ELECTRONIC SERVICE QUALITY IN ELECTRONIC RETAIL

Developing a Comprehensive Conceptual Framework

ROBIN MORGENSTERN

Doctoral Thesis

Doctor of Business Administration

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Abstract

Worldwide electronic retail (e-retail) sales have proliferated over the past decade. Academic research highlights electronic service quality (E-SQ) as a key driver of success in this market, directly influencing customer satisfaction and loyalty. E-SQ reflects how customers evaluate the quality of services provided by e-retailers.

This doctoral thesis addresses the research question: *"Which E-SQ aspects should be integrated into a contemporary and comprehensive E-SQ concept for e-retail?"* To answer this, the study develops an updated E-SQ concept that integrates both established and novel dimensions and factors. It validates existing insights while identifying new elements that capture today's e-retail environment. An update is necessary because foundational concepts (e.g., Zeithaml et al., 2000; Wolfinbarger & Gilly, 2003; Parasuraman et al., 2005; Holloway & Beatty, 2008; Blut, 2016) have received limited revision and do not adequately capture recent developments, such as mobile responsiveness, in-store pickup, accessibility for individuals with impairments, or order location accuracy.

The study applies a triangulated methodology combining a systematic literature review, a quantitative analysis of 30,549 online reviews, a qualitative analysis of 1,000 reviews, and a structured website evaluation of six major U.S. e-retailers (Amazon, Apple, Best Buy, Home Depot, Target, and Walmart). Together, these methods integrate three perspectives: academic theory, consumer experience, and e-retail practice.

The proposed E-SQ concept is structured along the customer journey. It consists of eleven E-SQ dimensions: (1) User Interface, (2) Product Offering, (3) Price, (4) Purchase Process, (5) Fulfillment, (6) Customer Service, (7) Customer Protection, (8) E-WOM Trustworthiness, (9) Ethical, Social, Economic, and Environmental Aspects, (10) Information Accuracy, and (11) Personalization. These are supported by 63 E-SQ factors, 37 of which are newly proposed. Novel factors, such as User Interface Accessibility for

Individuals with Impairments, User Interface Responsive Design, Fulfillment Delivery Location Accuracy, and Customer Service Language Skills, address E-SQ aspects that have been underrepresented in prior research. In addition, four dimensions—Customer Protection; E-WOM Trustworthiness; Ethical, Social, Economic, and Environmental Aspects; and Information Accuracy—are positioned as central and novel components of E-SQ.

The triangulated methodology enriches the findings, ensuring they reflect both theory and practice. Theoretically, the design presents a holistic, balanced, and validated model of E-SQ, providing a replicable framework for future studies. Beyond e-retail, this approach can be applied in other sectors, such as healthcare, hospitality, and aviation, where complex interactions among theory, consumer experience, and organizational practice influence service quality.

This thesis further introduces precise E-SQ terminology, providing explicit definitions of E-SQ-related terms to strengthen conceptual clarity and establish a shared field language.

From a managerial perspective, e-retail managers are encouraged to adopt a customer-centric view of the customer journey, foster cross-functional collaboration across departments, and monitor customer feedback alongside competitor websites. Attention to small operational details, the use of practical tools, and a focus on inclusivity and sustainability can enhance E-SQ, strengthen customer loyalty, and support long-term business outcomes.

Together, the proposed E-SQ concept offers a robust theoretical model. It validates the foundations of existing theory, systematizes E-SQ knowledge, proposes novel and critical E-SQ elements, employs a methodologically innovative design, initiates a common field language, and provides managerial guidance. As such, it establishes a foundation for further conceptual development in the E-SQ field. Collectively, these contributions offer a more systematic basis for future E-SQ research and a practical framework for industry application.

Keywords: Electronic Service Quality, Electronic Commerce, Electronic Retail, Electronic Word-of-Mouth Analysis, Online Review Analysis, Website Evaluation, Customer Journey, Digital Consumer Behavior, Customer Experience

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Abbreviations

Abbreviation	Meaning
AI	Artificial Intelligence
CP	Customer Protection
CS	Customer Service
DBA	Doctor of Business Administration
e-Commerce	Electronic Commerce
e-Retail	Electronic Retail
ESEE	Ethical, Social, Economic, and Environmental Aspects
E-SQ	Electronic Service Quality
E-WOM	Electronic Word-of-Mouth
FF	Fulfillment
RQ	Research Question
PP	Purchase Process
PO	Product Offering
SQ	Service Quality
UI	User Interface
WOM	Word-of-mouth

All abbreviations in this thesis are spelled out in full at first mention, followed by the abbreviation in parentheses, after which the abbreviation is used consistently. Abbreviations are only introduced for terms that occur frequently. Exceptions apply in specific cases: definitions, quotations, and glossary entries always present full terms; titles, headings, and subheadings avoid abbreviations to ensure clarity; and commonly known abbreviations (e.g., USA) are used without prior definition. Abbreviations are also avoided where they reduce readability (e.g., multiple abbreviations in one sentence).

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1 Introduction

This chapter introduces the topic and motivation for this Doctor of Business Administration (DBA) thesis. This study begins by outlining the background of electronic service quality (E-SQ) in the electronic retail (e-retail) sector. The researcher's background and motivation are presented next. The chapter then presents the study's aims, rationale, and research question (RQ). It concludes with an overview of the thesis structure and its intended contributions.

1.1 Background of Study

The global e-retail market reached 6 trillion US dollars in 2024 and is projected to grow by 31%, approaching 8 trillion US dollars by 2028 (eMarketer, 2025, April 8). The market's scale is further emphasized by estimates that e-retail accounted for 17.1% of total global retail sales in 2022 (Statista, 2025). These figures underscore the vast scale and increasing significance of e-retail in the global economy. E-retail refers to the buying and selling of products and services over the Internet.

As a growing number of consumers turn to e-retail, the quality of service they experience becomes a key factor in an e-retailer's success. Consequently, understanding and improving E-SQ has become essential for e-retailers. E-SQ is the customer's evaluation of the excellence and effectiveness of services provided by e-retailers. Academic literature widely acknowledges that e-retail's key determinant for success is E-SQ (Parasuraman et al., 2005; Santos, 2003; Wolfinbarger & Gilly, 2003; Zeithaml et al., 2000). Typical E-SQ factors include website information quality, timeliness of delivery, customer service (CS) level, and order accuracy (Blut et al., 2015; Holloway & Beatty, 2008). Research has demonstrated that E-SQ has positive effects on customer outcomes, including customer reuse (Wang, 2008) and use intentions (DeLone & McLean, 2003), satisfaction (Bauer et al., 2004; DeLone & McLean, 2003; Wolfinbarger & Gilly, 2003), and customer loyalty (Parasuraman et al., 2005; Santos, 2003; Srinivasan et al., 2002; Wolfinbarger & Gilly, 2003).

Given the growing relevance of e-retail and influence on customer outcomes, E-SQ has become a crucial concept for academic research and e-retail practitioners continually striving to enhance their E-SQ (Blut, 2016). As a prerequisite, e-retailers must first understand what matters most to their customers in terms of E-SQ. To support this, academia has developed E-SQ concepts and scales that list and measure E-SQ dimensions and factors relevant to e-retail (see 2.10). These concepts help e-retailers understand the complexity of E-SQ and guide them in making improvements.

Despite the helpfulness of established E-SQ concepts (e.g., Zeithaml et al., 2000; Parasuraman et al., 2005; Blut, 2016), notable research gaps remain. The last widely cited study by Blut (2016) was

published nearly a decade ago, and since then, existing concepts have seen limited empirical or conceptual updates. However, E-SQ is continuously shaped by economic, technological, social, and operational shifts in e-retail. These include trends such as the rise of mobile commerce and mobile responsiveness, the increasing importance of inclusive design for users with impairments, evolving hybrid service models such as in-store pickup, the quality challenges of outsourced CS, continued expansion of service automation, and growing consumer expectations regarding ethical standards and fraud protection practices. As a result, many earlier models no longer fully reflect the complexity of today's e-retail environment. This thesis responds to that gap by offering a modern, integrative framework for understanding E-SQ. Notably, Zeithaml et al. (2000) had already emphasized the need for ongoing research to revise and expand existing E-SQ knowledge. This call remains highly relevant considering today's rapid e-retail industry changes.

Furthermore, E-SQ research often encounters two key limitations. First, many E-SQ models are based on relatively small sample sizes, frequently relying on a limited number of interviewees or survey participants (see Appendix C). This raises questions about the generalizability of such findings. Second, traditional survey-based E-SQ studies typically ask respondents to assess a predefined set of criteria. While effective for measuring known aspects of E-SQ, this method can limit participants' ability to voice concerns beyond the selected items, potentially overlooking relevant issues. As a result, important developments in customer expectations and behavior may not be adequately captured.

Moreover, the E-SQ literature appears to lack clearly defined E-SQ field terminology, which may contribute to ambiguity, communication challenges, and potential misinterpretations.

This study aims to address these shortcomings by developing a comprehensive E-SQ concept that reflects today's e-retail by integrating the insights of this study. Applying triangulation, this study combines a systematic literature review, qualitative and quantitative content analysis of online customer reviews, a qualitative evaluation of e-retailer websites, and an assessment of website performance metrics.

This work appears to represent the first E-SQ study in e-retail that applies a large-scale exploration of online customer reviews to examine E-SQ. While prior studies have often relied on methodologies such as interviews, focus groups, or surveys, which typically involve relatively small sample sizes of 300-1,000 participants (see Appendix C), this research draws on 30,549 unstructured, naturally occurring online reviews on six major U.S. e-retailers (Amazon, Apple, Best Buy, Target, Home Depot, and Walmart). These reviews provide in-depth, contemporary insights into consumer perceptions of E-SQ. This new approach aims at capturing real-time, authentic customer feedback that may reflect the nature of E-SQ more effectively than prior methods.

This multi-method approach contributes to a detailed and balanced evaluation of E-SQ from both theoretical and practical perspectives. In addition to uncovering new insights into E-SQ, this study also

considers which elements from the existing literature remain relevant in current contexts. E-SQ scale developers could apply these findings to review, validate, and refine their instruments. Moreover, future researchers may find the E-SQ concept developed in this study helpful for exploring E-SQ in other sectors, such as hospitality, healthcare, and tourism.

Concerning practical contributions, e-retail managers may gain access to a contemporary, practical E-SQ concept that supports the evaluation and enhancement of their firm's E-SQ. This concept could serve as a practical E-SQ checklist to help identify strengths and weaknesses in a structured way. These insights can help managers plan improvements that better align with customer E-SQ needs. Furthermore, the E-SQ dictionary developed as part of this study provides a tool to monitor and analyze online reviews, enabling e-retailers to understand how their E-SQ is perceived by their customers and design their services more effectively.

Notably, the present study's E-SQ vocabulary is clearly defined, which can help address the issue of vague terminology in the E-SQ domain. This contributes to building a more consistent E-SQ language.

In summary, E-SQ is widely recognized in academic research as a critical success factor that influences key customer outcomes, including satisfaction and loyalty, in e-retail. However, many existing E-SQ studies appear outdated, and they often rely on small samples and are structured around predefined response options that may limit the capture of customer perspectives. Additionally, vague terminology contributes to conceptual ambiguity. This study addresses these limitations by developing a comprehensive E-SQ concept through a triangulated methodology and by introducing precise terminology to support a unified E-SQ domain language. Applying this approach offers up-to-date, real-world insights into E-SQ and provides valuable contributions for both researchers and e-retail managers.

To better understand the origins of this study and why the topic of E-SQ is central to the researcher's e-retail business, the following section outlines the researcher's professional background and motivation.

1.2 Background of the Researcher

This section discusses the background and motivation of the researcher.

The researcher, Robin Morgenstern, holds a Master of Arts in Business Administration and has pursued studies at the University of Hamburg (Germany), the University of Amsterdam (Netherlands), and Yonsei University (South Korea). At the time of writing this thesis, he is a postgraduate student in the DBA program at Aston Business School in Birmingham. Additionally, he has 25 years of experience in e-retail as CEO and owner of Morgenstern. This family-owned and high-quality textile brand sells its products

online to consumers and wholesalers worldwide. Morgenstern was founded in 1995 and has won multiple service and product awards. In 2000, Morgenstern began its e-retail operations with a company-owned online store. Today, it sells most of its products online through the European Amazon Marketplaces, the Bol marketplace, and its business-to-business online stores.

As Morgenstern is part of the highly competitive e-retail market, the company continually seeks ways to enhance its market position by refining prices, products, and services. The researcher found that monitoring and analyzing online customer reviews and e-retail websites provide rich insights into CS, product preferences, e-retail trends, and best practices. Over the years, Morgenstern has learned from these insights and continuously refined the small details that matter to consumers. The reliance on these insights inspired Robin Morgenstern's writing of this DBA thesis, which explores E-SQ literature, online reviews, and e-retailer practices to create a comprehensive E-SQ concept for e-retail.

In summary, the author brings both practitioner experience and academic training to this study. This dual perspective supports the academic rigor and practical relevance expected of a DBA thesis. The following section outlines the aims and objectives of this research project.

1.3 Aims and Objectives

This study aims to highlight the most relevant components of E-SQ for e-retail and to unify them within a contemporary E-SQ concept. To achieve this, the study employed a mixed-methods triangulation approach. Specifically, it addresses the perspectives of academia by systematically analyzing E-SQ literature, the perspectives of online consumers by conducting both qualitative and quantitative analyses of online reviews on e-retailers, and the perspectives of e-retailers through a structured evaluation of their websites. By integrating these three strands of evidence, the study develops a robust and comprehensive understanding of E-SQ in e-retail. In addition, it seeks to contribute to the development of a more precise field language for E-SQ research, thereby fostering more consistent communication across academic and practitioner communities.

Building on these aims and objectives, the following section outlines the rationale for the study, as well as its academic and practical contributions.

1.4 Rationale and Contribution

This section presents the rationale for this study and outlines its contributions to both theoretical and practical knowledge.

Thoughtful and comprehensive E-SQ concepts, such as those developed by Blut (2016), Holloway and Beatty (2008), Zeithaml et al. (2000), and Wolfinbarger and Gilly (2003), form the foundation of the E-SQ field. Zeithaml et al. (2000) emphasized the need for continuous revision and expansion of E-SQ knowledge due to the dynamic nature of the internet. The call for ongoing development remains relevant, especially considering that the last extensive work focused on E-SQ in e-retail, by Blut (2016), was conducted nearly a decade ago.

This study builds on the solid groundwork of earlier E-SQ research. It explores which components of these established concepts remain applicable in today's e-retail environment and identifies potential new aspects. Based on these insights, the study develops an E-SQ concept that integrates both established and emerging elements. This may support scholars in revising, refining, or extending existing E-SQ scales.

Methodologically, this research employs a triangulated approach, combining a systematic literature review, an analysis of online customer reviews, and an evaluation of e-retailer websites. This integrated methodology presents a novel approach to developing E-SQ knowledge and may serve as a model for future studies in the E-SQ or other fields.

From a practical perspective, the proposed E-SQ concept may help e-retail managers identify their organization's strengths and areas for improvement. This information can be used to enhance customer experience and align E-SQ with consumer expectations. The concept may also support the development or refinement of software tools designed to analyze customer feedback.

Furthermore, this study provides clear definitions for all E-SQ terms, aiming to reduce ambiguity in the field and contribute to establishing a shared conceptual language for E-SQ, thereby supporting both academic clarity and practical application.

In summary, this study offers theoretical insights with practical relevance and contributes to the consolidation of an E-SQ domain language. Based on this rationale, the RQ is presented in the following section.

1.5 Research Question

This study seeks to address the evolving needs of E-SQ in the context of e-retail. As e-retail continues to grow and change rapidly, existing E-SQ literature no longer fully reflects customer expectations or the realities of e-retail in terms of E-SQ. Therefore, the central RQ guiding this study is:

"Which E-SQ aspects should be integrated into a contemporary and comprehensive E-SQ concept for e-retail?"

This question aims to explore both established and emerging dimensions of E-SQ and to develop a concept that reflects theory, current industry practices, and consumer perceptions of E-SQ.

1.6 Conclusion of Chapter

This DBA thesis addresses the growing relevance of E-SQ in e-retail by proposing a comprehensive E-SQ concept. This concept aims to integrate perspectives from literature, customers, and e-retailers. The study offers novel insights into E-SQ as part of a structured concept. Additionally, it proposes more precise definitions of E-SQ terminology to support a shared conceptual E-SQ domain language within the domain. In particular, the use of large-scale quantitative online review analysis appears to represent a novel methodological approach in e-retail E-SQ research, contributing to the originality of this study. Furthermore, the study aims to provide practical knowledge that may assist e-retail managers in evaluating and improving their companies' E-SQ.

The following chapters are structured to support this aim: Chapter 2 presents a detailed literature review, Chapter 3 outlines the methodology, Chapters 4 and 5 report the findings, Chapter 6 discusses the implications, and Chapter 7 concludes the study.

2 Literature Review

2.1 Introduction

This literature review examines the theoretical foundations of the RQ, which aims to develop a comprehensive E-SQ concept for e-retail.

Consumers are increasingly engaging in e-retail and experiencing E-SQ throughout their customer journey (CJ). The e-retail CJ is the process a customer goes through when shopping online. To understand E-SQ in this context, it is essential to examine not only E-SQ literature but also the role of Electronic Word-of-Mouth (E-WOM), which reflects the customers' perceptions of E-SQ. Accordingly, this literature review chapter begins with an overview of the existing literature on E-SQ, describes the relevance of E-WOM, and finally introduces the CJ as an organizing framework for E-SQ.

2.2 Electronic Service Quality

Zeithaml et al. (2000) defined E-SQ as "… the extent to which a website facilitates efficient and effective shopping, purchasing, and delivery." (p. 11).

This literature review section systematically examines E-SQ. It starts by breaking E-SQ down into its electronic (see 2.3), service (see 2.4), and quality (see 2.5) components. By first examining its three core components, this review ensures that each element is clearly defined and grounded in existing literature. This systematic breakdown highlights how different research traditions contribute to the understanding of E-SQ.

The review then broadens the discussion to the concept of service quality (SQ) more generally (see 2.6) before synthesizing these elements into a focused discussion of E-SQ (see 2.7). Also, the review discusses the differences between traditional SQ and E-SQ (see 2.8). Further, it summarizes the impact of E-SQ on customer outcomes (see 2.9) before diving into influential E-SQ concepts (see 2.10).

Having established the structure, the following section explains the "Electronic" component of the E-SQ term.

2.3 Electronic

This section examines how the “electronic” part of Electronic Service Quality is understood in academic literature.

Rust (2001) views the expansion of services and electronic networks as two significant long-term trends. He states, “These two trends converge in the concept of e-service, which is the provision of service over electronic networks such as the Internet.” (Rust, 2001, p. 283). According to Rust and Lemon (2001), electronic services occur interactively on the Internet. These statements suggest that E-SQ is a long-term trend, focusing on services delivered online.

Various authors apply varying terms to describe the “electronic” component of E-SQ. Zeithaml (2002) emphasized that SQ must be excellent in e-retail, preferring the terms “web” (p. 135) and “internet” (p. 135). The work of Wolfinbarger and Gilly (2003) uses the terms “online” (p. 183) and “online consumer” (p. 183). Szymanski and Hise (2000) use the term “online experience” (p. 309) or “online shopping” (p. 309). Santos (2003) describes online shopping as “the world available to them [consumers] on the Web...” (p. 234). Blut et al. (2015) use the terms “online channels” (p. 679) and “internet and websites” (p. 694). Wolfinbarger and Gilly (2003) highlighted the “capabilities of the online medium to provide interactivity, personalized experiences, community, content, increased product selection and information.” (p. 183). All authors share the commonality that they refer to the internet, rather than, for example, electrical products (electronics), such as digital printers. While the terminology varies, the literature consistently connects E-SQ's "electronic" component to internet-based environments.

In summary, in the literature, authors use “electronic” or similar terms as synonyms for the internet. Thus, the “electronic” component in E-SQ refers to the internet.

2.4 Service

This section explores the word “service” as part of Electronic Service Quality. It first investigates the etymology of the term, followed by a critical evaluation of service definitions, attributes, and logic. The section concludes by summarizing and defining the concept of “service.”

Starting with the etymology of the word “service”. According to the Oxford English Dictionary (n.d.-a), services are the “…action of serving someone or something, the work or duty of a servant, and related senses” (section Meaning and Use). Furthermore, the dictionary explains that the term “service” originates from the old Latin word “servitium,” meaning “slave” or “servant” (Oxford English Dictionary, n.d.-a, section etymology). In summary, the term “service” has its roots in the Latin word “servitium,” which

refers to acts of duty performed by a servant or slave. After establishing the etymological background, academic definitions of "service" are examined.

Academic literature presents varying definitions of the term “service.” Quinn et al. (1987) describe services as economic activities that do not result in physical products. They are usually consumed as they are produced and provide intangible benefits, such as convenience, enjoyment, timeliness, comfort, or health, to the buyer (Quinn et al., 1987).

Additionally, building on the concept of intangibility, Grönroos (2015) defined “service” as a more or less intangible activity involving interactions between customers and service staff, resources, goods, or systems. These activities aim to solve customer problems (Grönroos, 2015). Grönroos (1988) summarized that services have four key attributes: (1) they possess an intangible nature, (2) they are activities or sequences of activities rather than material objects, (3) they involve a degree of simultaneous production and consumption, and (4) the customer has an active role in the production process to different degrees.

Adding another perspective, Wilson et al. (2021) define services as deeds, actions, and performances that result from interactions among humans, organizations, and technology, providing customers with a desired outcome. As service examples, they mention using the bus, pizza delivery, shoe repair, or haircut (Wilson et al., 2021).

In addition, according to Wirtz (2012), customers pay for access to services, such as labor, skills, expertise, or resources, but typically do not gain ownership of any physical items involved. This non-ownership is supported by Kotler and Armstrong (2021), who refer to service as an “…activity, benefit, or satisfaction offered for sale that is essentially intangible and does not result in the ownership of anything.” (p. 657).

To sum up, academic literature commonly defines services as intangible activities based on interactions between customers and service providers, which are produced and consumed simultaneously, create benefits without resulting in ownership, and aim to fulfill customer needs.

Nonetheless, this definition may have limitations. The tangibility or non-physicality of services can be debated (Parasuraman et al., 1985). For example, during a hospital stay, tangible, physical products (e.g., meals and medical equipment) are often provided in conjunction with medical services. This blurs the lines between products and services, raising the question of whether services can be considered physical or tangible.

Another critical element is that marketing academia focuses on economic activities, overlooking non-commercial services, such as those provided by governments or communities. An additional point of critique is that customers sometimes play no role in the service production process, e.g., in police protection.

This is supported by Grönroos (2007), who states that services may not need interaction between the service provider and the customer. Grönroos (2007) illustrates this with the example of a plumber who uses the main keys of the house to enter an apartment and fix a leak in the customer's absence, where no direct interaction occurs between the service provider and the customer. These examples challenge the idea that customer interaction is an essential attribute of services. In conclusion, while common definitions of "service" provide a helpful foundation, certain aspects, such as intangibility, the focus on economic activities, and consumer involvement, can be subject to challenge.

Further service aspects are discussed in academia. Zeithaml and Bittner (1996) and Bruhn (2023) claimed that services cannot be stored. Nonetheless, this overlooks exceptions like digitally stored services (e.g., music streaming or software subscriptions).

Zeithaml and Bitner (1996) highlight that the quality of services often varies due to the variability of human interactions. However, in technology-based services, such as music streaming, quality remains relatively stable because it does not depend on human interaction.

