One possible explanation for this is the hesitancy of individuals to divulge personal information online, driven by concerns regarding potential misuse. Consequently, the scope for customization remains restricted, and achieving higher levels of customization necessitates a foundation of substantial trust and confidence (Lee & Lin, 2005: 161).

2.2 Connection Between E-Service Quality, Customer Satisfaction, and Loyalty

In the realm of B2C e-commerce, customer satisfaction assumes a pivotal role in cultivating and nurturing customer loyalty. Customers' preferences and loyalty are notably shaped by several factors, including the efficacy of the customer interface, the comprehensiveness of product information dissemination, the accessibility of responsive customer support services, and the safeguarding of their privacy. In order to allure and retain customers, enterprises must emphasize the delivery of superior products, punctual order fulfillment, competitive pricing strategies, and enticing promotional incentives (Reibstein, 2002: 465).

According to the findings presented by Rodgers et al. (2005: 313) in their scholarly investigation, their research results emphasize the central significance of system quality and service quality, which serve as critical determinants exerting a substantial impact on the levels of customer satisfaction and consequent loyalty. In accordance with Pratminingsih et al.'s study (2013: 104), it is established that customer satisfaction assumes a foundational role in catalyzing e-loyalty, given that heightened satisfaction levels precipitate heightened customer dedication and confidence. Consequently, it becomes imperative for organizational managers to accord paramount importance to customer satisfaction and the cultivation of trust, as these factors are instrumental in the preservation of customer allegiance and the mitigation of possible attrition.

Lin and Sun (2009: 458) discovered in their research that factors related to technology acceptance have a positive impact on customers' e-satisfaction and e-loyalty, ultimately influencing their repurchasing behavior. The research study further underscored that with the augmentation of customers' proficiency in navigating the Internet, there is a concomitant enhancement in the caliber of website services and the resultant e-satisfaction. Furthermore, the investigation observed that any e-commerce platform incurring distinct delays or associated costs can markedly diminish the degree of customer satisfaction.

As emphasized by Srinivasan et al. (2002: 41), it is imperative for electronic retailers to institute surveillance mechanisms for evaluating customer perceptions. This proactive approach empowers management to expeditiously attend to any aspects of service quality that may deviate from established benchmarks. Furthermore, electronic retailers should formulate an exhaustive assessment framework for discerning the competitive landscape, including the relative market share and the strengths and vulnerabilities of rival entities. These measures constitute indispensable prerequisites for the sustained viability and triumph of the enterprise.

In a research endeavor undertaken by Nasser et al. (2013: 469), an examination was conducted into the influence of e-service quality on consumer trust. The results revealed a statistically substantial association between e-service quality and consumer trust, with e-service quality exerting a robust and affirmative impact on trust in the context of online shopping. Likewise, within a research investigation centered on the banking domain, Hussain (2014: 99) delineated six distinct facets for gauging e-service, with "Security" emerging as the preeminent dimension in the eyes of customers. Subsequently, "Reliability" assumed the second position, and there was a direct correlation established between e-service quality and customers' perceptions of overall service quality.

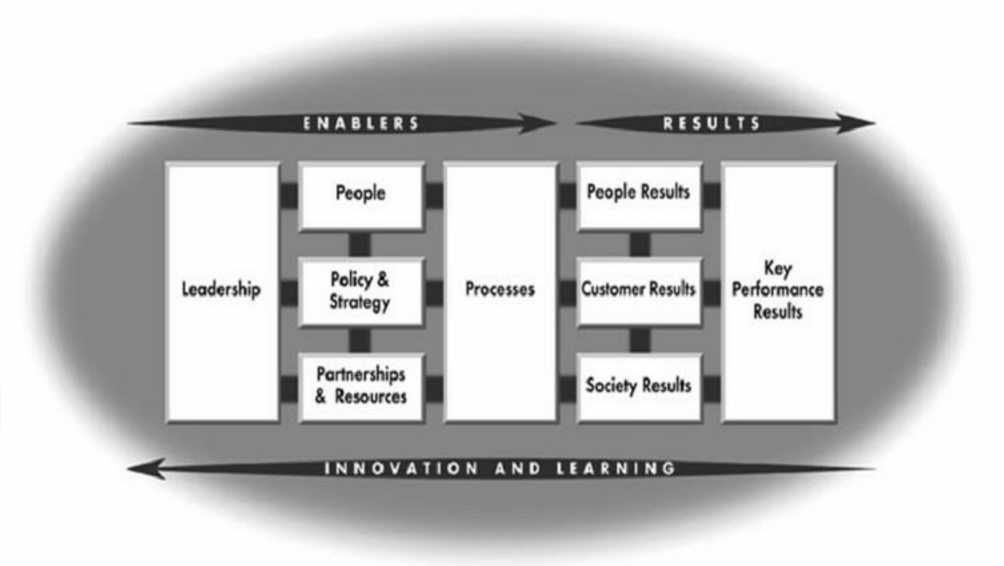
CHAPTER THREE
THEORETICAL FRAMEWORK

3.1 Business performance measurement

A primary goal of any corporate entity is the generation of income to fortify its fiscal position. Furthermore, it is of equal significance for a business entity to ameliorate its non-financial consequences, such as engendering value for its stakeholders, encompassing customers, personnel, and the broader community. In order to attain this objective, enterprises must consistently assess their operational efficacy by means of introspective evaluation. The integration of both fiscal and non-monetary indicators is frequently denoted as Business Excellence (BE) or Organizational Excellence (OE). The European Foundation for Quality Management (EFQM) excellence model finds extensive application as the framework for achieving business excellence (BE) in Europe, while the Malcolm Baldrige model primarily serves as the predominant choice in the United States. Both the EFQM excellence model and the Malcolm Baldrige model demonstrate congruent principles and methodologies. The Baldrige model is generally deployed for internal performance evaluation and the proficient management of stakeholder assets. As asserted by Kristensen and Westlund in their 2009 work, it is imperative to ensure the dependability and pertinence of data as a fundamental element in the responsible measurement of business performance while striving for the attainment of sustainable business excellence.

Founded in 1988 with the support of the European Commission, the European Foundation for Quality Management (EFQM) was established through a collaboration of 14 prominent European enterprises. The EFQM model functions as a catalyst for the implementation of Total Quality Management (TQM) and facilitates the evaluation of a company's maturity level. A primary focus of this model lies in the advancement of customer satisfaction and the improvement of performance outcomes (Van Haren Publishing, 2007). Organizational assessments are carried out through the consideration of nine criteria, which are systematically classified into two distinct groupings. The initial grouping, encompassing five criteria designated as "enablers," serves to elucidate the proactive measures and initiatives implemented by an organization. In contrast, the subsequent group comprises four criteria, denoted as "results," which are employed to gauge the achievements and outcomes realized by the organization. The diagram below visually represents the intricate interplay between these "enablers" and "results".

Figure 3: The European Excellence model. Source:www.efqm.org



a. Among the set of enablers, the component labeled "Leadership" assumes a pivotal role in the context of self-assessment. It is of paramount importance for this particular criterion to demonstrate the manner in which a leader shapes the organizational mission and actively participates in the development, implementation, and ongoing refinement of the organization's management framework.

b. Additionally, the "Processes" criterion, situated within the enablers category, scrutinizes the manner in which an organization conceives, supervises, and improves its operational processes. It is imperative that these processes are intentionally designed to harmonize with the organization's overarching vision, strategy, and goals. Furthermore, these processes should consistently yield enhanced value for the organization's clientele and stakeholders.

c. In the second segment categorized as "results," the criterion labeled "customer results" undertakes an appraisal of an organization's performance and its interactions with external clientele. This evaluative metric measures the extent of customer contentment with respect to the organization's offerings and services, as well as the organization's efficacy in meeting and exceeding their requirements and anticipations.

In summary, in accordance with the EFQM Excellence Model, customer satisfaction stands as the pivotal factor driving an organization's trajectory toward attaining performance excellence and augmenting its financial results (Williams et al., 2006).

3.2 Customer Satisfaction

As elucidated by Kotler and Keller (2016: 50), satisfaction may be delineated as an emotional state of contentment or discontentment exhibited by an individual. This emotional disposition is triggered by the juxtaposition of an individual's perceived product performance or outcomes with their initial expectations. When a product's performance corresponds with these preconceived expectations, it is customary for consumers to encounter a sensation of satisfaction. Conversely, in instances where a product surpasses their initial anticipations, consumers are inclined to perceive an elevated degree of satisfaction or happiness.

Consumer trust is an evaluation formed by individuals stemming from their firsthand encounters with a company's competencies. The discernment of customer trust frequently undergoes the impact of diverse elements that play a role in the establishment of trust, as indicated by Bernarto et al. (2019: 80). In contrast, customer satisfaction delineates the reaction of customers, reflecting their degree of contentment or discontentment with the products and services they have engaged with (Ulum, 2018: 68).

In accordance with the findings presented by Bernarto et al. (2019: 80), the evaluation of consumer satisfaction is contingent upon the credibility of the application platform.

1- Whether the application platform is honest.
2- And the services provided by the application are in accordance with consumer expectations.
3- While according to Andayani (2019: 27)The level of customer satisfaction is determined by (1) product quality, (2) service quality, (3) emotion, (4) price and (5) cost .

Satisfaction is intricately intertwined with customer attitudes and intentions, forming an integral component of consumer behavior that significantly influences their favorable behavioral inclinations. Empirical evidence from multiple studies has consistently demonstrated a strong association between high-quality electronic services and customer satisfaction, often leading to brand or product loyalty (Rita et al., 2019: 26).

3.2.1 Electronic Satisfaction (E-Customer Satisfaction)

In a study referenced by Ahmad (Junardi, 2019), e-customer satisfaction is defined as the act of surpassing customer expectations in the realm of online products and services, ultimately resulting in a higher level of satisfaction than what customers have previously experienced with their past purchase encounters. Furthermore, this concept may also encompass surpassing the level of satisfaction derived from online shopping experiences. According to Ranjbarian et al., as cited in Tobagus (2018), there exist five dimensions that have the potential to influence e-satisfaction, namely Convenience, Merchandising, Site design, Security, and Serviceability.

3.2.2 The evolution of Customer Satisfaction Index

The comprehensive evaluation of customer satisfaction assumes a crucial role in predicting forthcoming business performance and subsequent customer conduct. In the process of determining whether to make a repeat purchase, customers undertake an evaluation that extends beyond the confines of individual transactions. Instead, they draw upon their previous interactions and consumption experiences to inform their decision-making (Johnson et al., 2001: 217).