Moreover, Zeithaml and Bitner (1996) highlighted the challenge of matching the supply of services with customer demand. Nonetheless, this view does not fully account for internet-based services. For example, an e-retailer like Amazon can automatically process millions of orders with consistent quality. Furthermore, streaming services like Netflix deliver content to users instantly, regardless of the number of viewers. These examples demonstrate that automation can reduce the issue of balancing supply and demand. Briefly stated, services are subject to supply-demand challenges, with automation as a possible solution.

Another noteworthy perspective is that services are experiences, a concept articulated by Pine and Gilmore (2011). The authors advocated that firms must provide services that become memorable experiences for their customers, such as Disneyland, which creates positive memories that become the product (Pine & Gilmore, 2011). However, not all services create positive, memorable experiences. For example, tasks such as garbage collection or bank transactions do not focus on creating memorable moments for the customer. Additionally, the authors overlook the fact that memorable experiences can be neutral or negative, such as unfriendly CS at a call center. In summary, Pine and Gilmore's (2011) concept of services as experiences offers a valuable perspective. However, their concept does not universally apply to all service contexts because not every service aims to create memorable moments, and customer experiences can also be neutral or negative rather than positive.

Another way of looking at service is that products are valued for the service they provide. This view was put forward by Vargo and Lusch (2004), who advocate for a service-dominant logic in marketing. They proposed that a product's value lies in the service it provides. Therefore, all products are services (Vargo & Lusch, 2004). Indirectly supporting this view, Bruhn (2023) provides the example of a car manufacturer

that views itself as a producer of consumer products. From another perspective, the car manufacturer can be seen as a company that provides transport services for goods and people (Bruhn, 2023). However, Vargo and Lusch's (2004) service-dominant logic has limitations. The transition from a product-oriented company to a service-oriented one can be a challenging process. For instance, a car manufacturer with high engineering and production skills may lack the expertise to deliver public transportation services. Moreover, Vargo and Lusch's (2004) logic contrasts with the intangibility attribute of services mentioned above. If products are tangible, and products are services, then services must be tangible. To sum up, while the service-dominant logic emphasizes the significance of services, it also raises questions regarding the traditional notion that services are intangible and firms may face challenges transforming from product-driven to service-driven.

Wilson et al. (2021) argued that the Internet is a service. They underscored that all online firms offer services such as providing information, assisting customers, or facilitating transactions (Wilson et al., 2021). This view is limited to Internet technology alone and overlooks the fact that e-retailers must also physically deliver or take back products. In summary, the Internet can be considered a service. However, online orders involve a physical logistical process.

In the online context, Bitner (2001) emphasized that customers' online service desires are the same as their traditional desires: reliability, accessibility, responsiveness, adaptability, and support in times of problems. For instance, customers expect e-retailers to provide reliable delivery services, accessible websites, responsive customer support, and assistance with issues such as returns or refunds. In short, customer needs remain the same in the internet age.

It appears that marketing literature overlooks the fact that nature itself provides valuable services. For example, a guide dog that leads its owner safely, a horse that transports a person, or a tree that provides shade.

This section presents and discusses several definitions and perspectives on the concept of “service.” Next, this study integrates this insight and comes to the following conclusion:

A service is an action or process that fulfills a customer's need or want. People, society, government, nature, organizations, products, and technology can deliver services. The customer may consciously perceive the delivery of the service, or the customer may not notice it. Service has the following attributes:

- *Services are intangible (Grönroos, 1988), but some may include tangible elements (e.g., meals in a hospital).*
- *Services create benefits, such as convenience, enjoyment, timeliness, comfort, health (Quinn et al., 1987), or memorable experiences (Pine & Gilmore, 2011).*

- *Service activities do not produce physical products (Quinn et al., 1987).*
- *Service activities do not result in ownership (Wirtz, 2012).*
- *Services are produced and consumed simultaneously (Grönroos, 1988; Quinn et al., 1987).*
- *Most services cannot be stored (Bruhn, 2023; Zeithaml & Bitner, 1996). However, exceptions include digital services.*
- *The consumer often participates in the service process (Grönroos, 1988). However, not always Grönroos (2007).*
- *Even though customers pay for services, they do not gain ownership of a physical product involved in the service delivery (Wirtz, 2012).*
- *Some services may vary in quality (Zeithaml & Bitner, 1996). Other services can be consistent (e.g., music streaming).*
- *Some service offers are difficult to synchronize with demand (Zeithaml & Bitner, 1996). Other services can be synchronized (e.g., Netflix, Amazon delivery).*

In conclusion, this section critically examines the term "service" by exploring its etymology, key academic definitions, and various perspectives. Standard academic definitions emphasize service attributes such as intangibility, simultaneity, customer involvement in the service process, and the absence of ownership. Examples challenge some of these attributes, particularly those related to digital and automated services. Based on this critical exploration, this study defined "service" as the basis for the later definition of E-SQ. The following section examines the concept of "quality."

2.5 Quality

This section examines how the “quality” component of Electronic Service Quality has been understood in academic literature. The discussion follows a step-by-step approach, beginning with the term’s etymology, moving to the technical perspective, then to the consumer-perception approach, and finally to this study’s integrated perspective, which combines technical and consumer-centric aspects.

Starting with etymology. The word “quality” stems from the Latin word “quails,” which means” how it is” (Bruhn, 2020). According to general linguistic understanding, it describes the goodness or value of an object (Bruhn, 2020). Concerning the Oxford English Dictionary (n.d., b), quality can have the meaning “particular class or grade of something” (para. 2). In summary, from an etymological standpoint, quality describes how good an object is.

The technical quality approach asserts that quality is objective and can be measured. For example, Schneider and White (2004) claim that technical quality assesses how closely a product meets established

technical specifications, such as the number of defects compared to the standard. In this regard, Crosby (2005) argues that firms should strive for zero defects, as this reduces the costs associated with errors and inefficiencies. The technical perspective is reflected in management systems. For example, the International Organization for Standardization (n.d.) 9001 Standard aims at effectiveness and perfect quality. Further, the requirements of the Global Organic Textile Standard (2023) include environmental, social, and ethical aspects for the textile industry. Thus, technical quality measures how closely a product aligns with its technical specifications. Authors argue for zero defects, and international technical quality standards are applied as management systems. While the technical approach emphasizes objectivity, it does not consider which quality aspects the consumer subjectively values. This is discussed next.

Dahler-Larsen (2019) emphasized that quality is subjective, depending on personal preferences. This aligns with the customer-perception approach to quality, in which only the consumer's perception of quality is relevant (Garvin, 1988; Grönroos, 2015). In the following, Garvin's (1998) mixed approach to quality is addressed.

Garvin's (1988) mixed concept combines the technical approach and subjective aspects of quality. According to the author, quality has eight dimensions: performance, features, reliability, conformance, durability, serviceability, aesthetics, and perceived quality. Each dimension can be ranked high or low (Garvin, 1988). This concept has the limitation that "aesthetics" and "perceived quality" dimensions are subjective and difficult to measure. Additionally, it overlooks the positive effects of cost reduction on superior quality (see Crosby, 2005). In summary, Garvin's (1988) work offers a broader view of quality, but it faces challenges with measurement and overlooks the cost benefits of high quality.

This study acknowledges the value of the conceptualization presented above. On this basis, the thesis develops the following definition of quality:

Quality refers to the goodness of a product or service, determined by its adherence to technical specifications, the consumer's perception, and the intrinsic benefits it provides.

This definition integrates the technical approach outlined by Schneider and White (2004) and quality management standards such as ISO 9001 and GOTS. It also incorporates the customer-perception perspective emphasized by authors such as Garvin (1988) and Grönroos (2015), while considering benefits that are often unnoticed by the consumer.

In conclusion, quality encompasses objective technical standards and subjective consumer perceptions. While technical approaches focus on defect-free performance and adherence to technical specifications, the subjective consumer perspective underscores the role of individual quality perception and satisfaction. Garvin's (1988) concept attempts to unite these perspectives but faces measurement issues.

This study adopts a comprehensive definition of quality that integrates technical aspects, customer perception, and intrinsic customer benefits. Based on this, the following section examines how the concept of quality applies to services, with a particular focus on SQ.

2.6 Service Quality

This section now discusses SQ as a concept. Hereby, the SQ concept includes all industries and is not limited to e-retail. The section begins with a discussion of SQ's background. It then reviews SQ concepts.

Parasuraman et al. (1988) define SQ as the extent to which a service meets or exceeds customer expectations. This interpretation is grounded in the Expectation Confirmation Theory (ECT) introduced by Oliver (1977). Patterson and Johnson (1993) described the ECT as a concept for understanding customer satisfaction. According to them, satisfaction is influenced by the extent and direction of disconfirmation, which occurs when there is a difference between pre-purchase expectations and the perceived performance of a product or service. When expectations align with performance, they are confirmed; when performance falls short of expectations, negative disconfirmation occurs; and when performance exceeds expectations, positive disconfirmation is experienced (Patterson & Johnson,1993).

Grönroos (1984) was among the first to conceptualize an SQ model based on ECT. The author suggests that perceived SQ depends on the variables “expected and perceived service” (Grönroos, 1984, p. 37). Furthermore, in his concept, he identified two SQ components: technical quality and functional quality (Grönroos, 1984). Technical quality is the outcome of the service process, for example, when a passenger receives train transport (Grönroos, 1984). Functional quality refers to how the service was delivered to the customer, e.g., how service personnel performed (Grönroos, 1984). The author claimed that traditional marketing activities, such as advertising and public relations, as well as external factors including tradition, ideology, and word-of-mouth, influence CS expectations (Grönroos, 1984).

Parasuraman et al. (1985) reinforced that SQ is based on the ECT with a large-scale exploratory study on service businesses. The authors found that SQ has 10 dimensions: reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding/knowing the customer, and tangibles.

Later, the same authors built on their earlier research and empirical studies to develop the widely recognized SERVQUAL scale for measuring SQ (Parasuraman et al., 1988). They emphasized that SQ should be assessed from the customer’s perspective. The authors define perceived SQ as a customer’s evaluation of an organization’s overall performance. They further described it as a “form of attitude, related but not equivalent to satisfaction, and results from a comparison of expectations with perceptions of

performance" (Parasuraman et al., 1988, p. 15). Using this theoretical foundation, the authors created the SERVQUAL model, which measures SQ by comparing customers' expectations and perceptions across five dimensions: reliability, responsiveness, empathy, assurance, and tangibles (Parasuraman et al., 1988). According to the SERVQUAL concept, SQ is calculated as:

SQ = Perceptions - Expectations.

The above equation suggests that their expectations are confirmed when customer perceptions and expectations are equal. In contrast, a difference between the two results in disconfirmed expectations or a gap.

Regarding this gap, Wilson et al. (2021) stated that businesses must develop strategies to bridge this gap to deliver SQ. According to Wilson et al. (2021), two types of gaps exist. The *customer gap* refers to the discrepancy between CS expectations and actual perceptions (Wilson et al., 2021). Secondly, four *provider gaps* must be closed, which are (1) not knowing customer expectations, (2) selecting the wrong SQ designs and standards, (3) not keeping service designs and standards, and (4) promises not matching service performance (Wilson et al., 2021; Zeithaml et al., 1990).

Notably, Wilson et al. (2021) emphasized that SQ and satisfaction are distinct concepts. Instead, SQ is a subset of customer satisfaction, alongside other factors such as product quality, price, and situational or personal elements (Wilson et al., 2021).

SERVQUAL has sparked a considerable debate in the literature regarding the measurement of expectations (Zeithaml et al., 2000). Grönroos (1993) (as cited in Grönroos, 2015) raised three key concerns regarding SERVQUAL: (1) measuring expectations during or after the service experience introduces bias because the service experience influences expectations; (2) measuring expectations before the service experience is also problematic because the service expectations can change during service delivery, and (3) expectations and perceptions are inherently interlinked, as prior expectations influence perceptions. To illustrate this, Wu (2006) gave an example of a person ordering Pizza for the first time, stating that this person probably has different expectations than someone who has ordered pizza several times (Wu, 2006). Furthermore, the author emphasized that people without experience can only form service expectations using assumptions and imagination (Wu, 2006).

Additional critique on SERVQUAL stems from several other authors who support the idea that only performance-based models can measure SQ, for example, Cronin and Taylor (1992, 1994), Dabholkar et al. (2000), and Wu (2006). Cronin and Taylor's (1992) Service Performance model (SERVPERF) became the most prominent performance-based model. The authors found in their literature study that (1) performance-based models can best measure SQ, (2) SQ is an antecedent of satisfaction, and (3) satisfaction influences

purchase intentions more than SQ (Cronin & Taylor, 1992). Based on these findings, they developed SERFPERF, which focuses only on service performance (Cronin & Taylor, 1992). SERVPERF evaluates SQ by directly measuring customers' perceptions of the service they receive without comparing it to their prior expectations (Cronin & Taylor, 1992). Thus, in the SERVPERF Model:

SQ = Perceptions

Today, the SERVQUAL and SERVPERF instruments are widely used in the banking, healthcare, and tourism industries (Rodrigues, 2013).

Besides the SQ models mentioned above, Rust and Oliver (1994) established a three-component model of SQ. In this model, SQ is founded on the product, service delivery, and the service environment.

Moreover, Dabholkar et al. (1996) developed a hierarchical model of retail SQ. In this model, retail SQ is regarded as a higher-order factor based on lower-order dimensions, which are founded on subdimensions.

In summary, much of the SQ literature has its roots in the ECT paradigm. This approach suggests that satisfaction depends on whether a service meets, falls short of, or exceeds expectations. The key model of this approach, SERVQUAL, compares expected and perceived service across dimensions to determine SQ. Other authors argue for a performance-based approach, such as the SERVPERF model, which suggests that SQ depends solely on the customer's perception.

The literature on SQ is primarily based on traditional retail settings, emphasizing interpersonal interactions, the physical environment, and tangible service aspects. However, in e-retail, the concept has evolved into E-SQ, focusing on digital interactions, virtual environments, and automated systems. The following section discusses E-SQ.

2.7 Electronic Service Quality

The literature on SQ is primarily based on traditional retail settings, emphasizing human interactions and the physical environment (e.g., brick-and-mortar stores). However, in e-retail, the concept has evolved into E-SQ, which focuses on the internet (see 2.3). This section discusses the existing definitions of E-SQ.

Literature has presented several definitions of E-SQ. For instance, Blut et al. (2015) define E-SQ as "...the quality of service customers experience in online channels..." (p. 679). Further, Santos (2003) characterized E-SQ as the customer's evaluation of the excellence of e-service offerings in the virtual

marketplace. Parasuraman et al. (2005) stated that E-SQ is created when a website is easy and effective for shopping and delivery.

Parasuram et al. (2005) state that E-SQ encompasses all stages of the customer journey, including shopping, purchasing, and delivery. Similarly, Wolfinbarger and Gilly (2003) stated that E-SQ extends across several stages, including information search, website navigation, ordering, CS encounters, product receipt, and post-purchase customer satisfaction with the product.

Significant early work that remains highly relevant includes E-SQ concepts developed by authors such as Zeithaml et al. (2000) and Wolfinbarger and Gilly (2003). These concepts identified key E-SQ components, such as ease of navigation (Zeithaml et al., 2000) and transaction security (Wolfinbarger & Gilly, 2003).

According to Rust & Kannan (2002), e-services can encompass various scopes, including business-to-business (B2B), business-to-consumer (B2C), government-to-public, and intra-organizational interactions.

Concerning Hsu (2008), E-SQ encompasses the entire interaction process of the customer with the website in the pre-purchase, purchase, and post-purchase phases. Ladhari (2010) states that E-SQ ranges from the pre-purchase stage (ease of use, product information, ordering information, and personal information protection) to the post-purchase stage (delivery, customer support, fulfillment, and return policy). According to Cao (2002), there are only two phases in e-retail. First, the pre-purchase phase includes ease of use, product information, selection, and the website's performance (Cao, 2002). Second, the post-purchase phase encompasses timeliness of delivery, product as promised, CS, and order tracking (Cao, 2002). In summary, the authors mentioned above differ in the number of phases. However, they broadly agree that E-SQ spans across the entire customer journey.

Other authors limit the scope of E-SQ to virtual self-services. Fassnacht and Köse (2006, p. 23) narrow E-SQ to "…services delivered via information communication technology where the customer interacts solely with an appropriate user interface (e.g., automated teller machine or Web site) to retrieve desired benefits." This definition emphasizes the nature of self-service and excludes customer-employee interactions (Fassnacht & Köse, 2006). In contrast, Sousa and Voss (2006) stated that e-services should not be limited to the virtual self-service perspective, underscoring the multichannel nature of electronic commerce (e-commerce), which encompasses virtual, physical, and integrated SQ components.

This section presents definitions of E-SQ. The authors' views differ regarding the scope of the concept. While authors like Fassnacht and Koese (2006) limited E-SQ solely to self-service interactions with technology, others (e.g., Ladhari, 2010) include the complete customer journey.

Drawing on the above, this study presents a preliminary definition of Electronic Service Quality *as the customer's evaluation of the excellence and effectiveness of services provided by e-retailers throughout the entire customer journey, encompassing virtual (e.g., website), physical (e.g., delivery of order), and integrative components (e.g., order tracking).*

Later, in the conclusion section of this thesis, a finalized definition of E-SQ will be presented.

2.8 Electronic Service vs. Traditional Service Quality

Blut et al. (2016) stated that E-SQ and traditional SQ differ, even though they partly overlap. For example, traditional SQ metrics, which emphasize personal interaction, do not apply to E-SQ (Li et al., 2002). Moreover, Santos (2003) stated that online consumers benefit from the convenience of saving time and effort while efficiently comparing prices and specific technical features of products (Santos, 2003).

Furthermore, several authors pointed out that the Internet introduces unique challenges related to privacy, safety, and confidentiality (Blut et al., 2015; Holloway & Beatty, 2008; Wolfinbarger & Gilly, 2003). Finally, online consumers primarily interact with a technical interface (Fassnacht & Köse, 2006) rather than with people.

2.9 Impact of Electronic Service Quality

This section elaborates on the impact of E-SQ on customer behavior and business success.

E-SQ is a fundamental determinant of e-commerce success (Parasuraman et al., 2005; Santos, 2003; Wolfinbarger & Gilly, 2003; Zeithaml et al., 2000, 2002). According to Zeithaml et al. (2000), firms that understand and deliver superior E-SQ establish a sustainable competitive advantage. Conversely, failure to deliver adequate E-SQ leads to loss of online sales, as highlighted by Rust and Oliver (2001). The significant impact of E-SQ on e-retail success has several reasons. E-SQ positively influences trust (Fassnacht & Köse, 2007; Gefen, 2002; Hsu, 2008; Hwang & Kim, 2007), favorable E-WOM (Yoo & Donthu, 2001); perceived value (Fassnacht & Köse, 2007; Hsu, 2008); cross-buying (Fassnacht & Köse, 2007); willingness to pay more (Fassnacht & Köse, 2007); customer reuse intentions (Wang, 2008; Yoo & Donthu, 2001); usage intentions (DeLone & McLean, 2003); site equity (Yoo & Donthu, 2001); purchase intentions (Yoo & Donthu, 2001); customer satisfaction (Bauer et al., 2004; DeLone & McLean, 2003; Fassnacht & Köse, 2007; Wolfinbarger & Gilly, 2003); and customer loyalty (Fassnacht & Köse, 2007; Parasuraman et al., 2005; Santos, 2003; Srinivasan et al., 2002; Wolfinbarger & Gilly, 2003).

For Zeithaml et al. (2000), E-SQ is potentially more significant than competitive pricing and a solid online presence.

Firms are aware of the importance of E-SQ. For example, Blut (2016) reported that e-retail businesses constantly enhance their E-SQ. As a foundational prerequisite, organizations must have a deep understanding of how customers perceive E-SQ (Blut, 2016; Parasuraman et al., 2005; Zeithaml et al., 2000).

In summary, the literature emphasizes the crucial role of E-SQ in e-commerce success, underscoring its impact on key customer outcomes, including satisfaction, loyalty, trust, and positive E-WOM.

The following sections discuss the most prominent E-SQ scales and conceptualizations.

2.10 Electronic Service Quality Concepts

Literature has developed various E-SQ concepts and scales. To lay the foundation for the development of a contemporary E-SQ framework, the following sections review the most influential E-SQ concepts and scales in academic literature.

2.10.1 Zeithaml, Parasuraman, Malhotra (2000)

Zeithaml, Parasuraman, and Malhotra (2000) published a fundamentally important E-SQ concept based on focus group research with online consumers. The study found that consumers consider 11 E-SQ dimensions, several perceptual attributes, and concrete cues (see Appendix C).

The author's findings are based on the means-end approach. In this approach, customers process and remember information at varying levels of abstraction. For example, at a low level of abstraction, a customer remembers the order tracking feature. On a higher level of abstraction, this leads the customer to the perception that the order arrives on time. The next higher level is the reliability dimension, which leads to perceived control, which influences perceived E-SQ.

The authors found that customer preferences differ significantly across the 11 E-SQ dimensions, especially in terms of responsiveness and personalization. Moreover, the customer’s perceived control over the e-retail experience is crucial. Also, the study participants had difficulties formulating their expectations toward interactions with websites. Further, the authors found that price value is strongly associated with E-SQ, possibly because price is a reason for shopping online.

Moreover, their study finds four common problems between customer expectations and the shopping experience. First, marketing information about what website features customers want and how customers assess the firm's E-SQ may be incorrect. Second, if a firm has this marketing information, it may not use it to design its website. Third, the firm's marketing personnel may incorrectly understand its website capabilities, leading to unrealistic promises. Fourth, these unrealistic promises can lead to a fulfillment problem when promises are not kept. To increase customer loyalty, managers must thoroughly understand how their customers evaluate their firm's E-SQ and implement a system that identifies and addresses these issues.

Additionally, the authors examine the future of E-SQ and note that concrete E-SQ cues, such as order tracking or site navigation, can evolve as technology advances. Consequently, a scale measuring perceived E-SQ based on concrete E-SQ cues will become outdated. Therefore, the authors conclude that cues must be regularly revised and updated to remain relevant and practical.

Zeithaml et al.'s (2000) concept appears to be one of the fundamental foundations of the E-SQ field because it was among the first studies to explore E-SQ in detail and conceptualize it.

These authors later developed two scales based on this concept, which will be discussed in the Section 2.10.3.

2.10.2 Wolfinbarger and Gilly (2003)

The study now turns to one of the first scales measuring E-SQ: Wolfinbarger and Gilly's (2003) e-TailQ (see Appendix C).

Wolfinbarger and Gilly (2003) state that quality is associated with customer satisfaction, retention, and loyalty. Therefore, the authors conclude that quality is also crucial for the success of an e-retailer. Their study developed an E-SQ scale (eTailQ) based on insights from online and offline focus groups, as well as an online survey. As a result, they found that E-SQ has four dimensions: (1) Fulfillment/Reliability dimension encompasses accurate product information and timely delivery of the correct product; (2) Website Design includes the features that the customer experiences, including ease of navigation, practical information search tools, smooth order processing, and appropriate personalization and product selection options, except CS; (3) CS reflects the quickness, responsiveness, helpfulness, and willingness to assist customers in solving issues; (4) Security/Privacy captures the protection of customer data and credit card payments.