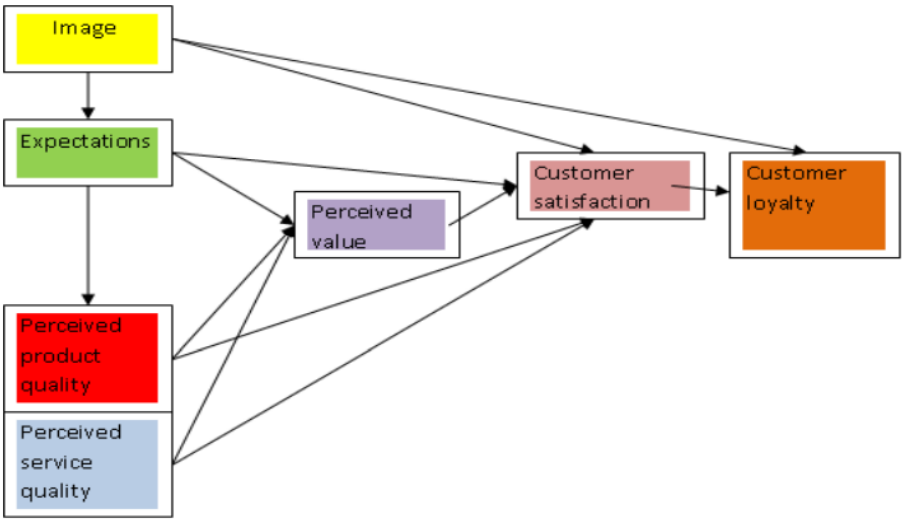
The Swedish Customer Satisfaction Barometer (SCB) has played a pivotal role in the continuous monitoring of the Customer Satisfaction Index (CSI) since 1989. As the inaugural nationwide CSI specifically dedicated to domestic products and services, the SCB's initial emphasis centered on the evaluation of the 32 most significant industries in Sweden. The inception of the American Customer Satisfaction Index (ACSI) took place in 1994, encompassing a comprehensive spectrum of 200 companies across 34 varied industries. Subsequently, in 1996, the Norwegian Customer Satisfaction Barometer was introduced, marking a significant progression in the field. More recently, the European Customer Satisfaction Index (ECSI) has been initiated as a pilot study, enlisting the participation of 11 European nations, each representing four distinct industries (Johnson et al., 2001: 217).

3.3 The EPSI rating framework

The European Performance Satisfaction Index (EPSI) which established in 1999, represents a comprehensive framework that has been intricately devised to systematically amass, assess, and distribute data pertaining to customers' expectations regarding the quality and value of the products and services they procure. The EPSI rating system provides unique perspectives on an organization's clientele and its competitive landscape. Through the utilization of insights derived from EPSI ratings, it becomes feasible to grasp the determinants influencing customer satisfaction and their subsequent repercussions on customer loyalty and retention. EPSI engaged in partnerships with prestigious institutions, including the European Foundation for Quality Management (EFQM), the European Organization for Quality (EOQ), and the academic consortium known as the International Foundation for Customer Focus (IFCF). This collaborative effort aimed to establish a standardized benchmark across Europe for the evaluation of customer satisfaction and loyalty (Jonker and Eskildsen 2009: 112).

The EPSI rating employs a structural equation model for the purpose of delineating and examining seven latent constructs: customer expectations, customer satisfaction, perceived value, perceived quality, customer loyalty, image, and the quality of the product or service (Eskildsen and Kristensen 2007).

Figure 4: The seven latent variables of EPSI rating framework (Cassel and Eklöf 2001)



EPSI was formulated by adopting the model specifications originally conceived within the framework of the American Customer Satisfaction Index (ACSI). While the initial five latent constructs enumerated above closely align with the ACSI model, it is crucial to emphasize that EPSI applies a unique criterion for appraising the quality of products and services, thereby distinguishing it from the ACSI methodology.

Consequently, several subtle disparities can be discerned between the ACSI and EPSI frameworks. Significantly, the incorporation of corporate image as a latent construct in EPSI assumes a prominent role in shaping customer loyalty, satisfaction, and anticipations. Additionally, a comparative analysis between EPSI and ACSI reveals disparities in the assessment of customer loyalty. EPSI quantifies loyalty by evaluating the likelihood of customer retention, endorsements of the brand, and heightened customer repurchase rates. It is noteworthy that EPSI does not regard customer complaints as an immediate outcome of customer dissatisfaction (Johnson et al., 2001).

3.4 Satisfaction Profit Chain

The financial success of a business is intricately linked to both customer satisfaction and customer retention. Providing exceptional customer service cultivates customer loyalty, which, in turn, leads to heightened profitability. When customers maintain their allegiance to a product or brand over an extended duration, they are less inclined to switch to competitors' offerings, as they are assured of the product's advantages and value proposition (Hill and Alexander 2006).

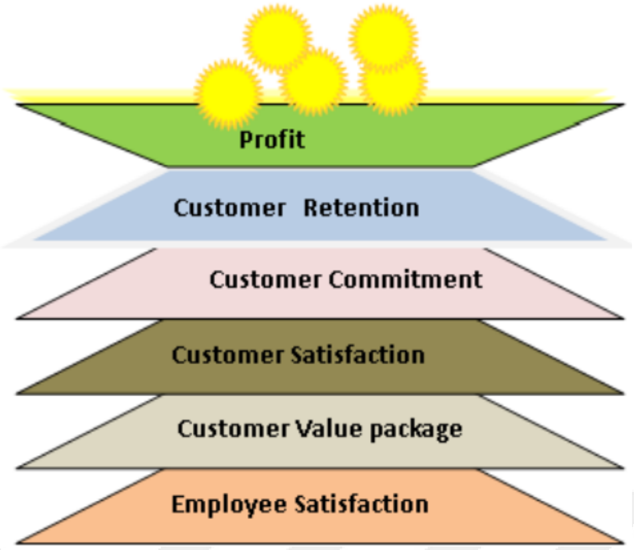
According to Best (2005: 7), it is crucial for a developing business to gauge customer satisfaction, as it serves as a predictive measure of success. Relying solely on financial outcomes does not provide a comprehensive indication of business achievement, as dissatisfied customers may not immediately discontinue their purchases. Dissatisfied customers frequently exhibit a proclivity for not promptly transitioning to alternative choices. Consequently, the vigilant surveillance of customer satisfaction assumes a position of paramount significance within the realm of business operations. As articulated by Best (2005: 7), dissatisfied customers constitute a substantial menace to enterprises, as they articulate their discontent through the propagation of their viewpoints to external audiences. This circumstance escalates in its perilous implications, notably within the domain of online commerce, where a multitude of consumers predominantly rely on product and service appraisals as the linchpin for their purchasing determinations. Consumers tend to exhibit a preference for products that have garnered favorable ratings, given the higher probability that these products have delivered satisfactory quality and performance, as evidenced by the contentment of prior purchasers.

The ACSI (American Customer Satisfaction Index) and ESCI (European Customer Satisfaction Index) have consistently identified a robust association between customer contentment and financial performance within diverse industry sectors, encompassing domains such as aviation, telecommunications, banking, and various others (Buttle 2004).

In the course of procuring new clientele, a corporation may encounter an initial phase of adverse profitability, primarily attributable to the upfront expenditures incurred for customer acquisition. Nevertheless, when a firm prioritizes the augmentation of customer service quality, it tends to encourage existing customers to engage in more frequent transactions and explore supplementary offerings within the company's portfolio. Sustained customer relationships evolve into invaluable assets, yielding revenue over an extended duration. Enterprises that emphasize the acquisition of new customers while overlooking the importance of customer retention not only jeopardize potential sales stemming from recurring transactions but also accrue substantial expenses associated with securing additional customers, whose loyalty to the company's offerings remains uncertain (Hill and Alexander 2006).

Maintaining the integrity of a company's reputation and the appeal of its brand emerges as a more economically efficient approach to retaining current clientele when contrasted with the process of acquiring new customers. This association was empirically established by Hill and Alexander in their 2000 study, and for enhanced clarity, an illustrative diagram accompanies their findings.

Figure 5: Customer satisfaction and loyalty (Hill and Alexander 2006).



An increase in customer satisfaction will have the following benefits to the firm:

- ✓ The decrease in forthcoming transaction expenses and the impact on price sensitivity, combined with the expectation of heightened future income derived from recurrent acquisitions made by current customers.
- ✓ Contented customers act as potent enablers, indirectly leading to the mitigation of expenses linked to the acquisition of fresh clientele (Hill and Alexander 2006).

3.5 Consumer Loyalty

Griffin's discoveries as revealed in Adi's study (2017) assert that consumer loyalty offers a dependable indicator for forecasting sales expansion. This loyalty can be delineated as the steadfast buying patterns demonstrated by customers. Building upon the preceding clarification, it is reasonable to deduce that consumer loyalty signifies the recurrence of customer purchases without the need for continual persuasion, thereby establishing it as a credible predictor of sales growth. As articulated by Priansa in Nusjirwan's investigation (2020: 405), companies generally engage in structured communication initiatives with their customer base. Nonetheless, some firms employ informative communication strategies, enabling them to acquire comprehensive insights from their clientele. Given this context, the present research acknowledges the paramount importance of customer value as an essential component for industries, encompassing both service-oriented and manufacturing sectors. Moreover, the optimal realization of customer value hinges upon the favorable influence of marketing tactics and their alignment with specific contexts, as noted by Kusumadewi (2019: 451). The evaluation of product excellence, a highly coveted attribute among consumers, can be measured through various dimensions, including packaging, pricing, quality, and the benefits perceived by customers (Romdonny, 2019: 337).

Customer loyalty can be characterized as the recurrent and ingrained practice of making purchases, wherein a consumer persistently participates in repetitive buying actions when content with the product's caliber and the corresponding price they have expended (Al Ardi and Yulisetiarini, 2018: 11). Wu and Li (2018) outline several indicators that signify customer loyalty:

- ✓ Willing to recommend to other consumers.
- ✓ Willing to provide positive testimonials to other consumers.
- ✓ Willing to share positive experiences from previous transactions with others.
- ✓ Willing to repeat the transaction again.
- ✓ Willing to be directly involved in transaction and non-transaction activities.

In a more comprehensive perspective, loyalty is commonly perceived as encompassing two fundamental inclinations: the intention to repurchase and the intention to recommend. Some investigations have also established connections between loyalty and factors such as the inclination to endorse products through electronic word-of-mouth (eWOM), along with other engagements like the process of value creation and the use of social media for research objectives (Molinillo et al., 2020: 1).

3.5.1 Electronic Loyalty (E-customer Loyalty)

As articulated by Anderson and Srinivasan in Ariefandi's work (2018), e-customer loyalty denotes a form of unwavering commitment demonstrated by consumers towards digital enterprises, resulting in the recurrent acquisition of products affiliated with a particular brand. Moreover, e-customer loyalty can be construed as a consumer's resolve to engage in future purchases from an online venue. In accordance with Oliver's findings as presented in Fitriani's research (2018), e-customer loyalty comprises four discernible facets: Cognitive, Affective, Conative, and Action.

3.6 Relationship between customer satisfaction and loyalty

3.6.1 Effect of customer satisfaction on loyalty and business performance.

In accordance with Barnes' research (2006: 17), a robust association exists between customer satisfaction and loyalty, both of which exert substantial influence on a company's overall performance. Nevertheless, although customer satisfaction and loyalty share interdependencies across multiple dimensions, it is essential to emphasize that customer satisfaction does not invariably culminate in loyalty. It is imperative to recognize that mere customer satisfaction does not inherently ensure the development of customer loyalty. Attaining customer satisfaction as the sole objective falls short in nurturing enduring customer connections. Without the presence of an emotional bond, customers may opt to discontinue their involvement, even in situations where their satisfaction levels are notably high. Conversely, loyalty represents the ultimate consequence stemming from customer satisfaction. Thus, it becomes crucial to transcend the mere fulfillment of customer expectations and exceed them in unexpected domains. When a customer experiences delightful surprises, it leads to a sense of admiration, instigating the initial stages of forging an emotional connection (Barnes 2006: 17).

According to Szwarc's research (2005: 12), a significant connection can be discerned between devoted customer bases and the financial prowess of a corporation. The author argues that the fusion of customer satisfaction and loyalty directly contributes to enhancing an organization's profitability.

According to Kevin Stirtz (2010), loyalty encompasses various elements. To cultivate and enhance customer loyalty, businesses must prioritize the establishment of consistency, which entails reliability and quality. By consistently demonstrating these attributes, firms foster a sense of trust among customers, thereby encouraging loyalty. Therefore, both customer satisfaction and customer loyalty are essential prerequisites for achieving firm performance.

Schlesinger and Heskett (1991) introduced the loyalty business model, a strategic management framework widely adopted in business operations. The primary aim of this model is to outline the optimal utilization of company resources to enhance customer loyalty. By delivering high-quality products and services, customer satisfaction is achieved, subsequently fostering customer loyalty and ultimately driving profitability. The authors also introduced the concept of a business cycle, encompassing both successful and unsuccessful phases in business operations. Within the cycle of success, significant emphasis was placed on the capability of employees to deliver exceptional service to customers. Motivation played a pivotal role, as businesses dedicated efforts to the careful selection and training of their employees, thereby fostering a corporate culture that empowered them. As a result, employee empowerment contributed to both employee satisfaction and competence. Consequently, superior service provision and customer satisfaction were achieved. This, in turn, fostered increased customer loyalty and elevated profit margins for businesses (Barnes 2006: 17).

3.7 Quality of Electronic Services (E-Service) to Customer Satisfaction

Numerous research inquiries within the domain of supermarkets have scrutinized the concept of customer loyalty, deeming it an essential element in evaluating the effectiveness of digital marketplaces. As stated by Pham and Ahammad (2017: 332), customer satisfaction pertains to the overall experience that a customer accumulates with a product or service following their purchase. Conversely, Choi et al. (2013: 347) contend that customer loyalty is a consequence of the customer's purchasing experience and significantly influences their future behavior. Evaluating service effectiveness involves measuring various metrics such as physical evidence (tangibles), durability, openness, assurance, and empathy, with empathy specifically assessing the service's level of empathy towards customers (Parasuraman et al., 2005: 213).

The creation of the E-S-QUAL Multiple Item Scale for Assessing Electronic Service Quality was influenced by previous research. In this investigation, the E-S-QUAL scale consisted of 22 items and encompassed four distinct dimensions: efficiency, adherence, system accessibility, and confidentiality.

a) Efficiency: the ease and speed at which websites can be reached and used;
b) Delivery: the network's capacity to guarantee order fulfillment and product supply;
c) System availability: service infrastructure functionality;
d) Privacy: the quality of site protection and user information safety.

The E-Rec SQUAL scale is composed of 11 components distributed among three dimensions: responsiveness, returns, and contact. Its primary focus is on users who have frequent interactions with the website, offering valuable insights to improve their overall experience (Parasuraman et al., 2005: 213).

The correlation between the level of service and the level of satisfaction is evident (Taylor and Baker, 1994: 163). Comparable results are noted within the identical industry, underscoring the vital importance of proficient execution and adherence to customer service quality benchmarks in nurturing customer loyalty. According to a service quality model, enhancing service quality reduces variations in team member involvement, leading to improved performance and consequently, a favorable influence on customer satisfaction levels (Taylor and Baker, 1994: 163). Furthermore, customer satisfaction is influenced by customer loyalty, especially in the realm of online service providers or marketplaces. Based on these premises, the following hypotheses can be posited:

3.7.1 Quality of electronic service is positively related to customer satisfaction

The quality of service exerts a substantial influence on customer loyalty, with loyal customers potentially playing multifaceted roles in a company's success. In the realm of online marketplaces, customers displaying allegiance to a particular service within the marketplace may seriously contemplate transferring their buying preferences to an alternative marketplace, seeking to explore and acquire products from various brands (Mascarenhas et al., 2006). Moreover, scholars have solidified a distinct link between the perceived service quality and customer loyalty. The quality of service delivered profoundly influences customer contentment, which, in turn, furnishes the company with a competitive advantage. Furthermore, prior investigations have unveiled a constructive correlation between the diverse facets of service quality and customer satisfaction (Wong et al., 1999: 81). Based on these findings, the following hypotheses are put forth:

- **Customer satisfaction is positively related to customer loyalty**

The quality of service exerts a direct influence on customer satisfaction, a construct further shaped by customer trust. When customers encounter a favorable service quality experience, it can serve as a comprehensive mediator, either partially or wholly, in shaping their loyalty based on their beliefs. This favorable quality of customer experience serves as a catalyst, diminishing the primacy of customer satisfaction and elevating the prominence of customer loyalty, as noted by Roberts et al. in their 2003 study. To augment their service provision and deliver top-notch services, enterprises should also scrutinize the reasons underpinning why customers perceive their services as superior. This can be achieved by assessing service attributes concerning fairness standards and contrasting the degree of attention given to comparable customers by other service providers. This evaluation will assist in pinpointing areas that require enhancement and facilitate the provision of outstanding services, as elucidated by Fang et al. in their 2011 study. Several research investigations have substantiated that customer trust, being a pivotal element of service efficacy, exerts a substantial influence on customer contentment. Customer trust functions as a partial mediator in the relationship between factors like service efficacy and customer loyalty. Furthermore, one of the study's discoveries indicates a full mediation in the context of two other pertinent dimensions. Consequently, it becomes apparent that service quality assumes a central role in molding customer loyalty. Through the provision of exemplary service quality, enterprises can forge a robust foundation for elevated customer satisfaction and the nurturing of customer trust (Chen et al., 2012).

3.7.2. Customer satisfaction mediates the relationship between quality of electronic service and customer loyalty

The degree of customer trust exerts an impact on customer satisfaction, and this foundational concept carries substantial importance in marketing literature, exerting influence on customer behaviors (Martínez et al., 2013: 89). Customers depend on a firm's capacity to consistently provide equitable and dependable customer service, thereby fostering their confidence in the brand. Customers frequently interpret e-commerce companies as participating in unethical behavior by concealing details about undisclosed payments to consumers, including compromised personal information and unclear processes. As a result, customer expectations often manifest as discontent with the service rendered. Thus, attracting customer interest in the online retail sector presents a formidable undertaking (Martínez et al., 2013: 89).

Hence, market loyalty is considered one of the most crucial and determinative measures of success and customer satisfaction (Rasheed and Abadi, 2014: 298). The results imply a noteworthy correlation between customer contentment and trust within the realm of online shopping, signifying that contented customers typically exhibit elevated levels of trust (Wu, 2013: 298). Furthermore, recent scholarly investigations have unveiled a robust connection between customer loyalty and trust. Consequently, it is posited that the extent of customer trust directly impacts customer loyalty. Hence, the ensuing hypothesis can be formulated:

- **Customer trust is positively related to customer satisfaction.**

Customer contentment is subject to the sway of customer trust, as trust stands as a pivotal factor in the construction of enduring relationships. Customer trust significantly molds customers' anticipations concerning the reliability of service providers in the service sector, subsequently wielding a direct impact on service provider satisfaction

(Sirdeshmukh et al., 2002: 15). Customer retention represents a sustained dedication that exemplifies the adept management of client-employee relationships over an extended duration. Moreover, customer satisfaction can be cultivated through the establishment of customer trust. Drawing upon earlier research, it becomes evident that customer trust plays a fundamental role in shaping customer loyalty (Silva and Yapa, 2013). Therefore, the hypotheses used are:

- **Customer trust is positively related to customer loyalty**

The caliber of electronic services stands as a substantial factor influencing customer loyalty, with trust assuming a pivotal position in this interconnection. Establishing and sustaining customer engagement holds paramount significance within the e-commerce sector. Furthermore, customer contentment and trust are intricately linked to the efficacy of services. In the domain of online commerce, where a multitude of individuals participate, the trust customers place in the marketplace assumes critical importance (Ribbink et al., 2004: 446). Moreover, the existence of trust and loyalty has been recognized as pivotal elements that contribute to customer patronage behavior, thereby advantageous to the company as service quality advances. Given the absence of in-person interactions between buyers and sellers within the marketplace, trust assumes a critical function in instilling confidence in the utilization of marketplace services. Substantial research endeavors have been undertaken to delve into the impact of online trust, engagement, and service quality (Reichheld and Schefter, 2000: 105).

CHAPTER FOUR

4. METHODOLOGY

4.1 PURPOSE OF THE RESEARCH

The aim of this research is to investigate the relationship between e-service quality, customer satisfaction, and customer loyalty within the context of Duhok Province. Specifically, the study aims to achieve the following objectives:

Investigate the relationship between customer satisfaction and loyalty in the e-service.

Find out level of e-service quality according to gender differences.

Find out level of customer satisfaction and loyalty according to gender differences.