According to the authors, these dimensions strongly predict customer satisfaction, loyalty, and attitudes toward a website. Furthermore, their analysis revealed that the customer's assessment of E-SQ is significantly influenced by Website Design and Fulfillment/Reliability. CS has only a moderate effect on E-SQ, while Privacy/Security has no significant effect. Moreover, the authors suggested that Fulfillment/Reliability and Website Design are more important than website features that are entertaining, immersive, and community-oriented. In contrast, they highlighted the importance of a website's functionality to save time, easily make transactions, offer product variety, provide complete information, and offer an optimal personalization level.

The authors mention the limitations of e-TailQ. First, consumer needs and expectations evolve, particularly as technologies like broadband internet and advanced devices become widely available. This could make Website Design more important for predicting perceived E-SQ. Second, the eTailQ scale focuses on e-retail and may not capture other online environments. Additionally, the research primarily examines a single product category (books, CDs, and videos), which limits its applicability to other types of products. The authors concluded that future research should explore how the importance of the four eTailQ factors varies across different product categories and consumer segments.

Wolfinbarger and Gilly's eTailQ made a significant contribution to E-SQ, as it was among the first scales to measure E-SQ.

2.10.3 Parasuraman, Zeithaml, Malhotra (2005)

Based on their earlier research (see 2.10.1). Parasuraman, Zeithaml, and Malhotra (2005) developed two E-SQ scales using a questionnaire targeting online consumers (see Appendix C). These scales assess how well online services meet customer expectations regarding general E-SQ (E-S-QUAL) and recovery from E-SQ service failures (E-RecS-QUAL).

First, E-S-QUAL (see Appendix C) is a 22-item scale that outlines E-SQ with four dimensions: (1) Efficiency measures the ease and speed with which customers can access and use the website; (2) Fulfillment assesses whether the website keeps its order delivery and availability promises; (3) System Availability evaluates the website's correct technical functionality; (4) Privacy focuses on safety and how well the site protects customer information.

The authors found that the Efficiency and Fulfillment dimensions are the most critical in customers' assessments of E-SQ. These two dimensions are strongly associated with overall quality perception, perceived value, and loyalty. Furthermore, System Availability is also important, while Privacy is the least significant dimension.

Second, E-RecS-QUAL (see Appendix C) is an 11-item scale for customers who experienced issues requiring service recovery with three dimensions: (1) Responsiveness is the effectiveness of dealing with customer problems and returns; (2) Compensation is the extent to which the site compensates customers for issues; (3) Contact refers to the availability of assistance through telephone or online personnel.

Regarding E-RecS-QUAL, the authors highlighted that its three dimensions usually require human intervention.

Moreover, the authors suggest that firms use both scales to find E-SQ strengths and weaknesses. They view their scales as global assessments of a firm's E-SQ and suggest that if a firm requires more specific results, it should conduct further in-depth research.

In summary, the authors developed two scales that provide a structured approach to assessing key dimensions of E-SQ and service recovery.

2.10.4 Holloway and Beatty (2008)

Holloway and Beatty (2008) conducted a critical incident study to identify customer satisfiers and dissatisfiers in e-retail. This study employs surveys and observations, yielding the identification of four dimensions, 17 categories, and 37 subcategories (see Appendix C). The authors recognized Wolfinbarger and Gilly's (2003) and Parasuraman et al.'s (2005) scales as the most significant in the literature. Comparing their findings with these scales, Holloway and Beatty (2008) found that E-SQ factors, such as shipment tracking, price offer, delivery condition, and billing accuracy, are missing. On the other hand, they found that their respondents did not mention two categories present in the two prior scales (personalization and system availability).

By highlighting differences from prior scales and adding new insights, their study demonstrated how existing e-retail E-SQ scales, such as those of Wolfinbarger and Gilly (2003) and Parasuraman et al. (2005), can be refined.

2.10.5 Blut et al. (2015) and Blut (2016)

The latest comprehensive E-SQ model originates from the research article by Blut et al. (2015), which Blut (2016) further developed.

Blut et al. (2015) meta-analysis of existing E-SQ literature identifies four E-SQ dimensions and 16 attributes (see Appendix C). The authors found that 15 of their 16 attributes influence overall E-SQ,

customer satisfaction, and repurchase intentions. One attribute is merchandise availability, which only influences customer satisfaction.

Based on Blut et al. (2015), four dimensions and 16 attributes, Blut's (2016) study develops a hierarchical construct for E-SQ, in which the four dimensions impact overall E-SQ perceptions. Blut (2016) used an online survey and meta-analytic data from over 31,000 online customers to support this claim. The authors identified new E-SQ attributes that were not previously covered in the existing literature. Moreover, he found that existing scales are incomplete because they miss these new E-SQ attributes. He considers this a problem because managers may not understand why customers are dissatisfied and why they lose them. Furthermore, Blut (2016) makes a significant contribution to the E-SQ literature by identifying which E-SQ attributes matter most to customers.

However, a key limitation lies in the age of the concept. As the internet continues to evolve dynamically, E-SQ factors have changed, and new factors have emerged in response to developments in the e-retail landscape. These include the rise of mobile commerce and responsiveness, the increasing demand for inclusive and accessible website design, the growth of hybrid service models such as in-store pickup, the complexities of outsourced CS, the advancement of service automation, and heightened consumer expectations around ethical standards and fraud protection. Therefore, Blut's (2016) concept—while valuable—may no longer fully capture all relevant E-SQ factors. Notably, Blut (2016) conducted the most recent in-depth exploration of E-SQ in e-retail, yet a comprehensive update remains overdue.

In summary, Blut's (2016) hierarchical E-SQ model marks a significant advancement in the field. However, its age and the dynamic nature of e-retail suggest that the model may no longer fully reflect all current relevant E-SQ trends.

2.11 Electronic Word of Mouth

To answer the RQ, this study investigates the perspectives of online consumers, e-retailers, and academia on E-SQ. To explore the online consumer perspective, the study gathers and analyzes customer E-WOM in the form of online customer reviews about six prominent U.S. e-retailers.

Today, consumers have access to billions of online reviews (Vásquez, 2014). For example, in 2022, Tripadvisor, the largest travel guidance platform, announced that travelers had posted over 1 billion reviews and opinions (Tripadvisor, 2022). Furthermore, Trustpilot, a major consumer review platform, reports that it contains over 213 million reviews (Trustpilot, n.d.-a).

Mudambi & Schuff (2010) characterized online reviews as: *"...peer-generated product evaluations posted on company or third-party websites."* (p. 186). Henning-Thurau et al. (2004) characterized E-WOM:

> *...any positive or negative statement made by potential, actual, or former customers about a product or company, which is made available to a multitude of people and institutions via the Internet.* (p. 39)

Yan et al. (2015) note that consumers wish to share their opinions online with others by posting reviews. This is facilitated by websites that offer the option to post reviews anonymously (Yan et al., 2015). The authors view this as an advantage of reviews, as they allow consumers to express themselves without coercion. In contrast, they recognize the risk that e-retailers misuse reviews to enhance their reputation (Yan et al., 2015). This notion is underscored by Trustpilot (n.d.-a), which declares that it removed 3.3 million fake reviews from its platform in 2023. On the other hand, Dellarocas (2003) states that the credibility of reviews on products and services is relatively high. Regarding credibility, Chen et al. (2003) make clear that the higher the number of reviews, the more accurate the analysis is. Additionally, the authors note that reviews from websites that offer incentives for reviews are more likely to be biased (Chen et al., 2003).

Academics have emphasized the importance of E-WOM in influencing consumer purchasing decisions (Duan et al., 2008; Ludwig et al., 2013; Wilson et al., 2021). Duan et al. (2008) stated that E-WOM is critical to online shopping because consumers can read it worldwide. The authors found evidence that E-WOM volume has a positive influence on box-office sales (Duan et al., 2008). Moreover, Donthu et al. (2021) concluded that negative E-WOM of service failures damages a firm's reputation, whereas positive E-WOM increases a firm's image. In addition, King et al. (2014) underscored that E-WOM influences a firm's sales and stock value.

Furthermore, King et al. (2014) pointed to the importance of E-WOM in e-retailing. They argued that, compared to traditional word of mouth (WOM), E-WOM has a broader audience, spans multiple platforms, offers higher and more lasting visibility, is often anonymous, typically includes ratings, and influences consumer circles (King et al., 2014).

Wilson et al. (2021) highlighted the threat of unresolved service failures, which can lead to negative E-WOM and potentially harm a firm's reputation. In contrast, the authors emphasized that successful service recovery leads to positive WOM, which enhances customer outcomes (e.g., loyalty and satisfaction) and firm performance (Wilson et al., 2021). The authors concluded that firms must analyze online communication to understand customers' service expectations and perceptions. Firms should apply this knowledge to enhance their organization and adapt marketing (Wilson et al., 2021). Similarly, Korfiatis et al. (2019) and Brochado et al. (2019) stated that analyzing online customer reviews can deliver significant insights to firms and support their decision-making. Moreover, Palese and Usai (2018) find that online

review text offers rich insights into SQ. According to Yan et al. (2015), in reviews, consumers describe their sentiment about the product and service experience. In summary, research suggests that online reviews offer valuable insights into E-SQ and can help firms to make informed decisions regarding E-SQ.

Online review analysis has become a research instrument (Yan et al., 2015), with studies in airlines (Brochado et al., 2019; Korfiatis et al., 2019), hotels (Browning et al., 2013), restaurants (Yan et al., 2015), and medical services (Xu et al., 2021). Notably, Holz et al. (2024) analyzed over 7,000 online airport reviews applying ChatGPT to uncover customer pain points. Together, these studies underscore that online review analysis is a widely used research method.

The current study answers academics' recommendations to investigate E-WOM for the service marketing field. For example, Grégoire and Mattila (2021) proposed that future researchers should advance the services marketing field by analyzing social media data, such as online reviews. Similarly, Ostrom et al. (2015) saw the investigation of big data as a top priority for service research. Moreover, Blut et al. (2015) set online reviews on the e-quality research agenda. Furthermore, Donthu et al. (2021) argued that scholars should employ research techniques, such as textual analysis, to explore E-WOM and identify service failures. For business practice, Qualtrics (n.d.-a) offers business software that tracks and analyzes online reviews. In sum, several authors recommend analyzing E-WOM for service research.

In conclusion, research has found that E-WOM influences consumers' purchasing decisions, customer outcomes, and firm performance. While some authors argue that E-WOM has high credibility, other authors argue that reviews can be manipulated. Today, analyzing reviews has become a valuable academic tool, with studies in many fields. Furthermore, scholars emphasize that firms must monitor E-WOM to understand CS expectations and perceptions and adjust their organizations accordingly. Moreover, several authors have called for service marketing studies to investigate E-WOM. This study addresses these calls and explores E-WOM about E-SQ in e-retail.

Drawing on the above, this study defines electronic word-of-mouth in the context of e-retail as *customer-to-customer communication—typically shared through online reviews, ratings, or social media—regarding their experiences with a product, service, or e-retailer.* This feedback may include recommendations, ratings, complaints, or general opinions and is often publicly accessible.

Having reviewed the E-WOM literature and proposed a definition, the following section turns to the research field of the Customer Journey.

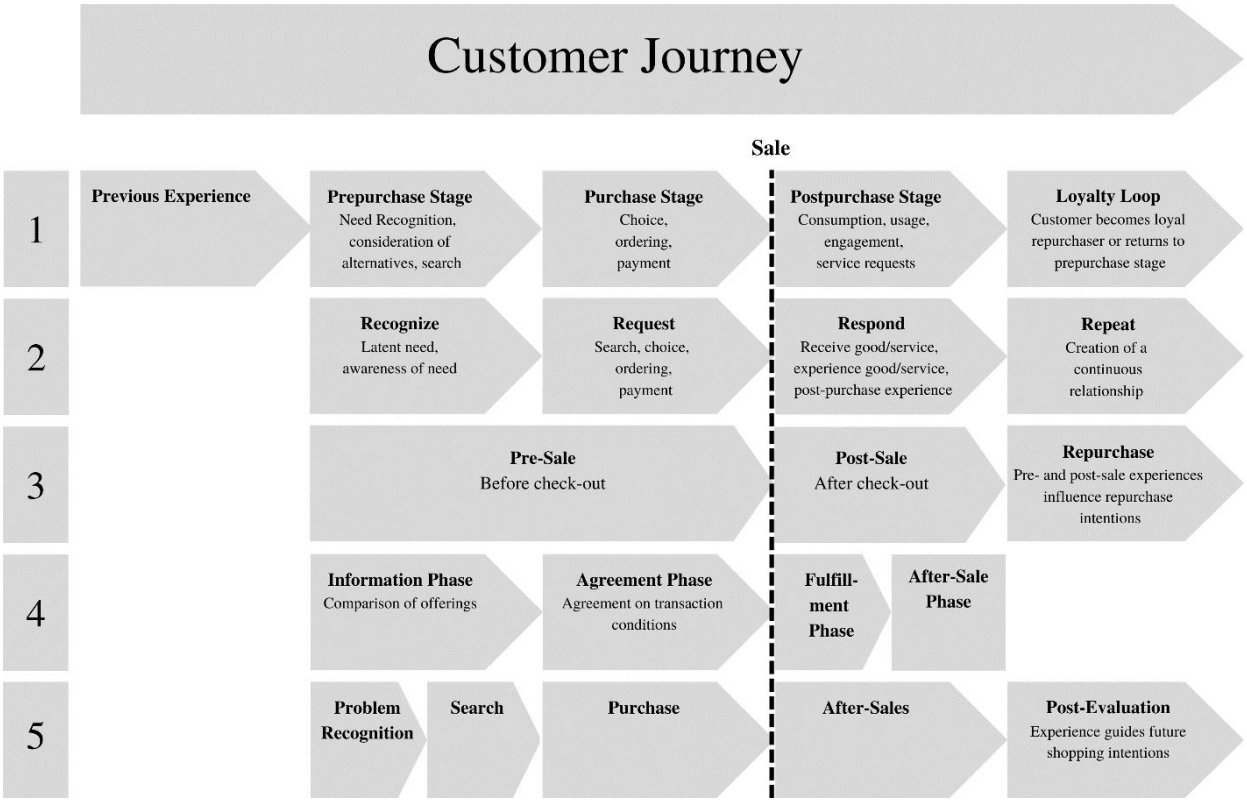
2.12 Customer Journey

This thesis organizes E-SQ along the phases of the customer journey (CJ). For this reason, this section reviews the literature on customer journeys.

The concept of the CJ has emerged as a fundamental concept in the service field (Becker & Jaakkola, 2020; Følstad & Kvale, 2018; Tueanrat et al., 2021). Følstad et al. (2013) defined the CJ as: *"the process a customer goes through to achieve a specific goal involving one or more service providers"* (p. 4). This process is viewed from the customer's perspective (Følstad & Kvale, 2018). Furthermore, the CJ has three phases: pre-purchase, purchase, and post-purchase (Lemon & Verhoef, 2016). Practitioners and academics can learn how customers perceive their service experience by analyzing the CJ (Følstad et al., 2013). Moreover, academics generally agree that the customer experience is shaped during the CJ (Kranzbühler et al., 2018; Bitner et al., 2008; Zomerdijk & Voss, 2007). According to Lemon and Verhoef (2016, p. 71), the customer experience is the customer's "cognitive, emotional, behavioral, sensorial, and social responses to a firm's offerings during the customer's entire purchase journey."

Følstad and Kvale (2018) stated that the term "customer journey" is widely applied in research areas such as service design, service management, and marketing management. Nonetheless, the authors argued that there is a lack of mutual understanding of the CJ and its influence on service design and management (Følstad & Kvale, 2018). In this regard, one of the first attempts to conceptualize the CJ was conducted by Whittle & Foster (1989). They used the synonym "service journey" (Whittle & Foster, 1989, p. 29) to express a closed-ended purchasing process with a clear starting and ending point. In contrast, other authors argued that the CJ is usually open-ended and can create loyalty loops (Edelman & Singer, 2015; Lemon & Verhoef, 2016; Siggelkow & Terwiesch, 2019). Academics have conceptualized the CJ differently; significant conceptualizations are summarized in Figure 1.

Figure 1: *The Customer Journey Concepts in Academic Literature*



Note. Adapted from: 1. Lemon & Verhoef (2016); 2. Siggelkow & Terwiesch (2019): 3. Posselt & Gerstner (2005); 4. Bauer et al. (2006); 5. Neslin et al. (2006)

About Figure 1, all authors view the CJ as a sequence of customer interactions with a firm to purchase a product or service. Nonetheless, the number of stages and their terminology vary. Four authors include a stage for repurchase intentions (1. Lemon & Verhoef (2016); 2. Siggelkow & Terwiesch (2019); 3. Posselt & Gerstner (2005); 5. Neslin et al. (2006)). In contrast, Bauer et al. (2006) did not include a repurchase stage. The examples presented above demonstrate the incoherence and plurality of the customer journey concepts.

Regarding clear definitions, the work of Halvorsrud et al. (2014) is a significant attempt to establish a collective understanding of the CJ. The authors introduced the Customer Journey Framework (CJF) (Halvorsrud et al., 2014). They proposed five principles governing the CJF: customer centricity, precise terminology, identification of planned and actual customer journeys, objective and subjective factors, and visualizing the customer journey (Halvorsrud et al., 2014). The CJF presented a common terminology for the customer journey field and provided precise definitions for the customer journey, touchpoint, and action. Their definitions are summarized in Table 1 (Halvorsrud et al., 2014, Table 1, p. 293).

Table 1: *Definitions and Attributes for Modelling of Customer Journeys*

Term	Definition & attributes
Touchpoint	Definition (dynamic touchpoint): Instance of communication or interaction between a customer and a service provider Definition (static touchpoint): A potential point of communication or interaction between a customer and a service provider Attributes: Type: expected or ad-hoc Initiator: customer, service provider or subcontractor Times: T1 (originated) T2 (available) T3 (consumed) Channel: carries/mediates touchpoint (e-mail, SMS, letter, etc.) Status: completed, missing or failing
Action	Action Definition: An event or activity conducted by a customer or service provider as part of a customer journey
Customer Journey	Definition: A sequence of touchpoints and actions involved for a customer to achieve a specific goal. An expected journey is the journey as anticipated by the service provider, while an actual journey is the real journey as experienced by a customer. Attributes: Status: in progress, completed or aborted

Note. Taken from the source: Halvorsrud et al. (2014, p. 293, Table 1)

To further advance the CJ field, Halvorsrud et al. (2021) presented the Customer Journey Modelling Language. This domain-specific language introduced clearly defined and easy-to-understand graphic symbols to visualize the CJ.

Today, the customer journey approach is widely applied in practical service design and management (Rawson et al., 2013; Zomerdijk & Voss, 2007). For instance, it is used in the public sector service in the UK (HM Government, 2007) and consumer market innovation (Edelman & Singer, 2015). Likewise, Zomerdijk and Voss (2007) found that companies often design experiential services as a CJ over time, spanning multiple touchpoints between the customer and the organization. The authors stressed the importance of carefully creating, managing, and innovating the CJ's touchpoints and the entire CJ (Zomerdijk & Voss, 2007). On the business side, Qualtrics and Salesforce, both leading customer

relationship management software, have developed CJ optimization tools to analyze and design CJs (Qualtrics, n.d.-b; Salesforce, n.d.).

Bitner et al. (2008) argued that firms must know how customers perceive their service process. Additionally, Bolton et al. (2014) suggested that firms must understand the CJ and enhance the elements that customers value.

As mentioned above, this thesis conceptualizes E-SQ along the CJ. In this context, the models of Siggelkow and Terwiesch (2019) (see no. 2 in Figure 1), and Neslin et al. (2006) (see no. 5 in Figure 1). These conceptualizations are helpful because they include significant phases of e-retail. Neslin et al.'s (2006) model includes a post-evaluation phase in which future re-purchase intentions are formed. This study expands on this concept by analyzing online review data from the post-evaluation phase.

All in all, the CJ provides a structured, customer-centric approach to mapping and understanding service experiences. It is widely applied in both research and practice. While CJ models may differ in detail, they commonly emphasize the sequential nature of customer interactions with a service provider aimed at achieving a specific goal. This thesis proposed E-SQ concept structures its E-SQ dimensions along the CJ.

2.13 Conclusion of Chapter

In conclusion, this literature review examined the foundations of E-SQ and highlighted its key role in shaping customer outcomes in e-retail. Furthermore, it explored the definitions of E-SQ, compared them to traditional SQ, and presented a preliminary definition of E-SQ. The review also emphasized the value of E-WOM as a rich source of customer perceptions. This study applies online review analysis to explore these perceptions in the context of E-SQ. To structure this study's proposed E-SQ concept, the CJ serves as an organizing framework.

The following chapter outlines the methodology employed in this study to address the RQ.

3 Methodology

3.1 Introduction

The methodology chapter provides information on how the study's design, data collection, and analysis were conducted, as well as the rationale behind the chosen methods. Furthermore, it demonstrates the study's limitations and ethical considerations.

Based on a pragmatist philosophy, the study integrates evidence from an academic, consumer, and e-retailer perspective to answer this study's RQ: "Which E-SQ aspects should be integrated into a contemporary and comprehensive E-SQ concept for e-retail?"

Starting with the academic perspective. By reviewing the E-SQ literature field, the study establishes a theoretical background of existing E-SQ concepts, frameworks, scales, research methodologies, and debates. Additionally, this review helps identify potential gaps in the literature. Having established this, the consumer perspective follows.

The consumer perspective comprises evidence from a qualitative and quantitative content analysis of E-WOM, specifically online consumer reviews of six prominent U.S. retailers (Amazon, Apple, Best Buy, Home Depot, Target, and Walmart), hereafter referred to as e-retailers. This work appears to be the first E-SQ study in e-retail that analyses a large-scale online review dataset. In contrast to previous studies, which often relied on methodologies such as interviews, focus groups, or surveys typically involving relatively small sample sizes of 300 to 1,000 participants (see Appendix C), this research project draws on 30,549 unstructured, naturally occurring online customer reviews. Reviews are a rich source on E-SQ because they contain real-life consumer stories on personal e-retail E-SQ experiences, such as navigating a website, communicating with CS personnel, or receiving a shipment late. Combining qualitative and quantitative insights ensures a deeper understanding of the consumer perspective on E-SQ. After establishing that this study appears to apply a novel methodological approach, the following section turns to the e-retailer perspective.

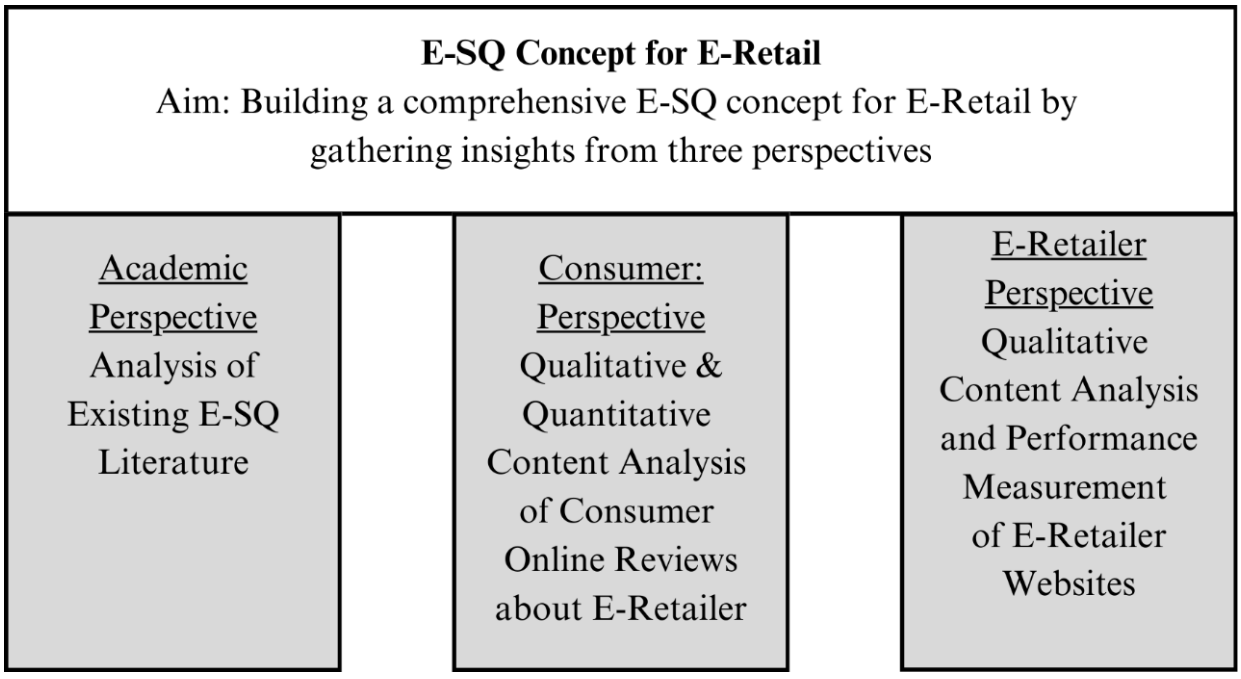
The e-retailer perspective encompasses qualitative observations from visiting and interacting with the e-retailer websites and measuring their performance. This included assessing and documenting website features and content related to E-SQ, such as navigation structures, accessibility features for individuals with disabilities, and shipping options. Moreover, performance checks, such as website speed measurement, provided quantitative data that enhanced the analysis. Evaluating websites helped highlight how e-retailers address E-SQ in practice.

Implementing these three research perspectives on E-SQ has two advantages. First, E-SQ is based on the interaction between the consumer and the e-retailer. Therefore, both sides and their interplay should

be investigated. The online consumer perspective can reveal which E-SQ factors are relevant to the consumer in real life. At the same time, the website evaluation may reveal how e-retailers incorporate E-SQ into their business practices. Second, the academic perspective may uncover which E-SQ components are established in the literature, enabling the identification of potential research gaps. Each perspective offers unique insights into E-SQ, which, when integrated, can provide a holistic understanding of E-SQ.

Moreover, the multiple perspectives ensure that the findings are validated through multiple research methods whenever possible. Another advantage of the three viewpoints is that they expand the research scope, making it less likely that crucial E-SQ insights are overlooked. By integrating these perspectives, the study aims to be grounded in both theory and practice, thereby enhancing its credibility and practical relevance (see Figure 2).

Figure 2: *This Study's Research Concept*



Note. This figure was designed by the author.

The chapter begins with an overview of the research philosophy, explaining how pragmatism underpins the methodological choices and supports a wide range of research methods. It then discusses the research approach, which applies abductive reasoning and methodological triangulation. Next, the chapter outlines the study's three data collection and analysis methods: a systematic literature review, an analysis

of online consumer reviews, and website evaluations, including their respective limitations. It then turns to how the proposed E-SQ concept was validated. The chapter ends with a conclusion.

3.2 Research Philosophy

This section outlines the research philosophy underlying this study. It provides the foundation for methodological choices by outlining the fundamental assumptions and beliefs that guide this research. The research philosophy helps to justify this study's unique research method, which integrates insights from multiple perspectives and applies abductive reasoning.

This study is grounded in pragmatism, a research philosophy that emphasizes the practical application of knowledge and the integration of diverse methodologies to address real-world problems (Saunders et al., 2019). For pragmatists, results are more important than the line of reasoning behind them (Bryman, 2016).

The foundation of pragmatism is the argument from Charles Sanders Peirce that the truth of an idea is determined by its effects (Peirce et al., 2017). In this context, "truth" is what works to solve a problem (Bryman, 2016). Notably, a theory is not valuable if it does not contribute directly to social progress (Legg & Hookway, 2024). Pragmatism was developed by U.S. scholars who believed that science could bring society forward (Gillespie et al., 2024). These scholars were not interested in independent and absolute truths. Instead, society should create knowledge that enriches humankind (Gillespie et al., 2024). In short, pragmatism is results-driven and focuses on social progress, rather than absolute truth.

Pragmatism posits that knowledge arises from the interaction between humans and the world (Gillespie et al., 2024). The core idea of pragmatism is that the object and subject are bound together by experience and activity (Gillespie et al., 2024).

Gillespie et al. (2024) advance the following pragmatist research propositions: (1) truth lies in its effects, (2) theories are instruments for activities, (3) developing research questions is as valuable as answering them, (4) data is embedded in contexts and must be transformed to become useful, (5) synergies can be created by applying qualitative and quantitative methods in combination, (6) big data should be investigated qualitatively and quantitatively to increase rigor and help abductive theory. In summary, these propositions address pragmatism's emphasis on practical relevance and methodological flexibility.

Similarly, Feilzer (2010) noted that pragmatic research is flexible and does not require a specific method or approach. Furthermore, the author states that pragmatism does not seek absolute truth. Instead, pragmatism focuses on selecting the most effective research method to explore a specific research question

(Feilzer, 2010). In line with this, pragmatism does not debate whether quantitative or qualitative research is superior; instead, it focuses on finding answers (Feilzer, 2010). This underscores pragmatism's solution-orientation and its methodological neutrality, allowing research to adapt an approach based on the practical needs of the study.

Pragmatism connects knowledge with action, emphasizing that understanding the world comes from actively engaging with it (Legg & Hookway, 2024). It suggests that ideas and concepts should be tested through real-world experiences, such as scientific experiments, and that something is valid if it contributes to achieving social progress (Legg & Hookway, 2024). It recognizes that human practices and shared ways of doing things shape understanding, even if they cannot always be fully explained (Legg & Hookway, 2024). To sum it up, pragmatism focuses on practical knowledge that drives social progress.

Saunders et al. (2019) explain the relationship between pragmatism and business research. According to them, the core focus of pragmatism is addressing aspects that directly impact organizational practices (Saunders et al., 2019). Pragmatism values purposeful and actionable knowledge, enabling organizations to perform tasks effectively, while research must contribute to solving problems and improving future practices (Saunders et al., 2019). Meaning in pragmatism arises from practical, experimental, and critical exploration of the world (Saunders et al., 2019). Pragmatism encourages individuals to critically examine their routines and customs, facilitating change and innovation, and allows a wide range of methods, including mixed, multiple, quantitative, qualitative, and abduction (Saunders et al., 2019). Moreover, it helps to generate valuable insights and novel theories (Gillespie et al., 2024). This makes pragmatism especially interesting for business research, where the integration of theory and practice creates actionable results that businesses can implement.

Feilzer (2010) argues that pragmatism fosters a perpetual cycle of abductive reasoning. This is supported by Morgan (2007), who states that "The pragmatic approach is to rely on a version of abductive reasoning that moves back and forth between induction and deduction—first converting observations into theories and then assessing those theories through action." (p. 71). Morgan (2007) states that the pragmatic approach connects theory and data by abduction, acknowledges the importance of different research perspectives, and emphasizes the usefulness of the results. This means that pragmatism supports an iterative, flexible reasoning process that aligns with the goals of applied research.

In summary, pragmatism is a goal-oriented philosophy that focuses on solving problems. This enables various qualitative and quantitative research methods, as well as abductive reasoning, to produce meaningful and impactful results.

Pragmatism is well-suited for this study for the following advantages. First, this study aims to propose an E-SQ concept that is useful for e-retail managers and academia. This aligns with Pragmatism,

which explicitly supports research that addresses real-world problems. Second, Pragmatism allows multiple research perspectives. In this study, perspectives from academia, online consumers, and e-retailers are integrated to gain a deeper understanding of E-SQ. Third, in Pragmatism, qualitative and quantitative methods should be abductively combined to create synergies. This study leverages these synergies by investigating the customer and e-retailer perspectives qualitatively and quantitatively, where possible. The advantages of this approach are twofold. On the one hand, qualitative analysis is well-suited for discovering novel E-SQ insights. On the other hand, quantitative analysis determines the significance of these insights by measuring their frequency. Fifth, pragmatism allows abduction. In this study, emerging E-SQ dimensions and factors were systematically cross-checked against insights from the academic literature, the consumer perspective, and the e-retailer perspective. This triangulated approach enhanced the validity of the research by ensuring that new findings were grounded in multiple, independent sources of evidence.

Overall, this study aims to create new and impactful knowledge for E-SQ, aligning with the Pragmatist approach.

Pragmatism serves as the foundation for this study's research design, which is discussed in the following section.

3.3 Research Design

3.3.1 Introduction

This section outlines the research design of this study, which is underpinned by a pragmatist approach (see above). Pragmatism allows a flexible and solution-oriented approach to theory development. This study's research design provides a structured framework to answer the RQ. It guides the selection of methods, the sequence of research activities, and the integration of different data sources. Specifically, the research design serves as the outline for answering the central RQ: "Which E-SQ aspects should be integrated into a contemporary and comprehensive E-SQ concept for e-retail?"

This study's research design applies diverse methods and perspectives to address the RQ and produce meaningful knowledge that has an impact. This is similar to Van de Ven's (2007) engaged scholarship model, which requires research to consider the perspectives of diverse stakeholders to generate insights that inform both theory and practice. Following this, this study explores stakeholder perspectives from the consumer, e-retailers, and academic literature to create an E-SQ concept that reflects current e-retail practices.

As mentioned above, to explore the stakeholder perspectives, the study gathered and analyzed data from three sources: (1) E-SQ literature, (2) online consumer reviews, and (3) e-retail websites (see Figure 2). The abductive evaluation included the following:

1. Systematic literature review – Listing and evaluation of prior E-SQ literature.
2. Online review analysis – A qualitative and quantitative content analysis of online customer reviews.
3. Website evaluation – Manually exploring e-retailer websites and measuring their performance.

The evidence is integrated in this study's proposed E-SQ concept that aims at capturing today's e-retail practices (see Table 2).

As mentioned earlier, this study employs an abductive approach (see 3.3.1). Abduction involves identifying patterns and themes in data, organizing them into a preliminary concept, and revisiting the data to test and refine the concept (Saunders et al., 2019). Hereby, the literature review served as the preliminary concept that was persistently refined, expanded, and tested with data from online reviews and e-retailer websites. For example, when literature addressed the timeliness of delivery, the online review analysis and website observations cross-checked this. In this case, it was found that consumers mention delivery times in reviews, and e-retailers provide this information on their websites. Online reviews and website analyses often uncovered gaps in the literature, which were addressed by proposing new E-SQ components. For example, findings supported that the delivery location plays an important role in E-SQ. This approach helped to (1) support literature or identify gaps, (2) widen the scope by looking from different angles, and (3) enhance the validity of the findings. The research process was conducted until a saturation point was reached, where no significant new insights or refinements emerged. Together, the abductive approach ensured that findings are comprehensive and well-grounded in theory and data.

Following an abductive logic, the research process progressed through several phases that gradually built upon one another, allowing for iteration and movement back and forth between phases as needed.

1. Familiarization Phase. In the familiarization phase, the researcher becomes familiar with the data and develops an understanding of its content (Brown & Clarke, 2022). In this phase, the researcher studied literature on customer journey, customer experience, satisfaction, loyalty, SQ, service failure and recovery, failure attribution, E-WOM, and E-SQ. Further, he read online reviews and visited the websites of the six e-retailers.
2. Triangulation Phase: In this phase, the three research methods (literature review, online review analysis, and website observation) were employed. Insights from one method were constantly cross-checked with the other two methods. Furthermore, the study compiled

Appendix C, which summarizes significant E-SQ literature. Additionally, the study documented evidence from e-retailer websites and performance measurement tools through dated screenshots. From these insights and the online review analysis, the study built a content analysis dictionary that was used to qualify and quantify E-SQ dimensions and their supporting E-SQ factors (see 3.3.4.3.4).

3. Finalization of the E-SQ Concept: The insights were integrated into the proposed E-SQ concept of this study.
4. Validation of the E-SQ Concept: After establishing the proposed E-SQ concept, it was validated by applying a second and third dataset to assess its robustness and transferability.

In summary, underpinned by a pragmatist philosophy, this study explores E-SQ by combining the perspectives of consumers through online reviews, the e-retailer's perspective by evaluating their websites, and the academic perspective through a systematic review of the relevant literature. Hereby, the study synthesizes quantitative and qualitative insights. The final E-SQ concept is checked for its robustness using a second and third dataset. This approach enhances the validity of the findings while increasing the chance of discovering novel knowledge.

Having outlined the research design, the following sections provide a detailed examination of the triangulation methods employed in this study. Initially, triangulation is discussed in general terms. Afterwards, the three triangulation methods employed in this study — systematic literature review, online review analysis, and website evaluation — are described in detail. Ultimately, the finalization and validation of this study's proposed E-SQ concept are discussed.

3.3.2 Triangulation

According to Bryman (2004), a significant portion of social research relies on single methods, which can have limitations or weaknesses. Triangulation can overcome these limitations and increase the validity of a study (Bryman, 2004). Triangulation involves applying multiple data sources and data collection methods in a single study to cross-check findings (Bryman, 2016). Furthermore, Olsen (2004) states that triangulation can also widen the scope of the research.

This study employed triangulation to enhance the study's validity, minimize bias, and broaden the scope of the analysis. Hereby, the study applied methodological triangulation with three data collection and analysis methods (systematic literature review, online review analysis, and website evaluation).

First, a systematic review of academic and practitioner literature was conducted to identify established E-SQ factors. The in-depth analysis of existing research resulted in Appendix C, which

summarizes E-SQ studies and their results. This ensures that the study is grounded in theoretical foundations. It also serves to identify potential gaps in the literature.

Second, the analysis of customer online reviews gave insights from the customer perspective on E-SQ. This method captured real-life customer feedback about e-retail experiences. Specifically, this study conducted a qualitative and quantitative content analysis of online consumer reviews about six prominent U.S. e-retailers (Amazon, Apple, Best Buy, Home Depot, Target, and Walmart) to uncover and measure the E-SQ dimensions and factors mentioned in the review text. Moving forward, these companies are labeled as "e-retailers."

Third, the website evaluation of the e-retailers observed E-SQ in e-retail practice. More precisely, this study conducted (1) a qualitative content analysis by manually observing the e-retailer websites and (2) a quantitative analysis, measuring e-retailer website performance metrics.

The insights from the triangulation were integrated into the proposed E-SQ concept of this study.

In summary, the study employed methodological triangulation to investigate the academic, consumer, and e-retail perspectives, thereby aiming at developing an E-SQ concept with high validity and broad scope.

The three triangulation methods are discussed in detail in the following sections.

3.3.3 Triangulation Method I: Systematic Literature Review

3.3.3.1 Introduction

This section outlines the literature review method employed in this study, which provides an academic perspective on E-SQ. The review was designed not only as a descriptive exercise but also as a foundation for the study's triangulation approach.

According to Saunders et al. (2019), a systematic literature review is a comprehensive and strategic process for identifying existing research, analyzing its contributions, and reporting findings. The review established a clear rationale for the study by highlighting which components of E-SQ had already been examined and where gaps in knowledge remain. To be more specific, the review provided the theoretical baseline against which evidence from the online review analysis and website evaluation could be compared, thereby validating existing E-SQ dimensions and factors and revealing research gaps. The resulting structured literature review table (see Appendix C) functioned as a central reference point throughout the research process, enabling the systematic cross-checking of new findings against prior studies.

The following section describes the method used for collecting data for the literature review.

3.3.3.2 Literature Collection Methods

This section explains the methods used to gather literature for the systematic literature review. The aim was to collect a broad range of sources relevant to E-SQ.

The present study collected literature from various sources. The most important sources were Aston University Library and the OpenAthens Network (OpenAthens, n.d.). These sources enabled the study to download papers, books, and articles from various databases at no cost. This made it possible to gather most of the literature needed for this research. Furthermore, the study gathered materials from Google Books (Google Books, n.d.) and purchased additional literature. In short, the study had almost perfect access to relevant literature sources. The study leveraged this access to collect a wide range of sources, ensuring a robust foundation for the systematic review.

To identify and collect literature, the study used the online search functions of Aston University Library, Google Scholar (n.d.), and Mendeley (n.d.). The literature search included terms such as "electronic service quality," "online service," "e-service quality," "word-of-mouth," and "customer journey." Additionally, several professors recommended relevant literature. Furthermore, by reviewing academic and practitioner sources, the researcher frequently discovered references to new and valuable materials. These sources were then studied and included if deemed relevant. Taken together, and drawing on several sources, the researcher gathered the necessary literature for this study.

Regarding Aston University Library, its detailed online filter function proved helpful in identifying and accessing, especially, books and older literature. Google Scholar (n.d.) and Mendeley (n.d.) facilitated the sorting of search results by relevance or date, as well as the identification of related literature. Furthermore, Google Scholar (n.d.) offers a feature that generates literature references in various styles. This function was often applied to create references (see References). In short, filtering functions and reference generation facilitated the identification of relevant literature and the creation of the study's References Section.

Relevant literature was downloaded, stored, and organized in Mendeley (n.d.), a reference management tool and academic social network. In Mendeley, a large part of the literature was stored. The parts that were not stored in Mendeley included printed books, websites, and other sources that could not be loaded into the system. These sources were kept either physically or saved to the researcher's personal computer. For web-based sources, reference links were recorded and are included in this study's reference list.

In Mendeley, the researcher created search tags for the most important literature. The search tags, such as “ESQ” or “SCALE,” later helped identify sources that included these subjects. Where possible, the entire document, like a complete research article, was stored in Mendeley. The document could then be opened in Mendeley and viewed by the researcher. Additionally, the researcher utilized Mendeley’s marking function, which allows parts of the document to be highlighted. Moreover, the document search function enables users to locate specific words or terms within a document quickly. In summary, Mendeley played a central role in storing and reviewing the literature.

In summary, this study searched, accessed, and downloaded a wide range of literature. Mendeley was particularly central for storing, organizing, and reviewing literature.

3.3.3.3 Literature Analysis

This section reports how the collected literature was analyzed to support the development of a contemporary E-SQ concept.

The analysis began with a critical reading of the collected literature, during which the researcher took notes and identified relevant E-SQ dimensions and factors. These elements were of particular interest, as they form the foundation for an E-SQ concept. The extracted elements were compiled into a comprehensive literature table that summarizes key details, including author, sector, methodology, and E-SQ dimensions or factors (see Appendix C). This structured literature summary became a central reference point for the study.

Throughout the triangulation process, this literature summary was continuously cross-checked against emerging insights from the two other research methods—online review analysis and website evaluation. This step was crucial for determining whether an E-SQ dimension or factor already existed in the literature or represented a gap. The outcomes of this process are detailed in Chapter 4 and further discussed in Chapter 5 for each E-SQ dimension and factor.

To assess whether an emerging E-SQ dimension or factor had already been addressed in the literature, the researcher first conducted a manual comparison. For instance, when the online reviews and website observations highlighted the topic of payment options, the researcher manually reviewed the literature summary (Appendix C) to see if this factor had been previously discussed.

In a second step, to enhance the accuracy of this manual process, the researcher utilized ChatGPT, an artificial intelligence (AI) tool that can understand and process text. The researcher uploaded the literature summary and definitions of the E-SQ dimensions and factors developed in this study into ChatGPT.

ChatGPT was then prompted to verify whether each E-SQ dimension or factor appeared in the literature summary. The AI-generated findings were subsequently reviewed and manually validated by the researcher to ensure accuracy.

This dual approach offered key advantages. While manual review allows for careful evaluation, individual elements may be overlooked. In such cases, ChatGPT can help highlight literature references that the researcher might have missed. However, as AI-generated outputs are not always error-free, manual verification of ChatGPT's findings remained essential. In short, this dual process helped ensure a thorough evaluation of existing E-SQ literature. Chapter 4 and 5 present detailed justifications for each E-SQ dimension or factor, indicating whether it is grounded in existing research or highlights a previously underexplored gap.

In the following section, the limitations of the systematic literature review are discussed.

3.3.3.4 Limitations of the Literature Review

This study's analysis focused exclusively on the E-SQ literature field. However, other fields such as customer journey, information technology, customer satisfaction, loyalty, and customer experience intersect with E-SQ and could provide additional insights. Despite this, the study limited its scope to E-SQ to maintain focus. Furthermore, the review excluded literature in languages other than English and German due to language barriers. This has limited the breadth of the analysis.

3.3.3.5 Section Summary Systematic Literature Review

The systematic literature review offers an academic perspective on E-SQ. It produced a comprehensive table summarizing existing E-SQ knowledge (see Appendix C). Throughout the study, this table was consistently used to compare findings from the online review analysis and website evaluation. This process helped either support existing knowledge or identify potential knowledge gaps.

The following section discusses how this study explored the consumer perspective on E-SQ by analyzing online reviews.

3.3.4 Triangulation Method II: Online Review Analysis

3.3.4.1 Introduction

This introduction presents an overview of the online review analysis conducted in this study, which explores the consumers' perspectives on E-SQ. The introduction first focuses on the limitations of prior E-SQ research. Then it outlines the rationale for applying a large-scale online review dataset to explore E-SQ in e-retail.

Previous E-SQ research faces two significant limitations. First, prior E-SQ studies (see 2.10) are based on relatively small sample sizes, typically relying on a limited number of interviewees or surveys with 300-1,000 respondents (see Appendix C). While this is useful for initial insights, it risks missing unique customer experiences. Second, traditional survey-based E-SQ research commonly measures the frequency of a predefined list of E-SQ aspects. This approach facilitates the evaluation of established E-SQ aspects. Nonetheless, it limits respondents' ability to express their perspective. Consequently, unique and evolving E-SQ aspects, relevant to contemporary online e-retail, may be overlooked. In summary, small samples and the limited expression possibilities in prefabricated surveys may have limited the depth and range of results of prior research outcomes.

To address the limitations outlined above, the present study conducted a quantitative analysis of 30,549 online reviews, of which a subset of approximately 1,000 reviews was examined qualitatively to generate new insights into E-SQ. The rationale for analyzing customer online reviews is twofold. First, online reviews provide valuable insights into real-world customer perceptions of E-SQ, as most reviewers describe their experiences with e-retailers in detail. Second, reviews often elaborate on specific E-SQ dimensions in ways that interviews or surveys may not capture. For example, a reviewer may note that the e-retailer’s website was easy to navigate (*User Interface Dimension*), the product arrived on time (*Fulfillment Dimension*), the customer service was helpful (*Customer Service Dimension*), but the product was later recalled (*Customer Protection Dimension*). Such accounts directly illustrate how customers articulate their E-SQ experiences in online reviews.

Moreover, analyzing such a large volume of naturally occurring customer feedback not only strengthens the validity and robustness of the findings but also ensures that rare or emerging aspects of E-SQ are captured.

Moreover, scholars emphasize the importance of examining online reviews in SQ research (e.g., Grégoire & Mattila, 2021; Donthu et al., 2021). Grégoire and Mattila (2021) advocate for textual analysis of social data, such as online reviews, to drive progress in services marketing research. Palese and Usai (2018) demonstrate the potential of this approach by analyzing online reviews from an Italian price

comparison platform to extract E-SQ dimensions. Holz et al. (2024) examined online reviews of airports to determine E-SQ factors. Further, several studies have investigated online customer reviews for different purposes, with studies in airlines (Brochado et al., 2019; Korfiatis et al., 2019), hotels (Browning et al., 2013), restaurants (Yan et al., 2015), and medical services (Xu et al., 2021). In summary, researchers across various industries highlight the value of analyzing online reviews to explore E-SQ.