By addressing these objectives, the research aims to contribute to the understanding of the dynamics between e-service quality, customer satisfaction, and loyalty, particularly in the unique socio-economic and cultural context of Duhok Province. The findings of this study are expected to offer valuable implications for e-service providers, policymakers, and businesses operating in the region, enabling them to optimize their e-service offerings, enhance customer experiences, and build stronger relationships with their customers.

4.2 **THE IMPORTANCE OF RESEARCH**

Contributing to Academic Literature: This research fills a gap in the academic literature by examining the impact of e-service quality on customer satisfaction and loyalty in a specific geographic context, Duhok Province. The findings will contribute to enriching existing theories and frameworks related to e-service quality, customer satisfaction, and loyalty.

Practical Implications for Businesses: The study's findings will provide valuable insights for businesses and e-service providers operating in Duhok Province. Understanding how e-service quality influences customer satisfaction and loyalty can help businesses tailor their digital offerings to better meet customer needs, ultimately leading to increased customer retention and profitability.

Policy Recommendations: Policymakers in Duhok Province can benefit from the study's recommendations to formulate policies aimed at improving the quality of e-services provided to citizens. This can contribute to the development of a more efficient and customer-centric digital infrastructure in the region, promoting economic growth and social welfare.

Enhancing Customer Experience: By identifying the factors that contribute to customer satisfaction and loyalty in the e-service context, the study can help businesses enhance the overall customer experience. This, in turn, can lead to positive word-of-mouth, increased brand reputation, and sustainable competitive advantage.

Supporting Economic Development: Improved e-service quality can facilitate economic development by streamlining processes, reducing transaction costs, and increasing access to digital services. This study's findings can inform strategies aimed at leveraging e-services to drive economic growth and improve the standard of living in Duhok Province.

Cultural Considerations: Duhok Province has its own unique socio-cultural characteristics that may influence customer perceptions of e-service quality. Understanding these nuances is crucial for designing effective e-service strategies that resonate with the local population and foster trust and engagement.

4.3 THE HYPOTHESIS OF RESEARCH

HO1: There is a strong postive correlation between e-service quality, customer satisfaction and loyalty.

HO2: There is statistically significant difference for E - Service quality according to gender.

HO3: There is differences between level of customer satisfaction and loyalty with e-services according to gender variables.

4.4 QUESTIONNAIRE DESIGN STRUCTURE

Considering the nature of the ongoing study, a structured, close-ended questionnaire will be developed, comprising the following sections:

Demographic Information: The initial section of the questionnaire will focus on gathering demographic data, such as gender and age, to provide context and insight into the characteristics of the respondents.

E-Service Quality Assessment: The second section will encompass questions aimed at evaluating e-service quality. This section will consist of 30 items designed to gauge respondents' perceptions and experiences regarding various aspects of e-service quality. The researcher utilized the e-service quality scale developed by (Farisa, 2018) to assess the quality of electronic services, as well as customer satisfaction and loyalty. The e-service quality scale comprises 30 items categorized into three dimensions (Customer Service, Security/Privacy, and Fulfilment). Each item offers respondents five options for answers, ranging from ("Strongly Agree" to "Strongly Disagree)". A visual representation of the questionnaire is provided in the appendices for reference.

Customer Satisfaction and Loyalty Assessment: The final section will delve into assessing customer satisfaction and loyalty. It will comprise 21 items tailored to measure respondents' levels of satisfaction and loyalty towards the e-service provider. Similarly, to gauge customer satisfaction and loyalty, the researcher employed the scale devised by (Farisa, 2018), which consists of 21 items categorized into two dimensions (Overall Service Quality, and Consumer Behavior). Each item in this scale also presents respondents with five options: "(Strongly Agree", "Agree", "Neutral", "Disagree", and "Strongly Disagree)". The questionnaire layout is included in the appendices for clarity and context.

By structuring the questionnaire into these distinct sections, the study aims to comprehensively capture respondents' demographics, perceptions of e-service quality, and levels of satisfaction and loyalty, thereby facilitating a thorough analysis of the research objectives.

4.5 RESEARCH METHODOLOGY

Methodology refers to the structured and theoretical examination of the approaches utilized within a particular field of study. It involves the theoretical exploration of the collection of methods and principles associated with that field of knowledge. This examination encompasses concepts such as paradigms, theoretical models, stages, and the application of quantitative or qualitative techniques. It's important to note that a methodology doesn't aim to provide direct solutions; rather, it serves as the theoretical foundation for understanding which methods, sets of methods, or best practices can be applied to a specific case. For instance, it guides the selection of appropriate methods for calculating specific results (Igwenagu, 2016)

In this study, the researcher has opted for a quantitative research methodology to collect and analyze data from a sample population residing in Duhok Province, located in the northern region of Iraq. This methodology entails the administration of a structured questionnaire to gather data, followed by the application of various statistical techniques to analyze the collected data and test the formulated hypotheses. The quantitative approach allows for the systematic examination of numerical data, providing insights into the relationships between variables and enabling the researcher to draw statistically supported conclusions regarding the impact of e-service quality on customer satisfaction and loyalty within the specified context.

4.6 RESEARCH POPULATION

A population denotes the entirety of units to which the research findings are intended to be extended. It encompasses all units to which the research findings can be relevantly applied. Essentially, the population comprises all units possessing the variable characteristic under investigation, and for whom the research findings can be extrapolated (Shukla, 2020).

The population of this study focuses on the residents of Duhok Province who actively engage in online shopping activities. These individuals form the community under investigation, representing the target group whose behaviors and experiences with e-commerce services will be analyzed. Duhok Province, located in the northern of Iraq

4.7 SAMPLE OF THE RESEARCH

Sampling is a method used to select a subset of individuals or elements from a larger population for specific research purposes. It involves advantages and disadvantages that warrant consideration. The rationale behind sampling is often driven by practical constraints, such as the high cost and time required to survey an entire population for a research study. Therefore, sampling allows researchers to gather relevant data efficiently and economically by focusing on a representative subset of the population rather than attempting to study every individual within it (Bhardwaj, 2019). For this study, a sample size of 300 residents residing in Duhok province, actively utilizing online market platforms, was selected. The sampling method employed was convenience sampling. Among the selected sample, 172 participants identified as male, while 128 participants identified as female. This gender distribution within the sample allows for a diverse representation of perspectives and experiences regarding online market usage within the population under study. As shown in Table 3.

Table 3: Sample of Research

Gender	N	Percentage	Age	N	Percentage
Male	172	57.3%	18-30	141	47%
Female	128	42.7%	31-43	107	35.7%
Total	300	100%	44-56	41	13.7%
			57-69	11	3.6%
			Total	300	100%

4.7 RESEARCH PROCEDURE

Following the formulation of the questionnaire for data collection, the researcher embarked on a field visit to Duhok province situated in northern Iraq. In this province, citizens were selected as the sample population for the study. The researcher administered the questionnaire to participants through survey forms, inviting individuals to volunteer their participation. Clear explanation of the study's primary objectives was provided to the participants, along with assurance that all information gathered would be strictly utilized for scientific purposes.

Participants were given the freedom to decide whether or not to provide information and complete the questionnaire based on their own perspectives and preferences. In cases where participants encountered difficulties understanding certain topics, the researcher offered detailed explanations to ensure clarity and comprehension.

4.8 LIMITATION OF THE STUDY

The scientific research encountered several formidable obstacles that hindered its progress significantly. Among these challenges were:

Time Constraints: The study operated within a restricted timeframe, intensifying the pressure on researchers to execute their tasks efficiently amidst competing responsibilities. Balancing the demands of the research alongside other obligations demanded rigorous time management and sustained effort.

Difficulty in Participant Recruitment: Acquiring an adequate number of research participants posed a major challenge. The study relied on volunteers, complicating the process of identifying and recruiting suitable individuals to comprise the sample population. This hurdle required innovative recruitment strategies and persistent outreach efforts to overcome.

4.11 ANALYSIS AND FINDINGS

The researcher undertook to find stability for the scale from the very beginning of the preparation of the form in order to ensure the compatibility of the scale with the research community as shown in Table 4.

Table 4: the value of Cronbach`s Alpha based on Reliability Statistics

Reliability Statistics		
Variable	Cronbach's Alpha	N of Items
E - Service Quality	.904	30
Customer Satisfaction and Loyalty	.868	21

Table 4 displays reliability statistics for a series of items, presenting Cronbach's Alpha coefficients alongside the corresponding number of items in each set. These statistics offer crucial insights into the internal consistency and reliability of the items under assessment.

Cronbach's Alpha is a widely accepted metric for evaluating the internal consistency of a scale or test. It gauges the extent to which items within a set are interrelated, with values ranging from 0 to 1. Higher values indicate stronger internal consistency among the items. In this instance, the reported Cronbach's Alpha coefficient for E-Service Quality is .904, indicating a high level of internal consistency among the 30 items comprising the set.

Similarly, for Customer Satisfaction and Loyalty, the Cronbach's Alpha coefficient is reported as .868, signifying a robust level of internal consistency among the 21 items. This suggests that the items within each set consistently measure the same underlying construct or concept, providing reliability in the assessment of e-service quality and customer satisfaction and loyalty.

Table 5: the value of Cronbach`s Alpha based on Scale Statistics

Variable	**Scale Statistics**

	Mean	Variance	Std. Deviation	N of Items
E - Service Quality	93.4767	338.078	18.38685	30
Customer Satisfaction and Loyalty	69.3333	161.373	12.70329	21

The table 5 provides scale statistics, including the mean, variance, standard deviation, and the number of items in the set. These statistics offer important insights into the central tendency, variability, and scale characteristics of the data.

The mean is a measure of central tendency that represents the average value of the items in the scale. In this case, the mean for (E - Service Quality) variable is reported as (93.4767). This indicates that, on average, the scores of the items in the scale tend to be around 93.4767, but the mean for (Customer Satisfaction and Loyalty) variable is reported as (69.3333). This indicates that, on average, the scores of the items in the scale tend to be around 69.3333.

The variance measures the spread or variability of the data. It quantifies how much the scores of the items deviate from the mean. The variance for the for (E- Service Quality) scale is reported as (338.078), indicating a considerable amount of variability in the scores, but the variance for the (Customer Satisfaction and Loyalty) scale is reported as (161.373).

The standard deviation is the square root of the variance and provides a measure of the dispersion of the data. A higher standard deviation suggests greater dispersion or spread of scores. In this case, the standard deviation for (E - Service Quality) is reported as (18.38685), indicating a high level of dispersion in the scores of the items, but the standard deviation for (Customer Satisfaction and Loyalty) is reported as (12.70329), indicating a moderate level of dispersion in the scores of the items.