In conclusion, previous E-SQ research faces limitations, such as small sample sizes and restricted survey formats. This study aims to overcome these limitations by leveraging the potential strengths of a large-scale online review analysis. Analyzing customer reviews is an established research practice that offers the opportunity to gain a more nuanced, contemporary, and real-world understanding of E-SQ. This approach may also help identify unique or emerging E-SQ dimensions or factors that might not be revealed through traditional research methods. Furthermore, the existing academic literature is increasingly recognizing the value of examining online customer reviews to explore SQ.

Having outlined this, the following sections present the data collection method, data analysis, ethical considerations, and limitations of this study's online review analysis.

3.3.4.2 Online Review Data Collection

This section outlines the process and rationale for collecting online review data from Trustpilot (n.d.-e).

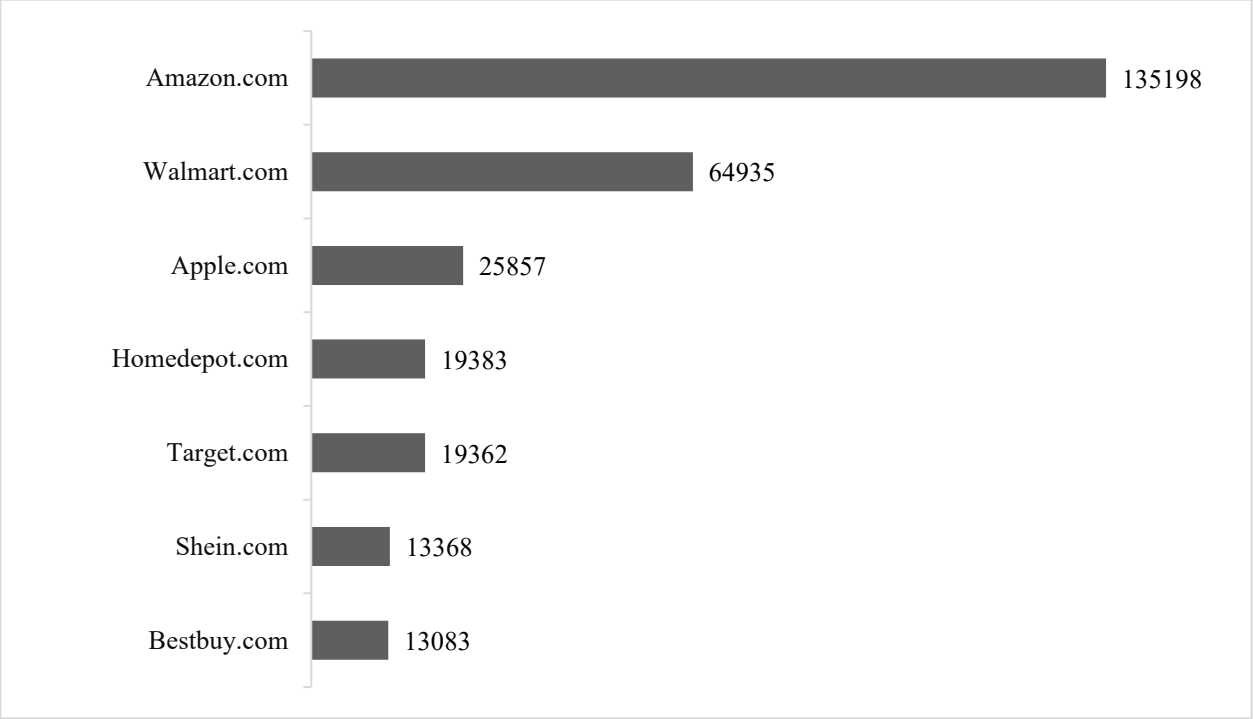
Trustpilot is an online platform that enables consumers to share detailed feedback about their experiences with e-retailers (Trustpilot, n.d.-b). The rationale for investigating Trustpilot reviews is based on the following reasons. First, Trustpilot is one of the largest online platforms for e-retail reviews, offering the opportunity to gather a large dataset of online reviews. Second, it has implemented a strict fake review policy, as demonstrated by Trustpilot's (n.d.-a) statement that it removed over 3.3 million fake reviews in 2023. Third, Trustpilot prohibits businesses from offering incentives or rewards to customers in exchange for posting reviews (Trustpilot, n.d.-f). Fourth, Trustpilot does not allow employees to write reviews about their company (Trustpilot, n.d.-f). Fifth, Trustpilot (n.d.-f) states that it does not tolerate verbal abuse or threatening behavior from businesses against reviewers. All these measures reduce bias and strengthen the credibility of Trustpilot reviews, making them a credible source for this study to examine the customer perspective on E-SQ. Choosing Trustpilot also has practical reasons. The reviews are publicly available and can be downloaded for further exploration. Additionally, Trustpilot displays reviews of the largest U.S. retailers, allowing for a multi-case study. Furthermore, the Trustpilot reviews are posted under uniform conditions on the platform, making the data homogeneous. In sum, methodological and practical

considerations support the rationale for using Trustpilot reviews as a credible and accessible source for examining the customer perspective on E-SQ.

Trustpilot reviews contain both structural and textual data. The structural data includes the following elements: the reviewer's name, total number of reviews written, country of origin, star rating, review date, and votes on the review's usefulness. Vital for this study is the textual data, which provides rich insights into customers' experiences with E-SQ. By analyzing this textual content, the study aims to identify specific E-SQ dimensions and factors that reflect real-world customer experiences in e-retail.

Trustpilot hosts millions of reviews for thousands of businesses (Trustpilot, n.d.-b), making it impractical to analyze all of them due to the thesis's time and financial constraints. Therefore, the study focused on six prominent U.S. e-retailers: Amazon, Apple, Best Buy, Home Depot, Target, and Walmart. These six e-retailers were chosen due to their significant market presence, as reflected in their high e-commerce net sales in 2023 (see Figure 3). Together, these firms combined for a 52.8% share of the U.S. e-retail market in 2023 (based on eMarketer & Business Insider, 2023, April 3).

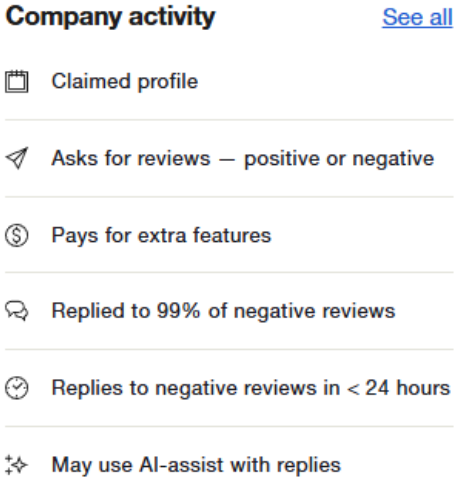
Figure 3: *Top U.S. Online Stores in 2023, by E-Commerce Net Sales (in Million U.S. Dollars)*



Note. Data derived from ecommercedb.com (2024, June 18).

Despite being one of the largest e-retailers in the U.S., Shein was excluded from the study because its Trustpilot profile reveals practices that could introduce bias, such as asking for reviews and responding to 99% of negative reviews within 24 hours (see Figure 4). These activities might influence the reviewers and skew the review data. For example, Shein could ask only those customers who have not complained to write a review. Furthermore, Shein's response to negative reviews may lead reviewers to modify their original reviews. In contrast, the six e-retailers included in this study have not claimed their Trustpilot profiles and do not actively influence reviewers, ensuring a more unbiased dataset.

Figure 4: *Shein Company Activity Profile at Trustpilot (n.d.-d)*



Note: Screenshot retrieved by the author on December 5, 2024, from Trustpilot (n.d.-d). Shein Reviews. https://www.trustpilot.com/review/www.shein.com

This study received ethical approval for downloading, storing, and analyzing the Trustpilot reviews from Aston's Ethical Committee (see 3.3.4.4). In January 2024, the researcher downloaded, cleaned, and organized 30,549 online reviews from Trustpilot, reflecting U.S. customer experiences with the six e-retailers from January 9, 2014, to December 31, 2023. This dataset is named Dataset I (see Appendix D). The researcher downloaded the data using Web Scraper 1.72.7, a robust tool freely available through the Google Chrome Web Store (Web Scraper, n.d.). The reviews were securely stored in an Excel file within Aston's BOX platform.

The researcher cleaned the dataset to ensure data quality by excluding reviews without text because these lack analyzable content. Duplicate reviews were removed, retaining only the original submissions. Review titles were excluded since they often replicated the first line of the review text. Following this

process, the dataset comprised 30,549 reviews. The reviews were distributed as follows: Walmart (25.7%), Amazon (25.0%), Home Depot (17.0%), Best Buy (15.1%), Target (9.4%), and Apple (8.2%). This cleaned dataset (Dataset I - see Appendix D) served as the basis for the online review analysis.

In summary, this study compiled 30,549 online reviews from six major U.S. e-retailers, which collectively represented a U.S. e-retail market share of over 50% in 2023. This became the study's online review dataset (Dataset I – see Appendix D). This process is ethically approved.

Having established the data collection process, the following section will turn to data analysis.

3.3.4.3 Online Review Data Analysis

The following sections outline the key phases of the data analysis process. These include:

1. Familiarization with the review data to understand its scope and content.
2. Analysis using ChatGPT, which supported the identification of potential E-SQ dimensions and factors.
3. Development of a preliminary E-SQ concept by integrating findings from the literature review, online analysis, and website evaluation.
4. This concept was used for the construction of a WordStat dictionary (see Appendix D), designed to systematically capture, qualify, and quantify E-SQ expressions within the online review Dataset I (see Appendix D).

3.3.4.3.1 Online Review Familiarization Phase

First, the researcher familiarized himself with the review Dataset I (see Appendix D) by reading approximately 300 reviews and manually noting the E-SQ factors that the reviewers mentioned. The rationale for this was threefold. First, to provide the researcher with an orientation on the review content. Second, to see which E-SQ dimensions and factors are in the content. Third, to evaluate whether reviews contain enough E-SQ experiences.

During the familiarization process, the researcher cross-referenced the emerging E-SQ dimensions and factors with those identified in the systematic literature review (see Appendix C). Additionally, he visited the e-retailer websites to gain insights into how these e-retailers implement these dimensions and factors. The researcher recorded the results.

Following this, to further familiarize himself with the data, the researcher imported the online review Dataset I (see Appendix D) into Provalis WordStat, a comprehensive text mining and content analysis tool (Provalis Research, n.d.-a). The study utilized several functions within WordStat to gain insight into the dataset, including generating word clouds, counting word and phrase frequencies, and performing topic modeling. For instance, WordStat identified typical E-SQ topics, such as "customer service," "cancel the order," and "waste of time" (see Appendix A). The findings were noted.

During the familiarization phase, it became clear that the review data contained rich information on various E-SQ topics, including timeliness of delivery, CS level, and refund policy. In this phase, E-SQ factors emerged that may not have been previously discussed in the literature, such as delivering orders to the wrong location or CS personnel who speak a language that is difficult to understand.

Overall, the familiarization phase guided the researcher and supported that online reviews are a critical real-life source for E-SQ insights.

The following section explains how ChatGPT was applied for analysis.

3.3.4.3.2 Online Review Analysis with ChatGPT

After familiarizing himself with the review Dataset I (see Appendix D), the researcher incorporated ChatGPT, an AI software developed by OpenAI, into the analysis process. The rationale for applying ChatGPT was twofold. On the one hand, it analyzes data faster than the researcher. On the other hand, its analysis may reveal E-SQ dimensions or factors that the researcher might have overlooked.

The analysis of the review data using ChatGPT followed a structured and iterative approach, similar to the method applied by Holz et al. (2024), who utilized ChatGPT to analyze airport review content. In the present study, the researcher manually uploaded small batches of reviews into the ChatGPT interface. After each batch, ChatGPT was prompted to identify negative and positive review themes within the review content. The model's outputs were then critically examined and cross-checked against the original reviews to ensure accuracy and reliability. An example of a ChatGPT prompt can be found in Appendix E. Any newly emerging E-SQ dimensions or factors were documented and added to the dataset. This process was repeated for approximately 1,000 reviews until thematic saturation was reached, with no new E-SQ insights emerging. The ChatGPT analysis was conducted between 30 December 2023 and 26 March 2024. Similar applications of ChatGPT for content analysis have been reported in recent research, including Jeong et al. (2024) for hotel reviews, Chaudhary and Anish (2025) for app reviews, and Belal and Wong (2023) for sentiment analysis of social media and online platforms.

Regarding this study, the manual validation of ChatGPT's outputs revealed that the results were generally of high quality and exhibited a low error rate. In some cases, ChatGPT even identified E-SQ aspects that the researcher had overlooked, underlining its potential as a valuable analytical support tool. While Holz et al. (2024) developed a direct data interface with ChatGPT to automate the transfer and analysis process, technical and financial limitations in the present study necessitated a manual workflow, involving batch uploads (see Appendix E) and critical human review.

Overall, the integration of ChatGPT into the review analysis provided rich insights into E-SQ. The following section explains how these insights were integrated into a preliminary E-SQ concept.

3.3.4.3.3 Preliminary E-SQ Concept

The fourth phase developed a preliminary E-SQ concept based on insights from the literature review, the analysis of online review data, and website evaluation. The rationale was to construct an initial concept that could be further refined through additional insights gained via triangulation.

To enable a meaningful content analysis, this study developed an E-SQ dictionary (see Appendix D), which is described in the following section.

3.3.4.3.4 Building a WordStat Dictionary for E-SQ

This section explains how this study systematically built a custom WordStat (Provalis, n.d.-b) dictionary to qualify and quantify E-SQ dimensions and factors within a large dataset of online reviews Dataset I (see Appendix D). This dictionary played a central role in the qualitative exploration and quantitative measurement of E-SQ in Dataset I (see Appendix D) of this study.

Starting with an explanation of what a WordStat dictionary is. A WordStat dictionary is a systematic collection of pre-specified categories that represent concepts (Provalis Research, n.d.-b), for example, E-SQ dimensions and factors. Each category comprises a set of keywords, phrases, and proximity rules predefined by the researcher that are linked to specific themes or concepts (Provalis Research, n.d.-b). Each category may contain:

- Single keywords (e.g., “refund,” “delivery,” “order”)
- Phrases (e.g., “hidden fee,” “order tracking”, “credit card”)
- Wildcard terms (e.g., “deliver*” the “*” captures variations of “deliver”, e.g., deliver, delivers, delivery, deliveries, delivered)

- Proximity rules (e.g., “damage” near “product” in one sentence points to issues with damaged products)

Researchers can apply dictionaries to automatically detect and quantify concepts in extensive collections of unstructured textual data. Notable applications include Pennebaker and King’s (1999) analysis of linguistic styles, Tetlock’s (2007) study linking media sentiment to stock market reactions, and Humphreys’ (2010) use of media texts to trace cultural meanings surrounding the casino industry. These studies exemplify how dictionaries can effectively link textual data to structured concepts, offering researchers a powerful tool to uncover patterns and quantify meaning in unstructured content.

To be more specific, when applied to a dataset, the dictionary scans the text to identify mentions of key concepts and counts their frequency. The rationale for using a dictionary is to allow researchers to uncover patterns and quantify the presence of specific themes in unstructured data. Dictionaries built with WordStat can be included in analyses with other software, as it is possible to import WordStat dictionaries into most text analysis software programs.

In short, a dictionary links textual content to concepts. Researchers apply them to identify and quantify concepts in large unstructured textual datasets. Based on this knowledge, the following section outlines the development of this study’s E-SQ Dictionary, step by step.

Step 1: Defining the Conceptual Framework.

The first step involved the development of the custom E-SQ dictionary by inserting the preliminary E-SQ concept (see 3.3.4.3.3) as categories into WordStat. This concept served as the initial framework for the dictionary, encompassing a list of E-SQ dimensions and factors derived from E-SQ literature, qualitative analysis of online reviews, and website evaluation. Hereby, each E-SQ dimension or factor became a dictionary category. After inserting the categories, they were populated. This is discussed next.

Step 2: Population of Categories with Keywords, Phrases, and Proximity Rules

In the second step, the dictionary categories were populated with search terms, which are keywords, phrases, and proximity rules. To be more specific:

- Keywords that were directly associated with a specific E-SQ dimension or factor, for example “refund,” “return,” and “exchange” for the E-SQ factor CS Return and Refund Policies.

- Context-specific phrases linked to a specific E-SQ dimension or factor, such as “hidden fee” and “unexpected charge” were used for the E-SQ factor Price Correctness and Transparency.
- Proximity rules captured meaning based on co-occurrence in one sentence. For example, “damage” and “product” appearing in the same sentence to detect references to the E-SQ factor FF Undamaged Product.

These search terms were based on E-SQ literature, exploratory reading of online reviews, and observation of terminology used on the e-retailer websites. The terms were tested iteratively for accuracy and refined over time. The resulting E-SQ dictionary was named ESQ ETAIL Dictionary (see Appendix D).

In short, the E-SQ dimensions or factors that were summarized in the preliminary E-SQ concept (see 3.3.4.3.3) served as categories that were populated with search terms. This process led to the creation of the ESQ ETAIL Dictionary.

Having established this, the following section discusses how the ESQ ETAIL Dictionary was applied to the Dataset I (see Appendix D).

Step Three: Application of the Custom E-SQ Dictionary to Dataset I

Third, the ESQ ETAIL Dictionary was applied in WordStat to the review Dataset I (see Appendix D). This step enabled WordStat to scan the data and quantify the frequency of occurrences for each E-SQ dimension or factor. The next step describes how the findings were validated and how review matches were paraphrased.

Step Four: Validation and Paraphrasing of Review Matches

Applying the ESQ ETAIL Dictionary creates a list of reviews that point to a specific E-SQ dimension or factor. The researcher then manually reviewed the text of the reviews to validate their relevance to the corresponding E-SQ dimension or factor. Reviews that genuinely reflected an E-SQ dimension or factor were paraphrased for inclusion in the justification of the findings chapter of this thesis (see Chapter 5). Please note that the researcher keeps the original reviews used for paraphrasing in a separate file (see Appendix D) securely stored in BOX provided by Aston University. This procedure is ethically approved (see 3.3.4.4Ethical Considerations). After validating and paraphrasing reviews, the ESQ ETAIL Dictionary was further refined as shown in the following.

Step five: Iterative Refinement of the Dictionary

The ESQ ETAIL Dictionary was further refined. The researcher often identified new terms by reading online reviews and E-SQ literature, as well as visiting e-retailer websites, which were subsequently added to the ESQ ETAIL Dictionary. This iterative process highlights this study's dynamic approach, continuously refining the dictionary to ensure it accurately captures relevant E-SQ factors.

The researcher found that quantification through the ESQ ETAIL Dictionary was feasible for most E-SQ dimensions and factors during this process. The frequencies were noted and included in the justification of the findings chapter (see Chapter 5). However, some E-SQ dimensions and factors could not be quantified due to challenges such as the multiple meanings of certain words and phrases. Therefore, this study restricted quantification notation to E-SQ dimensions and factors with high confidence that the search terms accurately represented the intended dimension or factor, such as "order cancellation" for the E-SQ factor PP Order Modification and Cancellation. This approach ensured that the quantified data was meaningful.

To summarize, this study's custom E-SQ dictionary was validated and refined, and the frequencies of E-SQ dimensions and factors were noted where possible.

3.3.4.3.5 Section Summary Online Review Data Analysis

In summary, analyzing online customer reviews gave valuable insights into how customers experience E-SQ in e-retail. The study employed a structured approach that involved familiarizing oneself with the online review data and applying ChatGPT to facilitate its analysis. All ChatGPT results were manually checked, which helped create a custom E-SQ dictionary. Next, the ethical considerations regarding the analysis of the online reviews are discussed.

3.3.4.4 Ethical Considerations for Online Review Analysis

This section discusses the ethical considerations and approval for gathering, storing, and analyzing Trustpilot online reviews.

Starting with the approval by the Ethics Committee. This research adheres to Aston University's Research Ethical Principles and Procedures and the Research Integrity Policy. Ethical approval for

gathering, storing, and analyzing Trustpilot reviews was granted by Aston University's Business & Social Sciences Research Ethics Committee on September 1, 2022 (REC REF: #BSS2100; see Appendix B).

The online review analysis applied reviews from Trustpilot, a prominent online platform where customers publicly evaluate their shopping experiences with businesses. Trustpilot reviews are accessible without registration or password requirements and can be retrieved via search engines like Google. The data is in the public domain and free from copyright restrictions. Furthermore, it is handled in accordance with Trustpilot's platform policies. The research does not include direct quotations from individual reviews or identifying details, such as names. Instead, the study paraphrased review content to provide practical examples of customer experiences with E-SQ and to enhance understanding. Consequently, all data is handled in an anonymized format.

The review data set is securely stored in Microsoft Excel files within Box (see Appendix D), provided by Aston University. Access is restricted to the researcher, his supervisors, and examiners. All devices are password-protected. Data will remain available for 10 years following the conclusion of the study. The above complies with Aston University's Research Data Management Policy.

In summary, this research data collection, analysis, anonymized presentation, and storage comply with Aston University's Business & Social Sciences Research Ethics Committee, which has approved this.

Having established that this research has ethical approval, the following section addresses the limitations of analyzing online reviews.

3.3.4.5 Limitations of the Online Review Analysis

This section discusses the limitations of the analysis of online reviews in this study.

First, the data is restricted to six U.S. retailers, limiting its generalizability to other markets. Additionally, the study relies exclusively on information from customers who post online reviews, excluding insights from those who do not, which introduces potential bias. Certain groups, such as visually impaired individuals, may also face barriers to posting reviews on platforms like Trustpilot. This could leave significant topics unexplored. As shown above, not all E-SQ dimensions and factors can be quantified using this study's E-SQ dictionary.

3.3.4.6 Section Summary Online Review Analysis

In conclusion, this section addressed the data analysis of a large-scale online review dataset on six prominent U.S. e-retailers. This study argues that analyzing authentic online reviews provides a robust and comprehensive foundation for uncovering relevant E-SQ dimensions and factors of today's e-retail. In the familiarization phase, the researcher developed an understanding of the dataset and became acquainted with the richness of E-SQ content within online reviews. This was followed by the application of ChatGPT to identify additional E-SQ insights through AI-supported exploration and manual evaluation.

Building on these insights and prior E-SQ literature, the study formulated a preliminary E-SQ concept. This concept aided the development of a custom E-SQ dictionary. This dictionary enabled qualitative interpretation and quantitative measurement of E-SQ dimensions and factors. The iterative refinement and manual validation of the dictionary ensured a high degree of precision and reliability in the analysis. Furthermore, manual paraphrasing of reviews preserved ethical standards.

Limitations of this approach include focusing on a subset of retailers, reliance on posted reviews, and potential accessibility barriers for specific groups.

In summary, the structured use of human interpretation, AI, and dictionary-based content analysis provides a sound methodological foundation for analyzing online reviews. This approach facilitated the identification of both established and novel E-SQ dimensions and factors, thereby contributing to the development of an E-SQ concept that considers the customer's perspective.

Having discussed the analysis of online reviews to explore the consumer perspective, the following section turns to the perspective of the e-retailers.