Table 6: Survey of questions of E - Service Quality scale

Questions	Strongly Disagree	Disagree	Neither	Agree	Strongly agree	Mean	SD
	Fr.	Fr.	Fr.	Fr.	Fr.		
	%	%	%	%	%		
Q1	59	56	37	110	38	3.0400	1.36060
	19.7	18.7	12.3	36.7	12.7		
Q2	25	68	49	128	30	3.2333	1.15615
	8.3	22.7	16.3	42.7	10		

Q3	25	38	86	120	31	3.3133	1.08586
	8.3	12.7	28.7	40	10.3		
Q4	28	58	74	107	33	3.1967	1.15286
	9.3	19.3	24.7	35.7	11		
Q5	28	70	75	91	36	3.1233	1.17447
	9.3	23.3	25	30.4	12		
Q6	30	66	72	101	31	3.1233	1.16590
	10	22	24	33.7	10.3		
Q7	21	59	70	104	46	3.3167	1.15795
	7	19.7	23.3	34.7	15.3		
Q8	30	52	73	113	32	3.2167	1.15506
	10	17.3	24.3	37.7	10.7		
Q9	17	49	61	121	52	3.4733	1.12554
	5.7	16.3	20.3	40.3	17.3		
Q10	37	72	58	111	22	3.0300	1.18340
	12.3	24	19.3	37	7.3		
Q11	27	77	74	101	21	3.0400	1.11169
	9	25.7	24.7	33.7	7		
Q12	27	56	83	103	31	3.1833	1.12870
	9	18.7	27.7	34.3	10.3		
Q13	98	64	52	70	16	2.4733	1.30190
	32.7	21.3	17.3	23.3	5.3		
Q14	20	100	79	81	20	2.9367	1.06604
	6.7	33.3	26.3	27	6.7		
Q15	33	54	94	92	27	3.0867	1.13289
	11	18	31.3	30.7	9		
Q16	23	65	66	113	33	3.2267	1.13707
	7.7	21.7	22	37.6	11		
Q17	22	62	74	110	32	3.2267	1.11629
	7.3	20.7	24.7	36.7	10.6		
Q18	31	47	67	105	50	3.3200	1.22034
	10.3	15.7	22.3	35	16.7		
Q19	56	52	59	110	23	2.9733	1.26410
	18.7	17.3	19.7	36.7	7.6		
Q20	22	51	70	132	25	3.2900	1.07537
	7.3	17	23.4	44	8.3		
Q21	30	59	63	109	39	3.2267	1.19725
	10	19.7	21	36.3	13		
Q22	25	49	64	125	37	3.3333	1.14013
	8.3	16.3	21.4	41.7	12.3		
Q23	36	46	74	86	58	3.2800	1.27292
	12	15.3	24.7	28.7	19.3		
Q24	45	61	66	92	36	3.0433	1.26231
	15	20.3	22	30.7	12		
Q25	46	68	60	82	44	3.0333	1.30559
	15.3	22.7	20	27.3	14.7		
Q26	38	57	52	110	43	3.2100	1.26408
	12.7	19	17.3	36.7	14.3		
Q27	124	40	51	59	26	2.4100	1.41015
	41.3	13.3	17	19.7	8.7		
Q28	30	94	76	77	23	2.8967	1.12704

	10	31.3	25.3	25.7	7.7		
Q29	38	53	84	88	37	3.1100	1.20945
	12.7	17.7	28	29.3	12.3		
Q30	40	60	67	93	40	3.1100	1.25292
	13.3	20	22.4	31	13.3		

Note/ Fr: Frequency, SD: stander deviation

Table 6 presents the findings from a survey comprising 30 questions labeled from (Q1 to Q30), each accompanied by response options ranging from "Strongly Disagree" to "Strongly Agree." The table provides frequencies, percentages, means, standard deviations, and a summary result for each question.

Analysis of the table reveals a prevalent trend among respondents, with the majority expressing agreement with the statements posed in the questions. Across the board, the response category of "Agree" consistently garnered the highest frequencies and percentages of responses. Conversely, responses indicating "Strongly Disagree" (particularly in questions Q13 and Q27) and "Disagree" (notably in questions Q14 and Q28) received the lowest frequencies and percentages.

These results suggest a general alignment of respondent perspectives with the statements presented in the survey. The predominance of agreement indicates a favorable disposition towards the surveyed topics, highlighting areas of consensus among the respondents.

The mean values for each question span from 3.0300 to 3.4733, implying a prevailing consensus among respondents regarding the statements presented. This consensus is reinforced by the summary result categorizing all questions as "Agree." The means consistently fall within the range of agreement, underscoring a collective positive sentiment among the surveyed individuals.

Additionally, the standard deviation values range from 1.06604 to 1.41015, indicating relatively low variability in the responses. This suggests a notable level of agreement among the participants concerning their stance on the statements. The consistency in responses and the limited spread of values across the standard deviations further support the notion of a shared viewpoint among the surveyed population.

Table 7: Descriptive Statistics of Customer Satisfaction And Loyalty Scale

Questions	Strongly Disagree	Disagree	Neither	Agree	Strongly agree	Mean	SD
	Fr.	Fr.	Fr.	Fr.	Fr.		
	%	%	%	%	%		
Q1	36	69	47	120	28	3.1167	1.21435
	12	23	15.7	40	9.3		
Q2	23	31	86	124	36	3.3967	1.07230
	7.7	10.3	28.7	41.3	12		
Q3	17	59	75	104	45	3.3367	1.12288
	5.7	19.7	25	34.6	15		
Q4	27	56	60	122	35	3.2733	1.16180
	9	18.7	20	40.7	11.6		
Q5	17	41	96	116	30	3.3367	1.01986
	5.7	13.7	32	38.6	10		
Q6	17	57	65	132	29	3.3300	1.06688
	5.7	19	21.7	44	9.6		
Q7	14	55	77	106	48	3.3967	1.10001
	4.7	18.3	25.7	35.3	16		
Q8	33	51	56	110	50	3.3100	1.24596
	11	17	18.7	36.7	16.6		
Q9	37	54	70	107	32	3.1433	1.20039
	12.3	18	23.3	35.7	10.7		
Q10	22	70	91	94	23	3.0867	1.06910
	7.3	23.3	30.3	31.3	7.8		
Q11	33	60	84	98	25	3.0733	1.13972
	11	20	28	32.7	8.3		
Q12	29	47	75	106	43	3.2900	1.17921
	9.7	15.7	25	35.3	14.3		
Q13	31	48	62	112	47	3.3200	1.21485
	10.3	16	20.7	37.3	15.7		
Q14	28	35	74	117	46	3.3933	1.15892
	9.3	11.7	24.7	39	15.3		
Q15	31	59	67	100	43	3.2167	1.21435
	10.3	19.8	22.3	33.3	14.3		

Q16	17	47	65	125	46	3.4533	1.10085
	5.7	15.7	21.7	41.7	15.3		
Q17	24	49	79	110	38	3.2967	1.12823
	8	16.3	26.3	36.7	12.7		
Q18	23	48	68	111	50	3.3900	1.16437
	7.7	16	22.7	37	16.7		
Q19	40	57	60	93	50	3.1867	1.29257
	13.3	19	20	31	16.7		
Q20	28	39	58	124	51	3.4367	1.18773
	9.3	13	19.3	41.4	17		
Q21	25	31	59	124	61	3.5500	1.16850
	8.3	10.3	19.7	41.3	20.4		

Table 7 presents the findings from a survey comprising 21 questions labeled from (Q1 to Q21), each accompanied by response options ranging from "Strongly Disagree" to "Strongly Agree." The table provides frequencies, percentages, means, standard deviations, and a summary result for each question. The findings indicate that across all questions, the majority of respondents consistently expressed agreement, with no other response option surpassing the frequency of "Agree." This implies a uniform tendency among participants to predominantly select the "Agree" option, making it the prevailing choice for each question.

The mean values for each question span from (3.0733 to 3.5500), implying a prevailing consensus among respondents regarding the statements presented. This consensus is reinforced by the summary result categorizing all questions as "Agree." The means consistently fall within the range of agreement, underscoring a collective positive sentiment among the surveyed individuals. Additionally, the standard deviation values range from (1.01986 to 1.29257), indicating relatively low variability in the responses. This suggests a notable level of agreement among the participants concerning their stance on the statements. The consistency in responses and the limited spread of values across the standard deviations further support the notion of a shared viewpoint among the surveyed population.

Table 8: total Mean of variables

Variable	Mean(M)	SD
E - Service Quality	93.47	18.38
Customer Satisfaction and Loyalty	69.33	12.7

Table 8 reveals that the mean score for e-service quality in Duhok province stands at 93.47, with a standard deviation of 18.38. This indicates that the overall level of E-service quality in the region is quite high, as reflected by the intermediate range of the mean. Such a high mean suggests that digital services in Duhok meet the expectations of users in terms of functionality, security, and reliability, contributing to a generally positive user experience.

In addition, the mean score for Customer Satisfaction and Loyalty is recorded at 69.33, with a standard deviation of 12.7. This shows that customers are largely satisfied with the E-services quality they use. The relatively high mean points to a favorable reception of online platforms and services, suggesting that most users feel their needs are being adequately met. These figures imply that E-service quality providers in Duhok are successfully aligning their offerings with customer expectations, leading to increased satisfaction and possibly fostering stronger customer loyalty.

Table 9: Correlation between E - Service Quality and Customer Satisfaction and Loyalty

Variable	Mean(M)	SD	Pearson correlation	Sig (2 Tailed)
E - Service Quality	93.47	18.38	.702	.000

Customer Satisfaction And Loyalty	69.33	12.7		

The researcher employed Pearson correlation analysis to investigate the relationship between E-Service Quality and Customer Satisfaction and Loyalty. Table 9 presents the descriptive statistics for both variables, revealing an arithmetic mean of (93.47) with a standard deviation of (18.38) for E-Service Quality, and an arithmetic mean of (69.33)with a standard deviation of (12.7)for Customer Satisfaction And Loyalty.

The correlation coefficient between the two variables is calculated to be (.702) indicating a strong positive correlation. This suggests that there is a robust co-directional relationship between E-Service Quality and Customer Satisfaction and Loyalty, with a correlation of approximately (70%). In other words, as E-Service Quality improves, customer satisfaction and loyalty also tend to increase. Furthermore, the results demonstrate statistical significance for the correlation between E-Service quality and customer satisfaction and loyalty, with a (p-value=.000) which is less than the conventional significance level of 0.05. This indicates that the observed correlation is unlikely to have occurred by chance, reinforcing the validity of the relationship between the two variables. These results show that hypothesis HO1 was accepted, which is the existence of a strong positive relationship between E- service quality and customer satisfaction and loyalty.