3.3.5 Triangulation Method II: Website Evaluation

3.3.5.1 Introduction

This section describes the website evaluation method used to investigate e-retailers' perspectives on E-SQ. The rationale for evaluating e-retailer websites was to gather real-world evidence of how E-SQ is implemented in e-retail practice. In other words, to explore the e-retailer perspective beyond what customers perceive or what literature describes. Notably, the websites analyzed were those of the same e-retailers examined in the online review analysis (see 3.3.4), ensuring consistency and comparability across research

perspectives. This section is divided into subsections for data collection and analysis, limitations, and conclusion.

3.3.5.2 Website Data Collection and Evaluation

This section describes the data collection and analysis of the e-retailer websites.

To collect practical evidence for E-SQ, this study explored the real-world practices of e-retailers by manually observing their websites and measuring their website performance. During manual observation, the study examined features that reflect E-SQ dimensions and factors, such as the display of payment or shipping options. To document the presence of these factors, screenshots were taken, and their timestamps were recorded to indicate the timing of each observation. In short, a collection of screenshots documents how E-SQ dimensions and factors are implemented in e-retail practice.

Notably, data collection and analysis co-occurred. As E-SQ dimensions or factors were observed, the researcher directly evaluated whether they support the preliminary E-SQ concept. In case of alignment, the evidence served to support this concept. In some cases, new insights emerged, such as the observation that e-retailers prominently display information about their ethical, social, economic, and environmental impact. These emerging insights were recorded, analyzed, and informed the development of the preliminary E-SQ concept. In short, the researcher visited e-retailer websites to observe, analyze, and record E-SQ dimensions and factors, supporting or expanding the preliminary E-SQ concept.

Additionally, this study used various tools to gain deeper insight into e-retail practices. Google PageSpeed Insights (2024) evaluated the mobile and desktop speed and accessibility of e-retailer websites for users with impairments. Uptime (2024) historical data provided insights into the availability of e-retailer websites throughout 2023. SEOmator (n.d.) provided data on mobile-friendliness, while SSLSHOPPER (n.d.) verified the presence of valid security certificates. Furthermore, the researcher explored the Google Play Store (Google, n.d.-a) to check if the e-retailer offers shopping apps. Screenshots with date notations of all evaluations were taken to document the results. This served to support several E-SQ factors within the preliminary E-SQ concept.

The complete findings from the website evaluation were recorded and will be described in detail in the justification of the findings chapter (Chapter 5).

In summary, a combination of manual observation and technical performance measurement, conducted with simultaneous evaluation, aimed at identifying, supporting, and expanding this study's proposed E-SQ concept based on real-world e-retail practice.

3.3.5.3 Limitations of Website Evaluation

The website evaluation provided valuable insights into the e-retailer's perspective on E-SQ. However, this analysis has limitations. First, websites are subject to frequent updates. As a result, the data collected is cross-sectional. Second, the study focuses on only six major U.S. e-retailers. These large e-retailers may not accurately represent smaller e-retailers or e-retail in other countries. Third, the evaluation relied on the websites' publicly visible features. Consequently, it does not account for the e-retailer's invisible backend processes or functionalities that may significantly impact E-SQ. Fourth, the applied tools may not adequately reflect individual customer E-SQ experience. For example, the speed of a website may be dependent on the customer's location or their internet connection.

3.3.5.4 Section Summary of Website Evaluation

This study systematically assessed the e-retailer perspective on E-SQ by manually exploring e-retailer websites and measuring their performance using software tools. The website evaluation aimed to support the E-SQ dimensions and factors identified in the literature review and online review analysis, while also uncovering potential new insights into E-SQ. However, limitations such as static website snapshots and tool constraints highlight the need for future studies to explore backend processes and a broader range of retailers. Overall, the website evaluation complements aimed at contributing the e-retailer perspective to this study's proposed E-SQ concept.

The following section elaborates on how potential researcher bias was addressed.

3.3.6 Potential Researcher Bias

This section outlines how potential researcher bias was addressed throughout the study.

As the CEO and owner of an e-retailer, the researcher brings a decades-long practical understanding of how E-SQ functions in real-world settings. However, this professional background also carries the risk of introducing personal bias, particularly in the interpretation of findings. Notably, the researcher was aware of this potential bias from the start. This awareness supported a distanced and objective stance throughout this study.

To further mitigate bias, the study was grounded in established E-SQ literature, relied on the quantitative analysis of a large-scale dataset of online reviews, and utilized software tools to objectively

measure website performance. These steps helped reduce the influence of personal perspectives and supported the credibility of the study's findings.

3.3.7 Finalization of the Proposed Electronic Service Quality Concept

This section outlines the process by which the study's proposed E-SQ concept was finalized.

The researcher continued refining the preliminary E-SQ concept to develop the final version of the proposed E-SQ concept. This process is similar to that outlined by Insch et al. (1997), involving several systematic steps, and aligns with the triangulation logic adopted throughout this thesis.

1. Elimination of duplicates: Similar E-SQ factors were identified, and duplicates were removed to ensure that each factor was distinct and unique.
2. Merging of related factors: Some closely related factors were combined. For example, "Order Modification" and "Order Cancellation" were merged into a single factor titled "Order Modification and Cancellation."
3. Renaming for clarity: E-SQ factors were renamed where necessary to enhance clarity and ensure intuitive understanding for both academic and practitioner audiences.
4. Logical grouping: All E-SQ factors were categorized under eleven broader E-SQ dimensions. This categorization was informed by relevant literature, including Blut (2016), and research on the customer journey (see 2.12).
5. Cross-checking with evidence: The documented findings were systematically cross-checked against the evidence generated throughout the study to ensure consistency and accuracy.
6. Validation with additional datasets: The proposed E-SQ concept was validated using a second and third dataset (see 3.3.8). This validation led to the identification and inclusion of three additional E-SQ factors that were previously overlooked.

Notably, triangulation is a complex and iterative process that is less linear than single-method research. Therefore, the resulting evidence and interpretation require explanation, which is provided in the justification of the findings chapter (Chapter 5).

3.3.8 Validation of the Proposed Electronic Service Quality Concept

3.3.8.1 Introduction

The final phase of the research focused on validating the proposed E-SQ concept to ensure its practical relevance, generalizability, and credibility. The aim was to assess whether the concept's dimensions and factors could be consistently identified when applied to new data and a different e-retail environment. Therefore, two validation exercises were conducted using a second and third dataset.

3.3.8.2 Validation I: Dataset II - Second Trustpilot Dataset

First, the study gathered a new, small dataset from Trustpilot (Dataset II - see Appendix D), comprising the ten most recent U.S. reviews for this study's six e-retailers, totaling 60 reviews overall. The rationale for choosing a small dataset was to assess quickly whether the proposed E-SQ concept had any significant issues.

The researcher thoroughly read the reviews of Dataset II (see Appendix D) and investigated whether they aligned with the E-SQ dimensions and factors of the proposed E-SQ concept. He also counted the frequency of E-SQ factors mentioned in the reviews (see Appendix D). Reviews were excluded if they were too short or described physical store encounters. Moreover, for Target, the most recent reviews focused exclusively on its diversity, equity, and inclusion (DEI) policy. The study included one DEI-related review and selected nine others that did not address this topic.

The validation results, along with the original online reviews, are stored in Aston Box for revision (see Appendix D). The results showed that almost all reviews could be assigned to at least one E-SQ factor from the proposed E-SQ concept in this study. This validation supported that the concept is highly applicable and comprehensive. However, three recurring review themes did not fit within the proposed E-SQ concept: warranties, receiving the wrong products, and the perception of being charged incorrectly. These three factors were analyzed further and cross-checked with prior literature and the website evaluation. The resulting evidence supported the incorporation of these additional E-SQ factors into the proposed E-SQ concept.

In short, the first validation round supported the robustness of the proposed E-SQ concept. It led to the identification of three overlooked E-SQ factors, which were subsequently incorporated into this study's proposed E-SQ concept. This updated concept was then subject to a second validation round, as outlined in the following section.

3.3.8.3 Validation II: Dataset III - Third Trustpilot ASOS Dataset

A second validation was conducted after expanding the proposed E-SQ concept to include the three E-SQ factors mentioned above. Therefore, a large dataset with 7,162 Trustpilot reviews, labelled Dataset III (see Appendix D), from British customers on ASOS, a major clothing e-retailer, was downloaded and analyzed. ASOS was chosen because, like the e-retailer cases, it has not claimed its profile on Trustpilot. Furthermore, investigating British ASOS reviews offered the opportunity to examine whether this study's E-SQ concept applies outside the U.S. The validation took the following path. First, Dataset III (see Appendix D) was uploaded to WordStat and analyzed using the ESQ ETAIL Dictionary and WordStat topic modelling. Furthermore, the researcher manually reviewed 100 reviews. The results showed that no new E-SQ factors emerged from the analysis, and the identified topics and dictionary matches aligned with the study's proposed E-SQ concept. The validation results are stored in Aston Box (see Appendix D).

To summarize, this second validation round underscored that the proposed E-SQ concept was applicable beyond the original U.S. context and across a large dataset, with no additional E-SQ factors emerging. This validation supported the consistency, completeness, and cross-market relevance of the proposed E-SQ concept.

3.3.8.4 Section Summary: Validation of the Proposed E-SQ Concept

The proposed E-SQ concept in this study was validated in two rounds. Validation round one checked manually a small dataset on the six e-retailer cases to quickly assess the applicability of the proposed E-SQ concept. While most E-SQ aspects aligned well with this concept, three new topics did not match. These new topics were incorporated into the proposed E-SQ concept as new E-SQ factors.

Validation round two assessed the revised E-SQ concept with an extensive review dataset on ASOS. This dataset was analyzed using the dictionary from this study, WordStat topic modeling, and a manual review of 100 reviews. The results showed that no new E-SQ factors emerged, and the E-SQ concept can be applied in other contexts, thereby supporting its validity and transferability.

3.4 Conclusion of Chapter

Pragmatism, the philosophical foundation of this study, provided the flexibility to employ diverse research methods to explore E-SQ in e-retail. Pragmatism emphasizes problem-solving, practical outcomes, and the integration of multiple research methods. This philosophy enabled the researcher to adopt a triangulated research design that brings together knowledge from three key viewpoints: an academic

perspective through a systematic literature review, a customer perspective through online review analysis, and an e-retailer perspective through website evaluation.

The application of triangulation may have contributed to a more nuanced and comprehensive understanding of E-SQ by capturing theoretical concepts, consumer experiences, and observable retail practices. The validation of the proposed E-SQ concept suggests robustness, comprehensiveness, and a degree of transferability. In particular, the concept's responsiveness to new data, its reflection of real-world E-SQ, and its potential transferability across cultural contexts may enhance its value for both academic research and practical applications in e-retail.

In the following chapter, the study presents its proposed E-SQ concept.

4 Findings: Electronic Service Quality Concept

This chapter presents the study's findings in the form of a proposed E-Retail E-SQ concept, as illustrated in Figure 5 and detailed in Table 2. The findings are further justified in Chapter 5.

This study supports eleven key dimensions of E-SQ, four of which are novel. (see Figure 5 and Table 2). These dimensions are supported by 63 underlying E-SQ factors, 37 of which are newly introduced. (see Table 2).

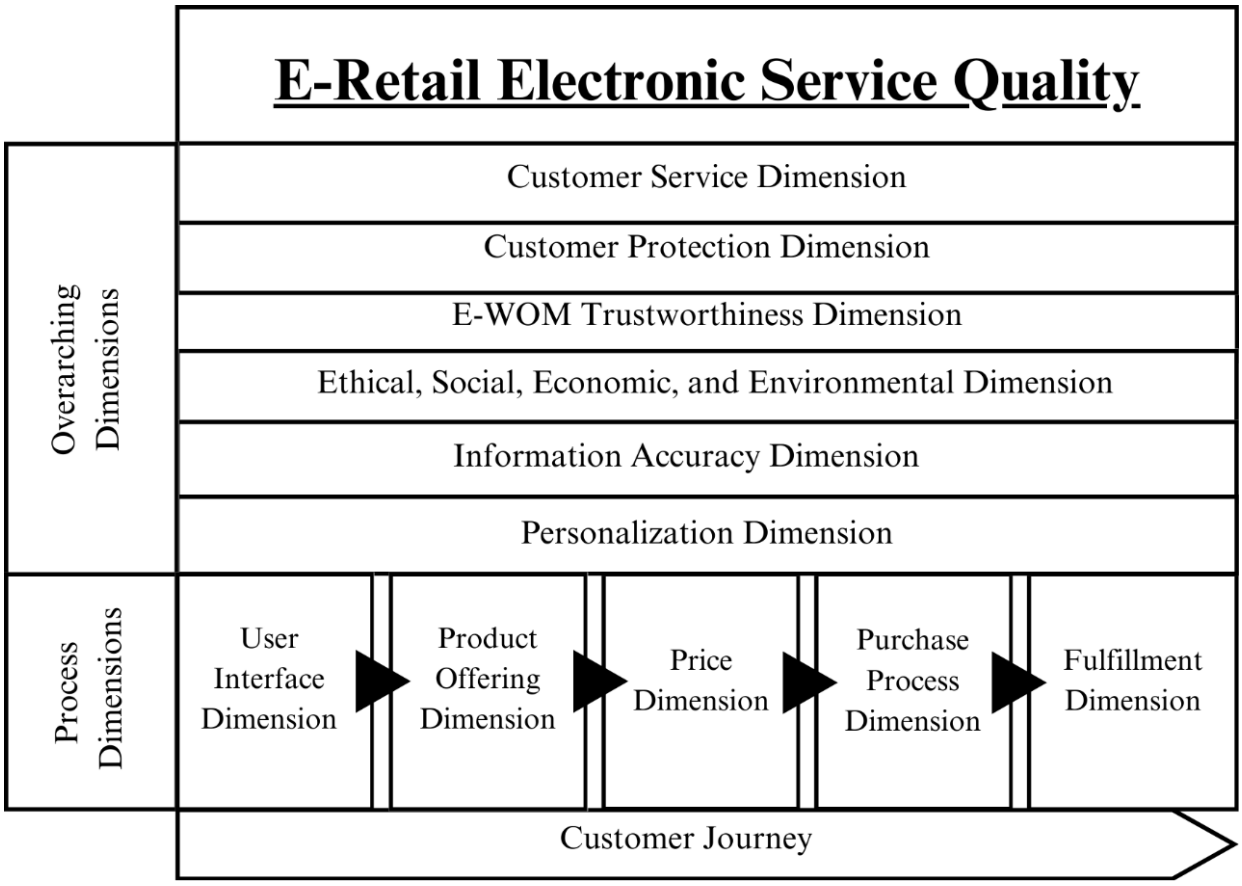
Figure 5 provides a visual overview of the proposed concept, organizing the eleven dimensions within the context of the customer journey. At the bottom of the diagram is a horizontal arrow labeled "Customer Journey", symbolizing the sequential experience of a customer when purchasing online. Five dimensions are directly linked to distinct stages of the customer journey. These process dimensions are placed within a box with a right-pointing arrow, reinforcing the forward movement along the customer journey. The process dimensions appear in the order of occurrence:

1. User Interface (UI) Dimension – refers to the e-retailer's online platform that facilitates interaction between the customer and the e-retailer. Although the UI plays a role throughout the entire customer journey, it is positioned as a process dimension due to its strong association with the early stages of the customer journey—such as entering the interface, forming an aesthetic impression, navigating the site, and experiencing its technical performance.
2. Product Offering (PO) Dimension – refers to the range of products and services that an e-retailer offers. After engaging with the UI, customers evaluate whether the offering meets their needs and preferences at this stage.
3. Price Dimension – refers to the total monetary cost for a customer when purchasing products online. This dimension reflects the purchase decision stage, where customers compare prices of different options and consider the value of a product.
4. Purchase Process (PP) Dimension – refers to the transaction stage of the journey, in which customers take the necessary actions and steps to complete a purchase.
5. Fulfillment (FF) Dimension – refers to the post-purchase process where the e-retailer delivers the customer's order.

The remaining six overarching dimensions are horizontal layers stacked above the customer journey. They influence the entire experience, rather than a specific stage of it. Therefore, these dimensions are shown as overarching layers, highlighting their cross-functional influence throughout the customer journey. These overarching dimensions are:

1. Customer Service (CS) Dimension – refers to the e-retailer's comprehensive support and assistance for customers.
2. Customer Protection (CP) Dimension (novel) – refers to the measures implemented by e-retailers to safeguard customers' rights, health, data, and financial security.
3. Ethical, Social, Economic, and Environmental Aspects (ESEE) Dimension (novel) – is concerned with the impact of e-retail on society, the economy, and the environment, and with the adherence to ethical business practices.
4. E-WOM Trustworthiness Dimension (novel) – refers to the perceived credibility of customer reviews and ratings on the e-retail UIs.
5. Information Accuracy Dimension (novel) – refers to the availability, correctness, and completeness of data that an e-retailer provides.
6. Personalization Dimension– focuses on creating an individual experience for each user.

Figure 5: *This Study's E-Retail Electronic Service Quality Concept*



Note. This figure was developed by the author based on the study's findings.

Turning now to a detailed summary of the proposed E-SQ concept. Table 2 presents a comprehensive overview of all proposed E-SQ dimensions and factors. For each dimension and factor, the table provides supporting evidence from this study's three distinct research methods: literature review, online review analysis, and website evaluation.

To aid in the interpretation of Table 2, the following guide is provided:

Literature Review: Indicates whether existing academic literature supports the E-SQ dimension or factor. "✓" means the E-SQ dimension or factor was already recognized in prior literature. "New" means that this dimension or factor is, to the best of the author's knowledge, novel to the literature.

Online Review Analysis (qualitative and quantitative): Indicates whether this study's online review analysis supports the E-SQ dimension or factor. "✓" indicates that the study found reviews discussing the dimension or factor. "✗" indicates the study found no direct discussion.

Website Evaluation (qualitative and quantitative): Highlights whether this study found support for the E-SQ dimension or factor during the website evaluation process of e-retailers. "✓" indicates the support of the dimension or factor. "✗" means not available, indicating that the applied method showed no significant results or could not be used in a meaningful way.

Table 2: *Proposed Electronic Service Quality Concept*

E-SQ **Dimension**/Factor	Literature Review	Online Review Analysis Qualitative	Online Review Analysis Quantitative	Website Evaluation Qualitative	Website Evaluation Quantitative
User Interface (UI) Dimension	✓	✗	✓	✗	✗
UI Search Engine Visibility Factor	✓	✓	✗	✓	✓
UI Aesthetic Design Factor	✓	✓	✓	✓	✗
UI Ease of Navigation Factor	✓	✓	✓	✓	✗
UI Accessibility for Individuals with Impairments Factor	**NEW**	✓	✓	✓	✓
UI Newsletter Factor	✓	✓	✓	✓	✗
UI Availability Factor	✓	✓	✓	✓	✓
UI Speed Factor	✓	✓	✗	✗	✓
UI Mobile Responsiveness Factor	**NEW**	✓	✓	✓	✓
Product Offering (PO) Dimension	✓	✗	✓	✗	✗
PO Product Search Factor	✓	✓	✓	✓	✗
PO Advertising Factor	**NEW**	✓	✓	✓	✗
PO Product Variety Factor	✓	✓	✓	✓	✓
PO Product Availability Factor	✓	✓	✓	✓	✗
PO Product Distinction Factor	**NEW**	✗	✗	✓	✗
PO Product Authenticity Factor	**NEW**	✓	✓	✓	✗
PO Product Warranty Factor	**NEW**	✓	✓	✓	✗
Price Dimension	✓	✗	✓	✗	✗
Price Correctness and Transparency Factor	✓	✓	✓	✓	✗
Price Competitiveness Factor	✓	✓	✓	✓	✗
Price Consistency Across Channels Factor	**NEW**	✓	✗	✓	✗
Price Consistency Across Time Factor	**NEW**	✓	✗	✓	✗

Table 2 continued

E-SQ **Dimension**/Factor	Literature Review	Online Review Analysis Qualitative	Online Review Analysis Quantitative	Website Evaluation Qualitative	Website Evaluation Quantitative
Purchase Process (PP) Dimension	✓	✗	✓	✗	✗
PP Simplicity and Speed Factor	✓	✓	✗	✓	✗
PP Payment Options Factor	✓	✓	✓	✓	✗
PP Shipping Options Factor	✓	✓	✓	✓	✗
PP Gift Cards & Discounts Factor	**NEW**	✓	✓	✓	✗
PP Purchase Limitations Factor	**NEW**	✓	✓	✓	✗
PP Order Confirmation Factor	✓	✓	✓	✓	✗
PP Order Modification & Cancellation Factor	**NEW**	✓	✓	✓	✗
PP Charge Dispute Factor	**NEW**	✓	✓	✓	✗
Fulfillment (FF) Dimension	✓	✗	✓	✗	✗
FF Order Arrival Factor	✓	✓	✓	✓	✗
FF Timeliness of Delivery Factor	✓	✓	✓	✓	✗
FF Delivery Location Accuracy Factor	**NEW**	✓	✓	✓	✗
FF Undamaged Product Factor	✓	✓	✓	✓	✗
FF Correct Product Factor	✓	✓	✓	✓	✗
FF Pick Up Factor	**NEW**	✓	✓	✓	✗
FF Multiple Shipments Factor	**NEW**	✓	✓	✓	✗
FF Order Status and Tracking Factor	✓	✓	✓	✓	✗
FF Packaging Quality Factor	**NEW**	✓	✓	✓	✗
FF Geographic Aspects Factor	**NEW**	✓	✓	✓	✗
FF Digital Product Factor	**NEW**	✓	✗	✓	✗
FF Installation Quality Factor	**NEW**	✓	✓	✓	✗
FF Respectful Behavior Factor	**NEW**	✓	✓	✗	✗
FF Damage Free Factor	**NEW**	✓	✗	✓	✗
FF Post-Installation Cleanliness Factor	**NEW**	✓	✗	✓	✗
FF Return Options Factor	✓	✓	✓	✓	✗

Table 2 continued

E-SQ **Dimension**/Factor	Literature Review	Online Review Analysis Qualitative	Online Review Analysis Quantitative	Website Evaluation Qualitative	Website Evaluation Quantitative
Customer Service (CS) Dimension	✓	✗	✓	✗	✗
CS Ease-of-Contact Factor	✓	✓	✓	✓	✗
CS Respectfulness Factor	**NEW**	✓	✓	✓	✗
CS Competency Factor	**NEW**	✓	✓	✗	✗
CS Proactiveness Factor	**NEW**	✓	✗	✗	✗
CS Contact Frequency Factor	**NEW**	✓	✓	✗	✗
CS Seamlessness Factor	**NEW**	✓	✓	✗	✗
CS Time Efficiency Factor	✓	✓	✓	✓	✗
CS Language Skills Factor	**NEW**	✓	✓	✗	✗
CS Quality Consistency Factor	**NEW**	✓	✗	✓	✗
CS Artificial Interaction Factor	**NEW**	✓	✓	✓	✗
CS Return & Refund Policies Factor	✓	✓	✓	✓	✗
CS Refund Timeliness Factor	**NEW**	✓	✓	✓	✗
CS Repair Service Quality Factor	**NEW**	✓	✓	✓	✗
CS Failure Compensation Factor	✓	✓	✓	✓	✗
Customer Protection (CP) Dimension	**NEW**	✗	✗	✗	✗
CP Data & Transaction Security Factor	✓	✓	✓	✓	✗
CP Compliance with Consumer Protection Legislation Factor	**NEW**	✓	✓	✓	✗
CP Personal Health & Safety Factor	**NEW**	✓	✓	✓	✗
CP Fraud Protection Factor	**NEW**	✓	✓	✓	✗
CP Recall Policy Factor	**NEW**	✓	✓	✓	✗
CP Emergency Management Factor	**NEW**	✓	✗	✓	✗
E-WOM Trustworthiness Dimension	**NEW**	✓	✓	✓	✗
Ethical, Social, Economic, and Environmental Aspects Dimension	**NEW**	✓	✗	✓	✗
Information Accuracy Dimension	**NEW**	✓	✓	✓	✗
Personalization Dimension	✓	✓	✓	✓	✗

Note. This table was developed by the author based on the study's findings.