Table 10: T-test results for E - Service Quality

Gender	N	Mean(M)	SD	T-test	Sig- 2 tailed	Df
Male	172	92.13	18.91	-1.464	.673	298
Female	128	95.27	17.5			

Table 10 displays the outcomes of the statistical test conducted to examine the second hypothesis model, focusing on the influence of gender on E-Service Quality. The results indicate that there is no statistically significant relationship between gender and E-Service Quality, as evidenced by a (p-value .673), which exceeds the threshold of 0.05.

This suggests that regardless of gender, individuals hold similar perceptions regarding E-Service Quality. The lack of statistical significance implies that gender does not impact the outcomes, indicating a consistency in opinions across genders.As a result, the null hypothesis (HO2) is accepted, because there is no connection between variables and P value is greater than 0.05.

Table 11: T-test results for Customer Satisfaction and Loyalty.

Gender	N	Mean(M)	SD	T-test	Sig- 2 tailed	Df
Male	172	68.94	13.69	-.609	.543	298
Female	128	69.85	11.25			

Table 11 displays the outcomes of the statistical test conducted to examine the third hypothesis model, focusing on the influence of gender on customer satisfaction and loyalty. The results indicate that there is no statistically significant relationship between gender and customer satisfaction and loyalty, as evidenced by a (p-value .543), which exceeds the threshold of 0.05.

This suggests that regardless of gender, individuals hold similar perceptions regarding customer satisfaction and loyalty. The lack of statistical significance implies that gender does not impact the outcomes, indicating a consistency in opinions across genders. is accepted, because there is no connection between variables and P value is greater than 0.05.

DISCUSSIONS

In this section, the researcher will analyze the most important results of the research based on the researcher's own analysis and the results obtained are presented in the tables as follows:

The impact of E-Service Quality on customer satisfaction and loyalty is significant, as demonstrated by various studies. E-service quality encompasses several factors, including ease of use, reliability, responsiveness, and security. When online services are user-friendly, secure, and provide reliable customer support, they enhance customer satisfaction. In city like Duhok, where digital services are expanding, customers are increasingly expecting efficient and convenient online platforms. As digital literacy rises, the quality of E-Service Quality plays a key role in shaping how customers perceive and interact with these services.

In terms of loyalty, high E-Service Quality can foster trust and repeat usage, leading to customer loyalty. Satisfied customers are more likely to return to the same platform and recommend it to others, which is crucial in growing and maintaining a loyal customer base. For businesses in Duhok, ensuring a smooth, secure, and culturally relevant online experience can not only improve satisfaction but also enhance customer retention and loyalty over time. Providing localized content and strong customer support can significantly impact how customers engage with E-Service Quality in the Duhok city.

Table 2 presents Cronbach's Alpha coefficients for E-Service Quality (30 items) and Customer Satisfaction and Loyalty (21 items), assessing internal consistency. A high Cronbach's Alpha (.904) for E-Service Quality and (.868) for Customer Satisfaction and Loyalty indicate strong reliability. These coefficients, ranging from 0 to 1, measure interrelatedness among items; higher values denote greater consistency. The results affirm that both sets of items consistently measure their respective constructs, ensuring reliability in evaluating e-service quality and customer satisfaction and loyalty.

Table 3 furnishes scale statistics revealing central tendency, variability, and characteristics of the data for E-Service Quality and Customer Satisfaction and Loyalty. A higher mean (93.4767) for E-Service Quality compared to Customer Satisfaction and Loyalty (69.3333) suggests higher average scores for the former. Variance (338.078) and standard deviation (18.38685) signify greater variability and dispersion in E-Service Quality scores, respectively, compared to Customer Satisfaction and Loyalty (variance: 161.373, standard deviation: 12.70329). These findings illuminate distinct patterns in respondent perceptions, indicating a wider spread and variability in assessments of E-Service Quality compared to Customer Satisfaction and Loyalty.

Tables 4 and 5 depict survey findings, showcasing a prevalent trend of agreement among respondents across questions, with "Agree" consistently receiving the highest frequencies and percentages. Mean values spanning from 3.0300 to 3.4733 (Table 4) and 3.0733 to 3.5500 (Table 5) indicate a collective consensus on the statements, reinforced by summary results categorizing all questions as "Agree." The narrow range of means underscores a shared positive sentiment among participants. Furthermore, standard deviation values ranging from 1.01986 to 1.29257 suggest low variability in responses, affirming a notable level of agreement among participants. These findings highlight a uniform tendency to select the "Agree" option, reflecting a cohesive viewpoint among surveyed individuals toward the presented statements.

The Pearson correlation analysis conducted in Table 6 unveils a robust positive correlation (r = .702) between E-Service Quality and Customer Satisfaction and Loyalty. This signifies those improvements in E-Service Quality coincide with heightened customer satisfaction and loyalty, with a correlation strength of approximately 70%. Moreover, the statistical significance of the correlation (p-value = .000) underscores the reliability of the relationship, indicating that it is unlikely to have arisen by chance. Consequently, the acceptance of hypothesis HO1 affirms the presence of a strong positive association between E-Service Quality and customer satisfaction and loyalty, underscoring the pivotal role of quality service delivery in fostering customer loyalty and satisfaction.

Tables 7 and 9 present the outcomes of statistical tests examining the influence of gender on E-Service Quality and Customer Satisfaction and Loyalty. Both tables reveal non-significant relationships, as indicated by p-values exceeding 0.05. This implies that, regardless of gender, individuals share similar perceptions regarding E-Service Quality and Customer Satisfaction and Loyalty. The lack of statistical significance emphasizes the consistency in opinions across genders for both hypotheses (HO2 and HO3).

Consequently, the null hypotheses are accepted because there is no connection between variables and P value is greater than 0.05.

These findings highlight the robustness of opinions across genders in the context of electronic service quality and customer satisfaction, emphasizing that gender differences are not discernible factors in shaping these perceptions. The results contribute to a nuanced understanding of factors influencing customer perceptions in the digital service domain.

CONCLUSION

In conclusion, our investigation into the relationship between customer satisfaction and loyalty in e-service reveals a strong positive correlation, with improvements in E-Service Quality corresponding to heightened satisfaction and loyalty among customers. This underscores the critical role of quality service delivery in fostering customer loyalty and satisfaction in the digital realm. Furthermore, our analysis of gender differences in perceptions of E-Service Quality and Customer Satisfaction And Loyalty indicates that gender does not significantly influence these perceptions. The non-significant relationships observed across genders highlight the consistency in opinions, emphasizing that gender is not a discernible factor in shaping perceptions of electronic service quality and customer satisfaction.

The reliability statistics presented in Tables 2 and 3 affirm the internal consistency and reliability of the measurement scales for E-Service Quality and Customer Satisfaction and Loyalty. The high Cronbach's Alpha coefficients indicate strong reliability, ensuring that the measurement scales consistently capture the intended constructs.

Our study contributes to a nuanced understanding of factors influencing customer perceptions in the digital service domain. By elucidating the robust relationship between E-Service Quality and customer satisfaction and loyalty, and by demonstrating the lack of significant gender differences in these perceptions, our findings offer valuable insights for businesses and policymakers. Recognizing the pivotal role of quality service delivery in enhancing customer satisfaction and loyalty can inform strategies aimed at improving e-service offerings. Moreover, understanding the consistent perceptions across genders can guide efforts to tailor digital service experiences to diverse customer segments effectively.

In conclusion, our study highlights the importance of prioritizing E-Service Quality to drive customer satisfaction and loyalty in the digital era, while also emphasizing the need to recognize the uniformity of perceptions across genders in shaping customer experiences. These insights can inform strategic decision-making and enhance the effectiveness of digital service delivery in meeting customer expectations and fostering long-term loyalty.

REFERENCES

Al Ardi A. N. and Yulisetiarini, D. "the Effect of Lazada Website Quality To Satisfaction and Consumer Loyalty," Int. J. Res. Sci. Manag., vol. 5, no. 10, pp. 11–15, 2018.

Al-Momani, K. & Noor, N.A. 2009. E-service quality, ease of use, usability and enjoyment as antecedents of E-CRM performance: An empirical investigation in Jordan Mobile Phone Services. The Asian Journal of Technology Management, 2(2) : 50-63.

Ancarani, A. 2005. Towards quality e-services in the public sector. The evolution of web sites in the local public service sector. Managing Service Quality, 15(1), 6-23.

Andayani, S. "Pengaruh Layanan Website Tokopedia Terhadap Kepuasan Konsumen Menggunakan Metode Webqual 4.0," JuSiTik J. Sist. dan Teknol. Inf. Komun., vol. 2, no. 1, p. 27, 2019.

Ariefandi, Vallen. (2018). Pengaruh E-Service Quality Terhadap E-Customer Satisfaction dan E-Customer Loyalty (studi kasus pada konsmen pegipegi di Indonesia). Skripsi. Telkom University Bandung.

Australian National Auditing Office. 1999. Stage ANAO-OGO model. Retrieved from http://www.anao.gov.au/~/media/Uploads/Documents/1999%2000_audit_report_18.pdf.

Barua, A., Konana, P., Whinston, A. B. & Yin, F. (2001). Driving E-Business Excellence. Sloan Management Review, Fall 2001, Vol. 43, No.1, pp. 36-44.

Barnes, JG (2006), Building your customer strategy: a guide to creating profitable customer relationships, John Wiley & Sons, New Jersey, P 17-28.

Best, RJ (2005), Market-based management: Strategies for Growing customer value and profitability, Pearson Prentice Hall, New Jersey, P 7-20.

Buttle, F 2004, Customer relationship management: concepts and tools, Elsevier Butterworth-Heinemann, MA.

Bernarto, I. Wilson, N. and Suryawan, I. N. "Pengaruh Website Design Quality, Service Quality, Trust dan Satisfaction Terhadap Repurchase Intention (Studi Kasus: tokopedia.com)," J. Manaj. Indones., vol. 19, no. 1, p. 80, 2019.

Bhardwaj, P. (2019). Types of sampling in research. Journal of the Practice of Cardiovascular Sciences. 5. 157. 10.4103/jpcs.jpcs_62_19.

Blut, M., et al.: E–service quality: a meta–analytic review. J. Retailing (2015).

Boyer, K., Hallowell, R.Roth, A.V (2002) Eservices: operating strategy—a case study and a method for analyzing operational benefits, Journal of Operations Management, Vol. 20, No.2.