In summary, this chapter presents the study's findings and proposes an E-SQ concept for e-retail. This concept is based on 63 specific E-SQ factors organized across eleven key dimensions. These dimensions are mapped along the customer journey and distinguished between process dimensions and overarching dimensions. The proposed E-SQ concept offers a nuanced understanding of how customers experience E-SQ in e-retail. The concept is supported by a rigorous triangulation of evidence, drawn from academic literature, real-world customer reviews, and systematic website evaluations. As a result, the concept reflects theoretical depth and practical relevance. The proposed E-SQ concept expands existing knowledge by introducing four novel E-SQ dimensions and 37 new factors. Following the presentation of a summary of the study's results, a more in-depth justification and discussion are provided in the subsequent chapter.

5 Findings: Detailed Justification

5.1 Introduction

This chapter presents a comprehensive justification of the study's findings (see also Chapter 4) by linking them to the research methodology. The chapter is structured around this study's proposed E-SQ concept, as summarized in Table 2.

The study's proposed E-SQ concept comprises eleven dimensions. Five of these are process dimensions, which follow the sequence of the customer journey: User Interface, Product Offering, Price, Purchase Process, and Fulfillment. These are complemented by six overarching dimensions that span the entire customer journey: Customer Service, Customer Protection (novel), E-WOM Trustworthiness (novel), Ethical, Social, Economic, and Environmental Aspects (novel), Information Accuracy (novel), and Personalization.

To make reading this chapter easier, the following should be noted. First, this study provides definitions of E-SQ terminology. These definitions are based on academic literature or other relevant sources whenever possible. It is worth noting that E-SQ terms are seldom defined in existing literature. This study's definitions contribute to the literature by clarifying the vocabulary and helping establish a common language in the E-SQ field. Additionally, clear definitions enhance the credibility and readability of this study by providing a solid foundation for accurately interpreting the results.

Second, to underscore the practical relevance or impact of E-SQ, additional evidence outside of E-SQ literature is presented whenever feasible. Often, this is achieved by presenting statistics that highlight customer outcomes or the financial impact of E-SQ on e-retailers.

Third, the sections on literature compare the findings to existing knowledge. Here, prior E-SQ knowledge is supported, or gaps in the field are revealed. Although the literature sections include both academic and practitioner sources, when supporting the literature or identifying gaps, the study primarily refers to academic literature.

Fourth, the sections on online review analysis often refer to frequency measures obtained using the dictionary developed for this study. This dictionary facilitated the identification of online reviews related to E-SQ and is exclusively available in different formats in BOX provided by Aston for supervisors and examiners. Please note that when interpreting the results, the "*" is a wildcard operator representing unknown characters. For example, "item*" can refer to "item" or "items". In addition, WordStat topic modelling was applied to quantify the E-SQ dimensions either as a stand-alone method or in combination with evidence from this study's dictionary results. Moreover, these sections present qualitative evidence from online reviews in a manner that conceals the original reviewer's identity. A Word document (see

Appendix E) containing the original review text is available for supervisors and examiners via BOX provided by Aston.

The following also concerns the results of the online review analysis. According to Statista (2025, February 7), an estimated 2.54 billion people worldwide shopped online in 2024. When reporting statistics and percentages related to E-SQ factors, this study refers to this global number of e-retail customers. For example, the study identified that the Multiple Shipment E-SQ factor (see section 5.6.8) is mentioned in 0.28% of all analyzed reviews. Based on the worldwide figure, this could amount to approximately 7.1 million customers, underscoring that even a seemingly small percentage can represent a significant number of people globally. These estimates are provided to help interpret the real-world significance of even small percentages in the dataset.

Fifth, the sections about website evaluation reviewed and tested the e-retailer websites. Evidence is predominantly presented in the form of screenshots, accompanied by supporting discussion.

Adapted to the sequential flow of the customer journey, the following section discusses the UI dimension first.

5.2 User Interface Dimension

The User Interface dimension refers to *the e-retailer's online platform, which facilitates interaction between the customer and the e-retailer.* This platform encompasses the e-retailer's digital system, such as a website, mobile app, voice-controlled device, digital kiosk, or social media stores, enabling customers to engage in online product purchasing.

The UI typically marks the beginning of the customer journey when the customer visits, for instance, an e-retailer website or shopping app and interacts with it.

While Zeithaml et al. (2000) mention the term "user interface", E-SQ literature terminology uses different terms, like "web store" (Francis & White, 2002, p. 266), "web site" (Barnes & Vidgen, 2002, p. 114), and "website" (Blut et al., 2016, p. 500). The terminology varies across the literature, which may lead to interpretational inconsistencies. Specifically, concentrating on websites or web stores limits the scope of the analysis. While this study acknowledges that websites are central to e-retail, consumers have more ways to conduct e-retail besides websites. For example, consumers shop via e-retailer apps, smart home devices, digital kiosks, chatbots, or social media stores in addition to websites. The diverse nature of e-retail is exemplified by Amazon's mobile shopping app (Google Play, 2024, March 27), voice-controlled personal assistants like Amazon's Alexa and Apple's Siri (Hoy, 2018), and AI chatbots at Walmart (Walmart Global

Tech, 2024, March 27). Therefore, the literature's concentration on websites may limit the scope of the E-SQ field. To overcome these limits and promote terminological consistency, this study proposes adopting the term “User Interface” (UI) instead of “website.” The UI term is broader than the website term, as it entails general interactions with computer systems (see Stone et al., 2005).

This study’s online review analysis identified reviews containing the terms “website*”, “app”, and “web page*” in 2,415 reviews, accounting for 7.91% of all reviews (see Table 3). This could correspond to approximately 200.8 million global e-retail customers in 2024, based on Statista (2025, February 7).

Table 3: *Frequency of Mentions Related to User Interface in Online Reviews*

Term Used	No. of Cases	Percentage of Total Reviews (%)
Website*	1,626	5.323
App	774	2.534
Web Page*	15	0.049
Total Mentions	2,415	7.906

Note. The total number of online reviews analyzed was 30,549. "*" is a wildcard that matches any word variation. This table was developed by the author based on the study’s findings.

In conclusion, although terminology varies, E-SQ literature consistently regards the UI as a crucial dimension. Empirical evidence from online reviews reinforces this perspective. Taken together, these findings support the importance of the UI as a fundamental dimension of E-SQ.

The study proposes that the UI dimension comprises eight underlying E-SQ factors, which are discussed below.

5.2.1 UI Search Engine Visibility

5.2.1.1 Introduction

Customers often begin their online customer journey by searching for a product in a search engine. Jungle Scout (2024) reported that 42% of all consumers started their product search in search engines in 2024. The search engine results typically reference e-retailers and provide a navigational link that brings consumers directly to the corresponding e-retailer website.

High search engine visibility, such as ranking first or prominently in search results, may serve as a critical entry point in the customer journey, as it may influence the number of potential customers who visit the e-retailer’s UI.

In this study, *User Interface Search Engine Visibility refers to the extent to which an e-retail user interface and its products, categories, or services appear prominently in search engine results.*

Overall, UI Search Engine Visibility helps ensure that potential customers can more easily find the e-retailer's UI or offerings during their search and navigate to it.

5.2.1.2 Literature Review Evidence

Zeithaml et al. (2000) highlight that a website must be easy to find, providing support for the importance of the UI Search Engine Visibility factor.

5.2.1.3 Online Review Analysis

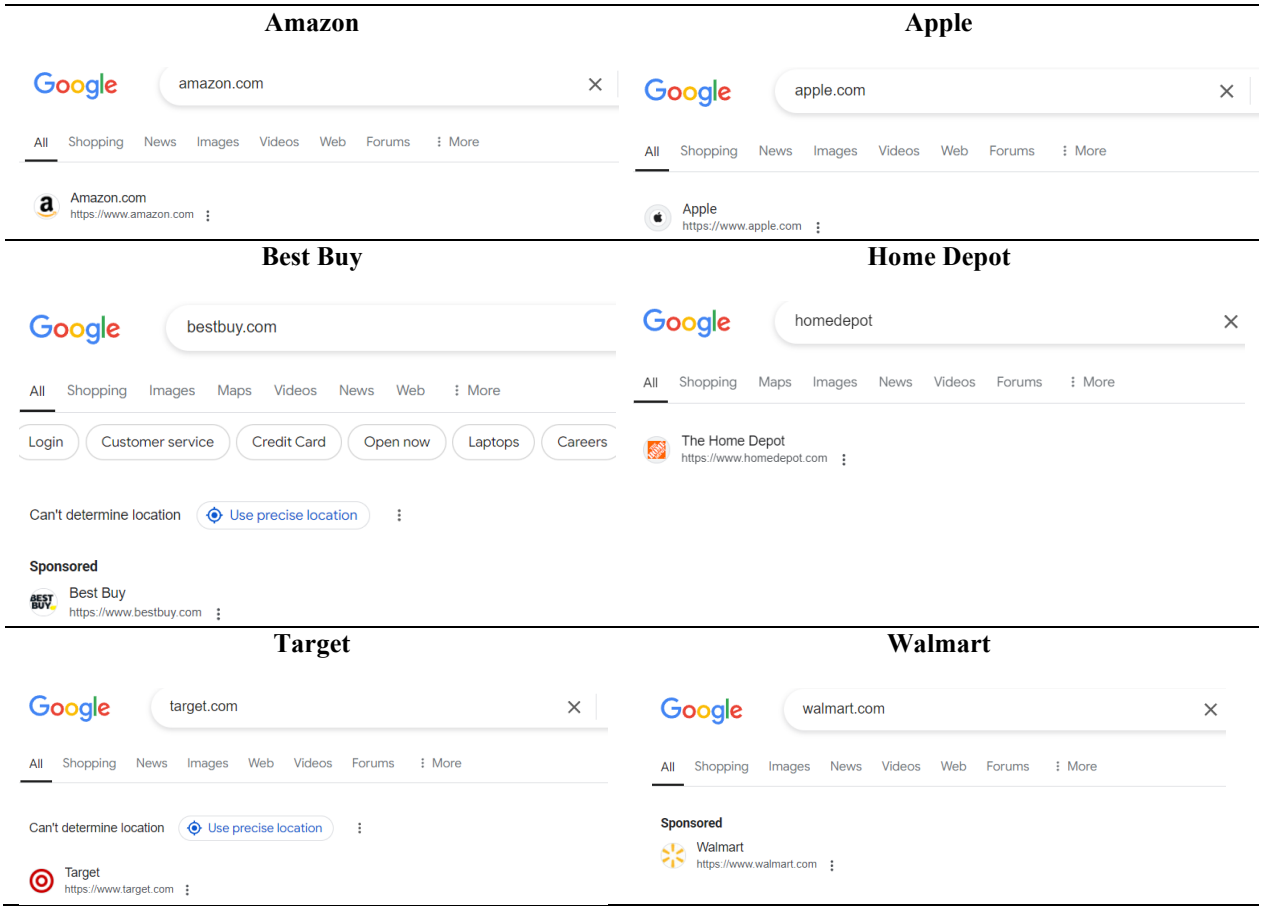
The study identified reviews referencing UI Search Engine Visibility. However, the analysis was unable to quantify these reviews. One reason was that prominent terms like "Google" appeared in various contexts unrelated to UI Search Engine Visibility. Nonetheless, after manually reviewing search results for "Google," the study discovered reviews referencing UI Search Engine Visibility. For example, one reviewer noted that search engines direct users to an e-retailer's website. Another mentioned an e-retailer's product listing in a search engine.

In conclusion, although not quantifiable, reviews support the existence of the UI Search Engine Visibility factor.

5.2.1.4 Website Evaluation

To evaluate the visibility of e-retailers in search engines, the study conducted a search using Google on November 16, 2024. Both qualitative observations and quantitative analyses suggest high search engine visibility, as all e-retailers appeared in Google search results and each ranked as the top result when its brand name was searched (see Figure 6). Notably, Best Buy and Walmart achieved the top placement through sponsored Google advertising, as indicated by the sponsored label in the search results (see Figure 6). Sponsoring the search engine results demonstrates that e-retailers invest in search engine visibility.

Figure 6: *Search Engine Visibility*



Note. All screenshots were retrieved by the author on November 16, 2024, from Google. https://www.google.com. The search results were captured on the same day.

The evidence highlights that customers can easily find and access e-retailers through Google search results. Furthermore, e-retailers appear to invest in search engine visibility by buying Google ads. This evidence supports the UI Search Engine Visibility factor.

5.2.1.5 Section Summary

Statistics underscore that search engines are a crucial starting point for online shopping. In addition, Zeithaml et al. (2000), as well as online reviews and Google search results, support the relevance of the UI Search Engine Visibility factor.

5.2.2 UI Aesthetic Design

5.2.2.1 Introduction

When customers visit an e-retailer's UI, their impressions are shaped by the design and sensory appeal of the UI.

Lavie and Tractinsky (2004) divide the visual appeal of websites into classical and expressive aesthetics. According to the authors, classical aesthetics refers to attributes that reflect traditional beauty and design principles, emphasizing symmetry, balance, and harmony. Furthermore, expressive aesthetics encompasses attributes that evoke emotional responses and personal interpretations (Lavie & Tractinsky, 2004). This dimension encompasses more subjective elements, such as creativity, originality, and the ability to convey a message or mood through design. According to Moshagen and Thielsch (2010), website aesthetics encompasses the users' perception of the visual appeal of a website, which comprises four components: simplicity, diversity, colorfulness, and craftsmanship.

However, these earlier works appear to overlook additional sensorial UI elements, such as audio or voice-controlled features, which are becoming increasingly common in the e-retail sector. Also, other sensorial elements may play an increasingly important role in e-retail. For example, Culbertson et al. (2018) state that technical devices can simulate the haptic feeling of surfaces. Furthermore, the Future of Marketing Institute (2022) considers electronic scents a new trend in online marketing. Drawing on the above and the multi-sensorial elements of customer experience, this study refers to UI Aesthetic Design as follows:

User Interface Aesthetic Design in e-retail refers to *the sensorial appeal of an e-retailer's user interface.* This may include layout, graphics, color schemes, typography, virtual reality, videos, audio, haptic surfaces, or scents, which are designed to engage all human senses and work together to enhance the customer experience.

5.2.2.2 Literature Review Evidence

Literature robustly supports UI Aesthetic Design as a critical E-SQ factor. Zeithaml et al. (2000) stress the importance of good product images. They also advocate for a simple, clean layout, free from distractions, excessive movement, and minimal advertisements to enhance user experience (Zeithaml et al., 2000). Furthermore, Szymanski and Hise (2000) emphasize the importance of uncluttered screens. Barnes and Vidgen (2000) and Loiacono et al. (2002) consider visual impact crucial. Yoo and Donthu (2001)

highlight the importance of aesthetic design. Barnes and Vidgen (2002) also highlight the importance of attractive website design.

Santos (2003) emphasizes the importance of a website's structure, layout, and appearance. Holloway and Beatty (2003) identify poor product presentations as a service failure. Fassnacht and Köse (2006) emphasize graphic quality and the clarity of layout. Bauer et al. (2006) underscore the significance of a professionally designed website with visual appeal. Finally, Holloway and Beatty (2008) emphasize the importance of website organization and design.

Overall, the literature supports the critical role of UI Aesthetic Design. However, it appears that the literature exclusively focuses on the visual elements, leaving out other human senses. To overcome this, the study proposes a definition for UI Aesthetic Design that includes all human senses.

5.2.2.3 Online Review Analysis

The analysis of online reviews reveals comments related to UI Aesthetics. For instance, one reviewer praised an e-retailer’s website for its design. Others found e-retailer websites mediocre or poorly designed, highlighting varying customer experiences with UI Aesthetic Design. Additionally, the quantitative analysis identified 10 reviews containing the term “Website Design,” accounting for 0.033% of all reviews. This could correspond to approximately 0.8 million global e-retail customers in 2024, based on Statista (2025, February 7). Due to the low frequency and high variance in how issues are described, this figure may underestimate the true extent of concern.

This evidence supports the relevance of the UI Aesthetic Design factor.

5.2.2.4 Website Evaluation

Figure 7 showcases the aesthetic design employed by the e-retailers observed on September 9, 2024. It highlights that all e-retailers feature a top navigation bar and their logo. Additionally, the figure illustrates that the e-retailers have different branding styles, exemplified by color schemes, images, or fonts.

Figure 7: *Aesthetic Design*

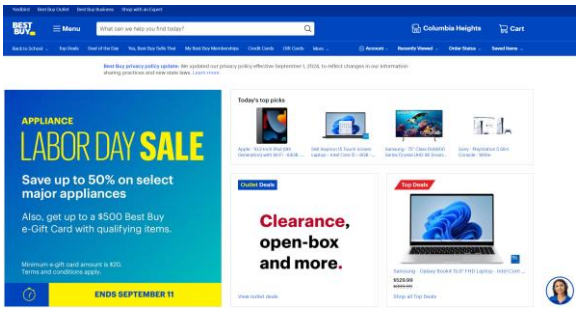
Amazon



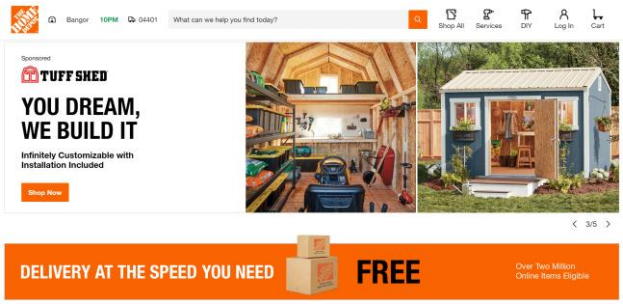
Apple



Best Buy



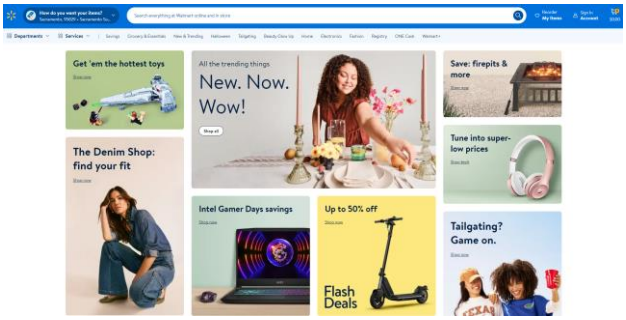
Home Depot



Target



Walmart



Note. All screenshots were retrieved by the author on September 9, 2024, from respective e-retailers: Apple (https://www.apple.com), Amazon (https://www.amazon.com), Best Buy (https://www.bestbuy.com), Home Depot (https://www.homedepot.com), Target (https://www.target.com), and Walmart (https://www.walmart.com).

In conclusion, all six e-retailers appear to have structured, visually appealing websites, which support the view that UI-Aesthetic Design is a fundamental E-SQ factor.

5.2.2.5 Section Summary

This section defines UI Aesthetic Design, emphasizing the involvement of all human senses. The evidence highlighted support in academic literature for its role as a critical E-SQ factor. Further, online reviews discuss this factor. Moreover, this study observed that e-retailer websites utilize aesthetic elements, like graphics, layout, and text. This evidence supports the significance of the UI Aesthetic Design E-SQ factor.

5.2.3 UI Ease of Navigation

5.2.3.1 Introduction

Solanki et al. (2021) state that a well-organized navigation system enables visitors to find pages and information on a website easily. According to the authors, this enhancement improves the user experience, increases brand loyalty, and drives sales. Furthermore, they emphasize that effective navigation enhances search engine rankings, user engagement, conversions, and the overall visual appeal of a website. Additionally, effective navigation enables users to quickly understand the site, increasing their likelihood of staying on the website for a longer period (Solanki et al., 2021).

Palmer (2002) defined navigation as the organization, arrangement, layout, and sequencing of a website. Further, Bart et al. (2005) articulate that navigation refers to the layout and sequence of clicks and paths on a website. The authors emphasized the substantial impact of navigation on trust, especially for information-intensive websites.

Partly drawing on the aspects mentioned above, this study presents a definition:

User Interface Ease of Navigation refers to *the organized system of search options, links, filters, menus, and paths that guide consumers through a user interface, enabling them to find products, services, and information quickly and easily.*

5.2.3.2 Literature Review Evidence

Several authors emphasize the importance of ease of navigation (Barnes & Vidgen, 2000, 2002; Bauer et al., 2006; Holloway & Beatty, 2003; Parasuraman et al., 2005; Szymanski & Hise, 2000; Zeithaml et al., 2000). Furthermore, the American Customer Satisfaction Index (2024) considers ease of navigation a

fundamental benchmark for e-retailers. In summary, academic and practical literature support the UI Ease of Navigation E-SQ factor.

5.2.3.3 Online Review Analysis

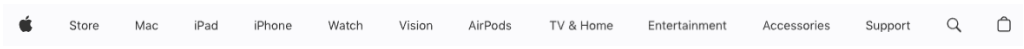
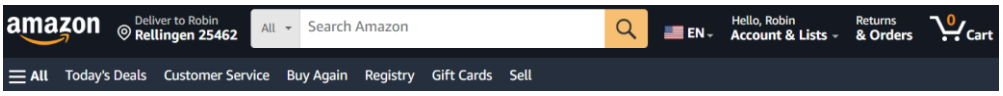
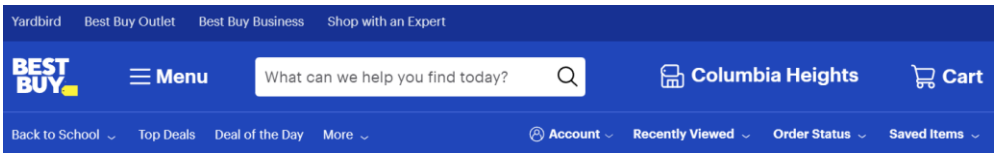
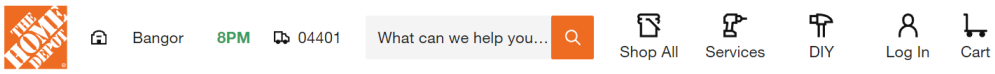
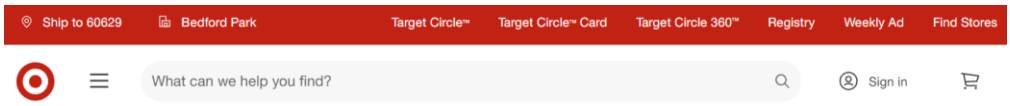
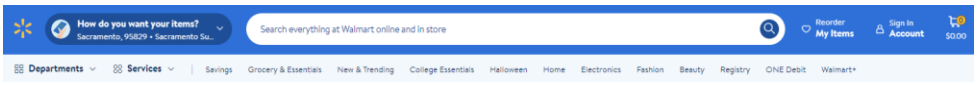
This study's online review analysis identified the term "easy to navigate" in 20 reviews, accounting for 0.066% of all reviews. This could correspond to approximately 1.7 million global e-retail customers in 2024, based on Statista (2025, February 7). Due to the low frequency and high variance in how issues are described, this figure may underestimate the true extent of concern.