Bressolles, G. (2006), “La qualité de service électronique : NetQual. Proposition d’une échelle de mesure appliquée aux sites marchands et effets modérateurs” [“Electronic service quality: NetQual – Proposition of a measurement scale to commercial Websites and moderating effects”], Recherche et Applications en Marketing, Vol. 21, No. 3, pp. 19-45.

Chesbrough, H., & Spohrer, J. (2006). A research manifesto for services science. Communications of the ACM, 49(7), 35-40.

Chen, H., Liu, J. Y., Sheu, T. S., & Yang, M. (2012). The impact of financial services quality and fairness on customer satisfaction. Managing Service Quality: An International Journal.

Chen, H., Wigand, R. & Nilan, M. 1999. Optimal experience of web activities. Computers in Human Behavior, 5(1): 585-608.

Choi, E. K., Wilson, A., & Fowler, D. (2013). Exploring customer experiential components and the conceptual framework of customer experience, customer satisfaction, and actual behavior. Journal of Foodservice Business Research, 16(4), 347–358.

Chun Hai, J., Ibrahim. (2007). Fundamental of Development Administration. Selangor: Scholar Press. ISBN 978-967-5-04508-0. (p. 6(9).

Cox, J. & Dale, B. 2001. Service quality and e-commerce: An exploratory analysis. Managing Service Quality, 11(2): 121-131.

Cristobal, E., Flavian, C., Guinaliu, M.: Perceived e–service quality (PeSQ): measurement validation and effects on consumer satisfaction and web site loyalty. Manag. Serv. Qual. 17(3), 317–340 (2007).

Dawes, S. (2009). Governance in the digital age: A research and action framework for an uncertain future. Government Information Quarterly, 26(2), 257-264.

Desmet, P. M. A., and Hekkert, P.,. (2007). When a car makes you smile: development and application of an instrument to measure product emotions. In S. J. Hoch and R. J. Meyer (Eds.), Advances in Consumer Research, volume 27, (pp. 111-117). Provo, UT: Association for Consumer Research.

Eskildsen, JK &Kristensen, K 2007, Customer satisfaction – The role of transparency, Total Quality Management, Vol. 18.

Fang, Y., Chiu, C., & Wang, E. T. G. (2011). Understanding customers' satisfaction and repurchase intentions: An integration of IS success model, trust, and justice. Internet Research.

Farisa, A(2018): an assessment of e-service quality, customer satisfaction, and customer trust on customer behavior in online shopping, Dissertation submitted as partial requirement for the conferral of Master in Management, ISCTE Business School.

Feindt, S., Jeffcoate, J. & Chappell, C. 2002. Identifying success factors for rapid growth in SME ecommerce. Small Business Economics, 19(1): 51-62.

Fisher, C., & Kingma, B. 2001. Criticality of data quality as exemplified in two disasters. Information and Management , 39(2): 109-116.

Flavian, C., & Gurrea, R. 2008. Reading newspapers on the internet: the influence of websites attributes. Internet Research, 18(1): 26-45.

Francis, J. & White, L. 2002. PIRQUAL: A scale for measuring customer expectations and perceptions of quality in internet retailing, in Proceedings of the 2002 American Marketing Association Winter Educators' Conference: Marketing theory and applications. Edited by K.R. Evans and L.K. Scheer. Chicago, Il: American Marketing Association. 263-270.

Gardiner, R. 2004. Evaluating the service delivery of a consulting engineering firm. MBA. Port Elizabeth Technikon.

Gardial, S.F., et al.: Comparing consumers' recall of prepurchase and postpurchase product evaluation experiences. J. Cons. Res. 20(4), 548–560 (1994).

Gogia, S.B. (2008) Providing Tele mental health services after disasters – a case based on the post tsunami experience, in "Cases on Managing E-services", Scupola, A. (Ed.) Idea Group Inc., USA.

Goldkuhl G., Persson A. (2006a). Characteristics of Public E-services: Investigating the E-Diamond Model, in Proc of the First International Pragmatic Web Conference (PragWeb06), 21-23 September 2006, Stuttgart, Germany.

Griffith, D.A., Palmer, J.W.: Leveraging the web for corporate success. Bus. Horiz. 42(1), 3–10 (1999).

Gronroos, C., et al.: The NetOffer model: a case example from the virtual marketspace. Manag. Decis. 38(4), 243–252 (2000).

Gronroos, C.: An applied service marketing theory. Eur. J. Mark. 16(7), 30–41 (1982).

Gummesson, E.: The marketing of professional services—an organizational dilemma. Eur. J. Mark. 13(5), 308–318 (1979).

Hill, T.P. (1977). On goods and services. Review of Income and Wealth, 23(4), 314-339.

Hofacker, C.F., Goldsmith, R.E., Bridges, E. and Swilley, E. (2007) E-Services: A Synthesis and Research Agenda, Journal of Value Chain Management, 1(1/2), 13-44.

Hudson, S., Hudson, P. and Miller, G. A. (2004) 'The measurement of e-service quality in the UK tour operating sector: A methodological comparison', Journal of Travel Research, 42(3), 305-312.

Hussain, Z. (2014). Financial Development, Trade Openness and Economic Growth in Developing Countries: Recent Evidence from Panel Data. Pakistan Economic and Social Review, 52, 99-126.

Hill, N & Alexander, J 2006, Handbook of customer satisfaction and loyalty measurement, Gower Publishing, England.

Iqbal, Z., Rohit Verma, Baran, R. (2003), "Understanding Consumer Choices and Preferences in Transaction-Based E-Services," Journal of Service Research, 6 (1), 51-65.

Igwenagu, C. (2016). Fundamentals of research methodology and data collection.

Ihlström ErikssonC., Kalling, T., Åkesson M. and Fredberg , T. (2008), Business Models for M-Service– exploring the e-newspaper case from a consumer view, Journal of Electronic Commerce in Organizations, Vol. 6, No. 2.

Javalgi, R.G., Martin, C.L and Todd P.R. (2004), "The Export of E-Services in the Age of Technology Transformation: Challenges and Implications for International Service Providers," Journal of Services Marketing, 18 (7), 560-573.

Janssen, M. (2009) The rebirth of intermediaries: New intermediaries for managing and orchestrating organizational networks using e-services, International Journal of E-Services and Mobile Applications, Vol. 1, No. 1.

Junardi, H. 2019. Analisis Pengaruh E-Service Quality Terhadap E- Loyalty Melalui E-Satisfaction Pelanggan JD.ID di Pontianak. Jurnal Ekonomi dan Bisnis. Vol. 2 No. 1. ISSN 2654-7325. ISSN 2656-7695.

Johnson, MD, Gustafsson, A, Andreasson, TW, Lervik, L & Cha, J 2001, The evolution and future of national customer satisfaction index models, Journal of Economic Psychology, 22, p.217-245.

Jonker & Eskildsen, J (2009), Management models for the future, Springer-Verlag, Heidelberg, P. 112-113.

Kaynama, S. & Black, C. 2000. A proposal to assess the service quality of online travel agencies: An exploratory study. Journal of Professional Services Marketing, 21(1): 63-89.

Kim, M. & Stoel, L. 2004. Apparel retailers: Web site quality dimensions and satisfaction. Journal of Retailing and Consumer Services, 11: 109-117.

Kotler, P. dan Keller, K. L. (2016). Manajemen Pemasaran. Jakarta: Penerbit Erlangga. pp: 50-69.

Krug, S. 2000. Don't Make Me Think: A Commonsense Approach to Web Usability. Indianapolis: New Riders Publishing.

Kuno, K.A.: Surveying the E-services Technical Landscape. In Proceedings of the 2nd Int. Workshop on Advance Issues of E-Commerce and Web-Based Inf. Systems (WECWIS 2000), 4(5), 12-30.

LaTour, S.A., Peat, N.C.: Conceptual and methodological issues in consumer satisfaction research. Adv. Consum. Res. 6(1), 431–437 (1979).

Lee, G. & Lin, H. (2005).Customer perceptions of e-service quality in online Shopping. International Journal of Retail & Distribution Management, 33(2), 161-176.

Lin, G.T. and Sun, C.C. (2009) Factors Influencing Satisfaction and Loyalty in Online Shopping: An Integrated Model. Online Information Review, 33, 458-475.

Lind M, O. Forsgren, Salomonson N., Albinsson L. (2007). The e-co model – Citizen´s driving e-service quality.

Lind M., Goldkuhl G. (2008). Categories of Public e-Services - an Inquiry Based on the e-Diamond Model. e-Challenges, Stockholm, October 2008.

Loiacono, E., Watson, R. & Hoodhue, D. 2002. WEBQUAL: Measure of web site quality. Marketing Educators Conference: Marketing Theory and Applications, 13: 432-437.

Martínez, P., & Del Bosque, I. R. (2013). CSR and customer loyalty: The roles of trust, customer identification with the company and satisfaction. International Journal of Hospitality Management, 35, 89–99.

Mascarenhas, O. A., Kesavan, R., & Bernacchi, M. (2006). Lasting customer loyalty: a total customer experience approach. Journal of Consumer Marketing.

Madu, C. & Madu, A. 2002. Dimensions of e-quality. International Journal of Quality & Reliability, 19(3): 246-259.

McKinney, V., Yoon, K., & Zahedi, F. (2002). The measurement of web-customer satisfaction: an expectation and disconfirmation approach. Information Systems Research , 13(3): 296-315.

Monsuwe, T. P., Dellaert, B. and Ruyter, K. (2004) 'What drives consumers to shop online A literature review,' International Journal of Service Industry Management, 15 (1), 102-121.

Molinillo, S. Anaya-Sánchez, R. and Liébana-Cabanillas, F. "Analyzing the effect of social support and community factors on customer engagement and its impact on loyalty behaviors toward social commerce websites," Comput. Human Behav., vol. 108, no. April, pp. 1–12, 2020.

Nasser, M., et al. (2013) Evidence in Agenda Setting: New Directions for the Cochrane Collaboration. Journal of Clinical Epidemiology, 66, 469-471.

Novak, T., Hoffman, D., & Yung, Y. 2000. Measuring the customer experience in online environments: A structural modeling approach. Marketing Science, 19(1): 22-42.

Nusjirwan, Regen, R., and Nardo, R. (2020). The Role of Service Quality and Trust in Building Customer Satisfaction and Loyalty. Budapest International Research and Critics Institute-Journal (BIRCI-Journal) Vol 3 (4): 405-406.

Octavia, D., & Tamerlane, A. (2017). The influence of website quality on online purchase intentions on Agoda.com with e-trust as a mediator. Binus Business Review, 8(1), 9-14.

Parasuraman, A., Zeithaml, V. A., & Malhotra, A. (2005). E-S-QUAL: A Multiple-Item Scale for Assessing Electronic Service Quality. Journal of Service Research, 7(3), 213–233.

Parasuraman, A.: Technology readiness index (TRI) a multiple–item scale to measure readiness to embrace new technologies. J. Serv. Res. 2(4), 307–320 (2000).

Parasuraman, A., Zeithaml, V.A., Berry, L.L.: SERVQUAL. J. Retail. 64(1), 12–40 (1988).

Pejic-Bach, M., and Pejic-Bach, M. (2008) Profightstore.com – developing an on-line store for the niche market, Lexmark in "Cases on Managing E-services", Scupola, A. (Ed.) Idea Group Inc., USA.

Penttinen, E., Saarinen, T., Sinervo, P. (2008) The role of e-services in the transition from the product focus to the service focus in the printing business - Case Lexmark in "Cases on Managing E-services", Scupola, A. (Ed.) Idea Group Inc., USA.

Piccinelli, G., & Stammers E. (2001). From e-processes to e-networks: an e-service oriented approach, http://www.research.ibm. com/people/b/bth/OOWS2001/piccinelli.pdf.

Pham, T. S. H., & Ahammad, M. F. (2017). Antecedents and consequences of online customer satisfaction: A holistic process perspective. Technological Forecasting and Social Change, 124, 332–342.

Pratminingsih, S.A., Lipuringtyas, C., and Rimenta, T. 2013. Factors influencing Customer Loyalty towards online shopping. International Journal of Trade, Economics and Finance, 4(3), pp.104-110.

Rahman, M.S., et al.: E-service quality and trust on customer's patronage intention: moderation effect of adoption of advanced technologies. J. Glob. Inf. Manag. 28(1), 39–55 (2020).

Rasheed, F. A., & Abadi, M. F. (2014). Impact of service quality, trust and perceived value on customer loyalty in Malaysia services industries. Procedia-Social and Behavioral Sciences, 164, 298–304.

Ranganathan C. and Ganapathy, S. "Key Dimensions of Business-to-Consumer Web Sites," Information and Management, Vol. 39, No. 6, 2002, pp. 457-465.

Reibstein, D.J. 2002. What attracts customers to online stores, and what keeps them coming back? Journal of the Academy of Marketing Science, 30, pp. 465-473.

Redman, T. 1998. The impact of poor data quality on the typical enterprise. Communications of the ACM, 41(2): 79-82.

Reichheld, F. F., & Schefter, P. (2000). E-loyalty: your secret weapon on the web. Harvard Business Review, 78(4), 105–113.

Rita, P. Oliveira, T. and Farisa, A. “The impact of e-service quality and customer satisfaction on customer behavior in online shopping,” Heliyon, vol. 5, no. 10, p. 26, 2019.

Ribbink, D., van Riel, A. C. R., Liljander, V., & Streukens, S. (2004). Comfort your online customer: quality, trust and loyalty on the internet. Managing Service Quality: An International Journal, 14(6), 446–456.

Roberts, K., Varki, S., & Brodie, R. (2003). Measuring the quality of relationships in consumer services: an empirical study. European Journal of Marketing.

Romdonny, J., and Rosmadi, M.L.N. (2019). Factors Affecting Customer Loyalty in Products. Budapest International Research and Critics Institute-Journal (BIRCI-Journal Vol 2 (1): 337-343.

Rodgers, W., Negash, S., and Suk, K. 2005. The moderating effect of online experience on the antecedents and consequences of on line satisfaction. Psychology and Marketing, 22, pp. 313-331.

Rust, R. & Kannan (2003). E-service: a new paradigm for business in the electronic environment. Communnications of the ACM 46(6).

Santos, J. 2003. E-service quality - a model of virtual service dimensions. Managing Service Quality, 13(3): 233-247.

Scholl, H.J. (2010). Electronic Government: A Study domain past its infancy. In Scholl, H.J. (Ed.) E-Government. Information, Technology, and Transformation, volume 17, Advances in Management Information Systems. Armonk, NY:M.E. Sharpe, (pp. 11-30).

Schubert, P., & Selz, D. 1999. Web assessment - measuring the effectiveness of electronic commerce sites going beyond traditional marketing paradigms. Preceedings of the 32nd Hawaii International Conference on System Sciences. Hawaii.

Scupola, A. (Ed.) (2008) “Cases on Managing E-services”, Idea Group Inc., USA, 1(2), 13-15.

Scupola A. (2008) E-Services: Definition, Characteristics and Taxonomy: Guest Editorial Preface, Special Issue on E-Services, Journal of Electronic Commerce in Organization, Vol. 6, No.2.

Scupola, A., Nicolajsen, H.W. (2009) The role of Customer Involvement in Library E-services in "Information Systems: People, Organizations, Institutions, and Technologies", D'Atri A. and Saccà, D. (Eds.), Springer.

Szwarc, P (2005), Researching customer satisfaction & loyalty, Kogan Page publishers, P. 12.

Silva, K. A., & Yapa, S. (2013). Customer retention: with special reference to telecommunication industry in Sri Lanka.

Srinivasan, S.S., Anderson, R., and Ponnavolu, K. 2002. Customer Loyalty in ecommerce: an exploration of its antecedents and consequences. Journal of Retailing, 78. pp. 41-50.

Sirdeshmukh, D., Singh, J., & Sabol, B. (2002). Consumer trust, value, and loyalty in relational exchanges. Journal of Marketing, 66(1), 15–37.

Song, J., & Zinkhan, G. 2003. Features of web site design, perceptions of web site quality, and patronage behavior. Association of Collegiate Marketing Educators Conference (pp. 106-14). Houston, TX: Proceedings of Advances in Markeing.

Shukla, S. (2020). CONCEPT OF POPULATION AND SAMPLE, Gujarat University, Research Gate.

Taylor, S. A., & Baker, T. L. (1994). An assessment of the relationship between service quality and customer satisfaction in the formation of consumers' purchase intentions. Journal of Retailing, 70(2), 163–178.

The Swedish Agency For Administrative Development. 2000. SAFAD model. ISBN: 91-7220-438-9.

Tiwana, A., & Balasubramaniam, R. (2001). E-services, problems, opportunities, and digital platforms. 34th Hawaii International Conference on System Sciences. March 2001.

Ulum, F. "Pengaruh E-Service Quality Terhadap E-Customer Satisfaction Website Start-Up Kaosyay," J. Tekno Kompak, vol. 12, no. 2, p. 68, 2018.

van den Heuvel, W.J., Yang, J., Papazoglou, M.P.: Service Representation, Discovery and Composition for E-Marketplaces. To be presented at the 6th Int. Conf. on

Cooperative Information Systems (CoopIS 2001), Trento, Italy, September 5-7, (2001).

Van Riel. A.C.R, Liljander, V., & Jurriens. P. (2001). Exploring consumer evaluations of eservices: A portal site. International journal of service industry management, 12 (4), 359- 377.

Vragov, R. (2009) Sponsored Search as a Strategic E-service, International Journal of E-Services and Mobile Applications, Vol. 1, No. 1.

Wan, E. and Van der Merwe, R. (2000) The Unscented Kalman Filter for Nonlinear Estimation. Proceedings of the IEEE 2000 Adaptive Systems for Signal Processing, Communications, and Control Symposium, Lake Louise, 1-4 October 2000, 153-158.

Wang, R. & Strong, D. 1996. Beyond accuracy: What data quality means to data consumers. Journal of Management Information Systems, 12(4): 5-34.

Wang, J., Yao, J., Yan, R., Hsu, J. (2008). Ebay: An E-Titan Success Story, in Cases on Managing E-Services, Scupola, A (Ed.) , IGI Global, pp. 126-140.

Wong, A., Dean, A., & White, C. (1999). The impact of service quality on customer loyalty in the hospitality industry. International Journal of Customer Relationship Management, 81–89.

Wilson. (1998). NIST-Special-Publication-800-16, Information Technology Security Training Requirements: A Role and Performance Based Model, M.Wilson, D.E.d. et al, Editors. 1998, National Institute of Standards and Technology: Gaithersburg.

Williams, ART, Bertsch, B, Wiele, AV, Iwaarden, JDV & Dale, BG (2006), Self-Assessment against Business Excellence Models: A Critique and Perspective, Total Quality Management and Business Excellence, Vol 17 No 10, pp. 1287-1300.

Wolfinbarger, M. & Gilly, M. 2001. Shopping online for freedom, control, and fun. California. Management Review, 43(2): 34-55.

Wolfinbarger, M. & Gilly, M. 2003. eTailQ: dimensionalizing, measuring and predicting etail quality. Journal of Retailing, 79(3): 183-198.

Wu, Y. L. and Li, E. Y. Marketing mix, customer value, and customer loyalty in social commerce: A stimulus-organism-response perspective, vol. 28, no. 1. 2018.

Yang, Z. and Fang, X. (2004) Online Service Quality Dimensions and Their Relationships with Satisfaction: A Content Analysis of Customer Reviews of Securities Brokerage Services. International Journal of Service Industry Management, 15, 302-326.

Yaobin, L. and Tao, Z. (2005). An empirical analysis of factors influencing consumers' initial trust under B2C environment. Nankai Business Review, 8(6), 96-101.

Yoo, B. & Donthu, N. 2001. Developing a scale to measure the perceived quality of an internet shopping site SITEQUAL. Quarterly Journal of Electronic Commerce, 2(1): 31-47.

Zeithaml, V., Bitner, M.J. (2003). Services Marketing. Integrating Customer Focus across the Firm. 3rd ed. 2003, New York: McGraw-Hill, 12(5), 110-123.

Zeithaml, V.A., Parasuraman, A. & Malhorta, A. 2002a. An empirical examination of the service qualityvalue-loyalty chain in an electronic channel. Working paper, University of North Carolina. Chapel Hill, NC: University of North Carolina.

Zeithaml, V.A., Parasuraman, A. & Malhotra, A. 2002b. Service quality delivery through web sites: A critical review of extant knowledge. Journal of the Academy of Marketing Science, 30(4): 362-375.

Zeithaml, V.A., Parasuraman, A., Malhotra, A.: Conceptual framework for understanding e– service quality: implications for future research and managerial practice. Market. Sci. Inst. 115, 20–30 (2001).

Zhu, F.X., Wymer, W. and Chen, I. (2002), "IT-based services and service quality in consumer banking", *International Journal of Service Industry Management*, Vol. 13 No. 1, pp. 69-90.