Qualitative examples include one reviewer highlighting that an e-retailer website is straightforward to navigate. Another reviewer finds that one e-retailer's website is easier to navigate than its physical stores. In contrast, a reviewer mentioned that it is not possible to navigate an e-retailer's robotic telephone tree. This evidence supports the relevance of the UI Ease of Navigation factor.

5.2.3.4 Website Evaluation

The analysis conducted on August 25, 2024, shows that navigation features play a dominant role on e-retailer websites. The e-retailers display similar features, including search bars, personal account management tools, and quick links to categories or departments (see Figure 8).

Figure 8: *Ease of Navigation*

E-Retailer	Screenshot E-Retailer Website
Apple	
Amazon	
Best Buy	
Home Depot	
Target	
Walmart	

Note. All screenshots were retrieved by the author on August 25, 2024, from respective e-retailer websites: Apple. (https://www.apple.com), Amazon. (https://www.amazon.com), Best Buy. (https://www.bestbuy.com), Home Depot. (https://www.homedepot.com), Target. (https://www.target.com), and Walmart. (https://www.walmart.com).

The evidence suggests that UI Ease of Navigation is a key E-SQ factor, as navigational elements are prominently featured across the e-retailer websites.

5.2.3.5 Section Summary

The analysis identified support for UI Ease of Navigation in both academic and practitioner literature. Moreover, customer reviews highlight this factor, while the website evaluation noted that navigational features are prominent across e-retailer websites. Taken together, the findings support that UI Ease of Navigation is a fundamental E-SQ factor.

5.2.4 UI Accessibility for Individuals with Impairments

5.2.4.1 Introduction

The UI Accessibility for Individuals with Impairments E-SQ factor focuses on ensuring that UIs are accessible to individuals with diverse abilities.

According to the Web Accessibility in Mind initiative at Utah State University (WebAIM), one in four adults in the United States has a disability (WebAIM, 2025). Further, WebAIM (2025, para. 9) states: "Although not all disabilities impact internet use, businesses would be unwise to purposely exclude 25, 15, or even five percent of their potential customers. In education and government, in many cases it is illegal discrimination." WebAIM's (2025) disability categories are listed in *Table 4*.

Table 4: *WebAIM (2025) Disability Categories*

Category	Impairment Types
Visual	Blindness, low vision, color-blindness.
Auditory	Deafness and hard-of-hearing.
Motor	Inability to use a mouse, slow response time, limited fine motor control.
Cognitive	Learning disabilities, distractibility, inability to remember or focus on large amounts of information.

Note. This table presents unaltered original content from WebAIM (2025)

Moreover, the World Wide Web Consortium (2023) has developed the Web Content Accessibility Guidelines (WCAG), which provide recommendations for enhancing web content accessibility for individuals with disabilities. These guidelines apply to a range of devices, including desktops, laptops, tablets, and mobile devices, and their implementation often improves usability for all users (World Wide Web Consortium, 2023).

Based on the above, this study presents the following definition:

User Interface Accessibility for individuals with impairments refers to *designing and implementing user interfaces that ensure usability for individuals with varying abilities, including those with visual, auditory, motor, and cognitive impairments.*

5.2.4.2 Literature Review Evidence

Zeithaml et al. (2000) suggest that fine print is often difficult to read, whereas Blut (2016) emphasizes that text must be clear and easy to read. These statements highlight the text-based aspect of

accessibility on UIs. Nonetheless, as shown above, more features besides readable text are needed to provide accessibility. Thus, the existing literature appears not to have fully addressed accessibility, representing a gap in the literature.

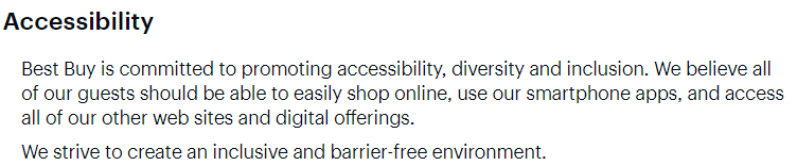
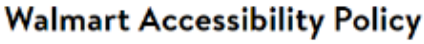
5.2.4.3 Online Review Analysis

The online review analysis identified two reviews discussing accessibility issues. One reviewer noted that the e-retailer's accessibility features were no longer functioning as expected. Another reviewer, who is legally blind, described the challenges of using an e-retailer website with a screen magnification program and a projector. These two reviews support the relevance of the UI-Accessibility for Individuals with Impairments factor. However, the data is not scaled to estimate the number of potentially affected global e-retail customers. This is because individuals with impairments may face significant barriers to writing and submitting online reviews, which could lead to their underrepresentation in the review dataset. Thus, the observed frequency cannot be assumed to reflect the actual scale of the issue for e-retail customers worldwide.

5.2.4.4 Website Evaluation

The evaluation of the e-retailer websites on May 15, 2024, revealed that all e-retailers, except Home Depot, explicitly reference their accessibility features (see Figure 9).

Figure 9: *Accessibility for Individuals with Impairments*

E-Retailer	Screenshot E-Retailer Website
Amazon (1)	
Apple (2)	
Best Buy (3)	
Target (4)	
Walmart (5)	

Note. All screenshots were retrieved by the author on May 15, 2024, from the respective e-retailer websites: (1) Amazon (https://www.amazon.com/b?node=15701038011), (2) Apple (https://www.apple.com/accessibility/), (3) Best Buy (https://www.bestbuy.com/site/help-topics/accessibility/pcmcat1496336482680.c?id=pcmcat1496336482680), (4) Target (https://www.target.com/c/accessibility-ways-to-shop/-/N-4ynq1), and (5) Walmart (https://www.walmart.com/help/article/responsible-disclosure-and-accessibility-policies/0f173dab8bd942da84b1cd7ab5ffc3cb).

Furthermore, the study utilized Google PageSpeed Insights (Google PageSpeed Insights, 2024), an online tool that assigns websites accessibility scores ranging from 0 (lowest) to 100 (highest). The tool considers various aspects of website accessibility, including color contrast, alternative text for images, and keyboard-only navigation (Google PageSpeed Insights, 2024). Evidence shows that Apple leads in accessibility, followed by Target, Walmart, Amazon, Best Buy, and Home Depot (see Figure 10).

Figure 10: *Accessibility and Speed – Google Page Speed Insights*

E-Retailer	Mobile Device Result		Desktop Result	
Amazon	 Performance	 Accessibility	 Performance	 Accessibility
Apple	 Performance	 Accessibility	 Performance	 Accessibility
Best Buy	 Performance	 Accessibility	 Performance	 Accessibility
Home Depot	 Performance	 Accessibility	 Performance	 Accessibility
Target	 Performance	 Accessibility	 Performance	 Accessibility
Walmart	 Performance	 Accessibility	 Performance	 Accessibility

Note. The analysis assessed the performance and accessibility of the e-retailers' main websites (amazon.com, apple.com, bestbuy.com, homedepot.com, target.com, walmart.com) with PageSpeed Insights on November 24, 2024. https://pagespeed.web.dev/. The table includes screenshots taken directly from the results on the same day. This table was developed by the author based on the study's findings.

The results suggest that e-retailers implement accessibility features when developing their UI, as evidenced by their solid to perfect accessibility scores. However, there is still room for improvement, particularly in the case of Home Depot, which recorded the lowest accessibility scores among the e-retailers.

The evidence suggests that the e-retailers have implemented solid to excellent accessibility features. Thus, evidence supports that UI Accessibility for Individuals with Impairments is an essential E-SQ factor.

5.2.4.5 Section Summary

E-SQ literature appears to have overlooked UI Accessibility for Individuals with Impairments, except for text features. Evidence from website evaluations and two online reviews supports this E-SQ factor. The importance of accessibility is further underscored by the high percentage of individuals with impairments in the U.S., who are potential e-retail customers. Based on this evidence, this study proposes the introduction of UI Accessibility for Individuals with Impairments as a novel E-SQ factor.

5.2.5 UI Newsletter

5.2.5.1 Introduction

Latana (2022, September 27) reported that a 2022 U.S. consumer survey found 27% of respondents stated it was likely or very likely that a brand's regular newsletter would influence their purchasing decision, demonstrating the vital importance of newsletters in e-retail.

In this study, User Interface Newsletter refers to *an e-retailer feature that provides customers with regular updates, promotions, and relevant content via e-mail.*

5.2.5.2 Literature Review Evidence

Literature support for UI Newsletter stems from Zeithaml et al. (2000), who emphasize the importance of offering customers the option to be on an email list without receiving junk mail.

5.2.5.3 Online Review Analysis

The online review analysis found reviewers who complained about receiving excessive e-retailer newsletters (junk mail). The quantitative analysis identified eight reviews related to UI Newsletter,

accounting for 0.026% of all reviews (see Table 5). This could correspond to approximately 0.7 million global e-retail customers in 2024, based on Statista (2025, February 7). Due to the low frequency and high variance in how issues are described, this figure may underestimate the true extent of concern.

In conclusion, this evidence supports the UI Newsletter E-SQ factor.

Table 5: *Frequency of Mentions Related to Newsletter in Online Reviews*

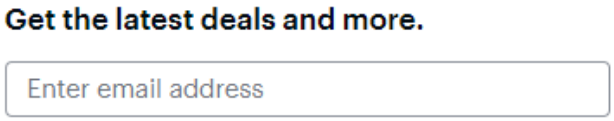
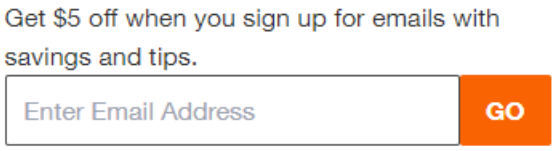
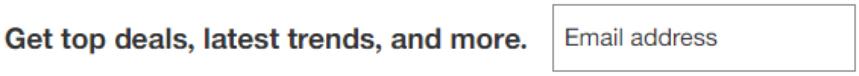
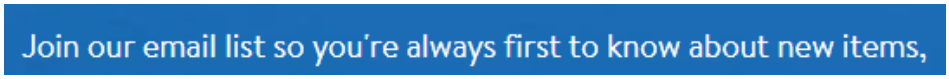
Term Used	No. of Cases	Percentage of Total Reviews (%)
Junk Mail*	6	0.0196
Newsletter*	2	0.0065
Total Mentions	8	0.0261

Note. The total number of online reviews analyzed was 30,549. "*" is a wildcard that matches any word variation. This table was developed by the author based on the study's findings.

5.2.5.4 Website Evaluation

The evaluation of the e-retailer websites on November 17, 2024, revealed that all e-retailers offer newsletters (see Figure 11). This observation suggests that UI Newsletters are a common practice in e-retail, supporting their relevance as an E-SQ factor.

Figure 11: *Newsletter*

E-Retailer	Screenshot E-Retailer Website
Amazon (1)	
Apple (2)	
Best Buy (3)	
Home Depot (4)	
Target (5)	
Walmart (6)	

Note. All screenshots were retrieved by the author on November 17, 2024, from respective e-retailer websites: (1) Amazon. (https://www.amazon.com/newsletter-subscriptions/), (2) Apple. (https://support.apple.com/de-de/guide/news/), (3) Best Buy. (https://www.bestbuy.com/), (4) Home Depot. (https://www.homedepot.com/), (5) Target. (https://www.target.com/), and (6) Walmart. (https://www.walmart.com/cp/email-opt-in/8196352).

5.2.5.5 Section Summary

Statistics indicate that newsletters have a significant influence on purchase decisions. In addition, sending newsletters appears to be a standard practice in e-retail, as evidenced by the website evaluation. Further, this study found reviews that mentioned newsletters. Furthermore, Zeithaml et al. (2000) recognize newsletters in their E-SQ framework. Therefore, this study supports that UI Newsletter is a relevant E-SQ factor.

5.2.6 UI Availability

5.2.6.1 Introduction

The availability of the UI is fundamental to e-retail, as customers cannot shop if the UI is down. According to a 2024 survey by the Baymard Institute (2024), 17% of U.S. adult customers abandon their online shopping carts if the website crashes or has errors. This statistic highlights that website unavailability can deter customers from making a purchase, resulting in negative financial consequences for the e-retailer.

Zeithaml et al. (2000) emphasize that consumers expect websites to be constantly operational and available without interruptions, freezes, or crashes. Similarly, Yang et al. (2005) state that customers expect websites to be always online. Based on the above, this study presents the following definition:

User Interface Availability refers to *the continuous readiness to use a user interface characterized by constant uptime and seamless loading, ensuring an uninterrupted and reliable shopping experience.*

5.2.6.2 Literature Review Evidence

Several authors emphasize the importance of website availability as a crucial factor in E-SQ (e.g., Bauer et al., 2006; Blut et al., 2015; Parasuraman et al., 2005; Yang et al., 2005; Zeithaml et al., 2000). Additionally, the American Customer Satisfaction Index (ASCI) (2024) highlights the importance of mobile availability as a critical factor. Thus, the literature supports the UI Availability E-SQ factor.

5.2.6.3 Online Review Analysis

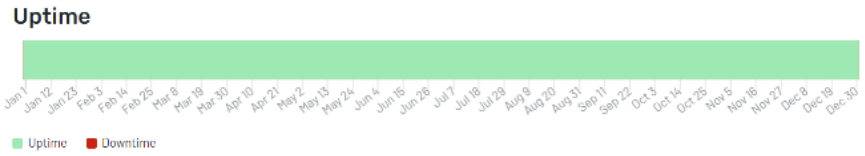
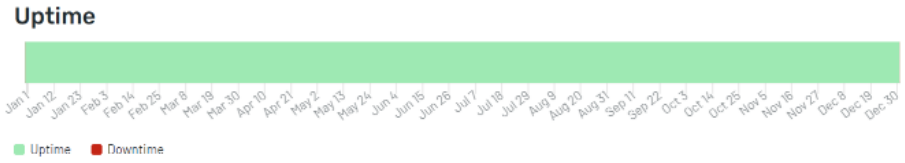
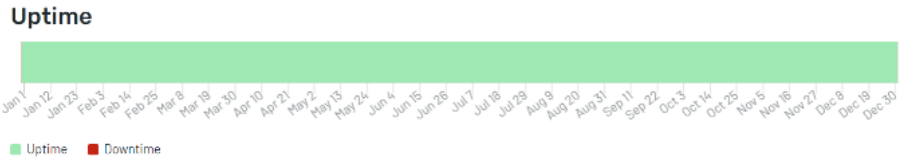
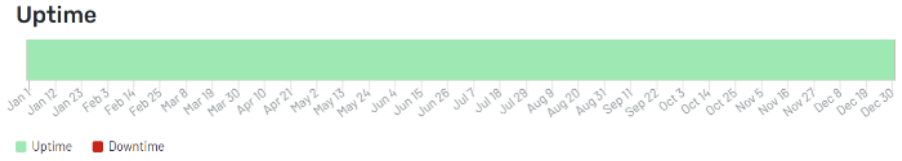
The online review analysis revealed mentions of UI Availability. For instance, reviewers experienced website crashes, freezes, and errors. Other reviewers reported losing items in their carts, facing excessive loading times, and being unable to complete purchases. Additionally, the quantitative analysis identified 10 reviews mentioning "*site crash*", accounting for 0.033% of all reviews. This could correspond to approximately 0.8 million global e-retail customers in 2024, based on Statista (2025, February 7). Due to the low frequency and high variance in how issues are described, this figure may underestimate the true extent of concern.

In conclusion, these findings support the UI Availability factor.

5.2.6.4 Website Evaluation

The availability of e-retailer websites was assessed using Uptime (2024), a platform that monitors website uptime, on May 22, 2024. Historical data for Amazon, Apple, Best Buy, and Target were available at Uptime (2024), revealing that these websites experienced no downtime in 2023 (see Figure 12). This finding suggests that these e-retailers maintain continuous UI service, supporting the relevance of UI Availability as an E-SQ factor.

Figure 12: *Availability 2023 According to Uptime*

E-Retailer	Screenshot SEOmator Result
Amazon	
Apple	
Best Buy	
Target	

Note. The analysis checked the availability of the e-retailer website with Uptime.com. Screenshots with results were retrieved on May 22, 2024, from Uptime.com, available at: https://uptime.com/amazon.com.

5.2.6.5 Section Summary

When a UI is unavailable, no shopping can take place. Statistics highlight that in such cases, customers often abandon their shopping carts. Literature provides robust support, while reviews support the

UI Availability factor. Furthermore, data for four e-retailers revealed perfect website availability in 2023, indicating that these e-retailers have established reliable UIs. Thus, the evidence supports that UI availability is a key E-SQ factor.

5.2.7 UI Speed

5.2.7.1 Introduction

Think with Google. (n.d.) reported that the probability of a user leaving a website without interaction increases by 32% when page load time increases from 1 to 3 seconds. This means that even a slight delay in UI Speed causes a loss of customers, underscoring the importance of this E-SQ factor.

In this study, the speed of a User Interface refers to *the quickness with which the user interface responds to user inputs or uploads, loads content, and performs actions, ensuring a fast, convenient, and seamless shopping experience.*

5.2.7.2 Literature Review Evidence

Several authors consider website or portal speed a critical E-SQ factor (e.g., Bauer et al., 2006; Gounaris & Dimitriadis, 2003; Parasuraman et al., 2005; Wolfinbarger & Gilly, 2003; Yang et al., 2005; Zeithaml et al., 2000). Additionally, the ACSI (2024) views website performance as a crucial benchmark for e-retailers. Overall, the literature supports UI Speed.

5.2.7.3 Online Review Analysis

The online review analysis found reviews related to UI Speed. Examples include customers mentioning fast page loading, excessive loading times, and slow app performance. However, the results are not quantified, as customers use a wide range of expressions to describe slow website speed. However, qualitative evidence supports the importance of UI Speed.

5.2.7.4 Website Evaluation

To evaluate the website speed of the retailer websites, the study utilized Google PageSpeed Insights (Google PageSpeed Insights, 2024), a web development tool that measures website speed. The tool scores

website speed (performance) on a scale from 0% (lowest) to 100% (highest). The analysis applied this tool on November 24, 2024, to measure the e-retailers' desktop and website speed.

The results show that e-retailer mobile website speed ranged between 27 and 41%, while desktop speed ranged between 59 and 100% (see Figure 10).

These results suggest room for improvement in speed for e-retailer UIs, and it appears that UI Speed is suboptimal in today's e-retail sector.

5.2.7.5 Section Summary

Literature and online reviews support UI Speed as an E-SQ factor. Notably, the assessment of the websites found that UI speed at the e-retailers appears to be suboptimal. Overall, the findings support the relevance of the UI Speed factor.

5.2.8 UI Responsive Design

5.2.8.1 Introduction

Mobile devices, such as mobile phones, typically have much smaller screens than desktop personal computers. To create an optimal shopping experience, the UI design must adapt to screen size and other features. This flexible adaptation to various devices is named responsive design. To be more specific, Yousaf et al. (2018) explain that responsive design creates websites that provide optimal viewing and interaction experiences across various devices and screen sizes. Santoso (2019) defines responsiveness as the capability of a website to adjust seamlessly to various screen resolutions and devices, including PCs, laptops, tablets, and smartphones. According to Google (n.d.-c), responsive design applies a flexible layout that adapts to different screen sizes.

Responsive design ensures that consumers can use the UI effectively on mobile e-retail devices. Mobile e-retail refers to e-retail transactions conducted via mobile devices connected to the Internet (Gabler Wirtschaftslexikon, n.d.). In 2022, U.S. market mobile e-retail sales amounted to more than 431 billion U.S. dollars (eMarketer & Insider Intelligence, 2023, September 6), highlighting the large size of this market.

Considering the above and the e-retail context, the study adopts the following definition:

User Interface Responsive Design refers to *the ability of an e-retail user interface to adapt optimally to the technical capabilities of various devices (e.g., desktop personal computers, laptops, mobile phones,*

and tablets). Hereby, the UI must consider factors such as screen size, navigation structure, graphical elements, interaction features, and other relevant elements.

5.2.8.2 Literature Review Evidence

The academic literature on E-SQ provides limited insight into UI Responsive Design. From a practitioner standpoint, however, the ACSI (2024) generally addresses the quality and reliability of mobile apps. In conclusion, this may indicate a potential gap in the academic E-SQ literature.

5.2.8.3 Online Review Analysis

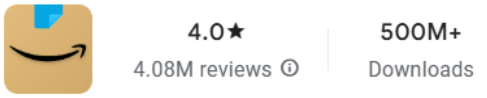
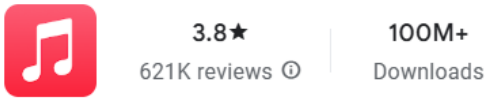
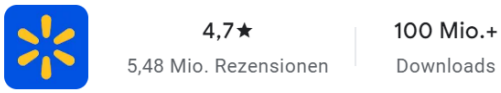
The online review analysis identified one review referencing UI Responsive Design. In this case, the customer described difficulties using the shopping app. While this finding suggests some relevance, it appears that customers rarely discuss UI Responsive Design explicitly in reviews. Moreover, the diverse ways in which users may express responsiveness-related issues make it difficult to quantify results reliably. For this reason, the study does not scale this finding to the global e-retail customer population.

5.2.8.4 Website Evaluation

The study evaluated e-retailer responsive design based on (1) observing the availability of e-retailer mobile shopping apps, (2) testing mobile-friendliness, and (3) evaluating mobile page loading speeds.

Beginning with the evaluation of shopping app availability, it was found that all six e-retailers offer mobile shopping apps designed to enhance the user experience on smartphones and other mobile devices. The evaluation, conducted on September 8, 2024, revealed that these apps are available on the Google Play Store (Google, n.d.-a), each with substantial download figures (see Figure 13). The high number of downloads suggests that customers widely adopt these shopping apps.

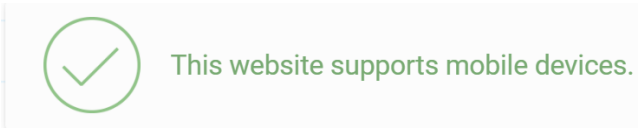
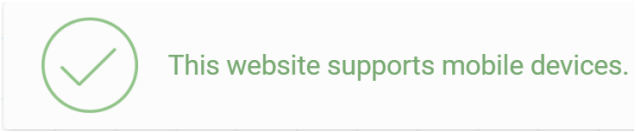
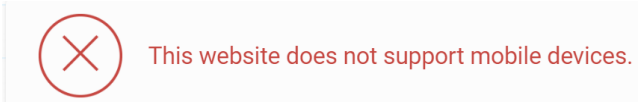
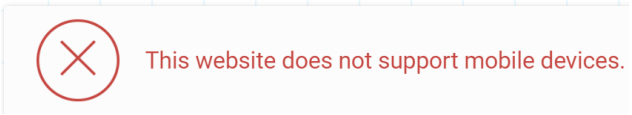
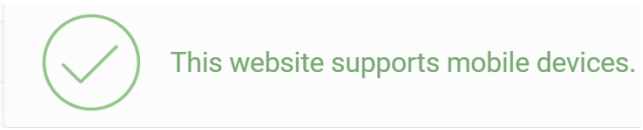
Figure 13: *Responsive Design I -Availability of Shopping Apps*

E-Retailer	Screenshot from Google Play Store
Amazon	
Apple	
Best Buy	
Home Depot	
Target	
Walmart	

Note: Results were retrieved on September 8, 2024, from Google. https://play.google.com/store/apps/

Turning now to the mobile friendliness of the UI. The study utilized SEOmator (n.d.), an online tool for testing mobile-friendliness, on August 31, 2024, to evaluate mobile responsiveness. The results showed that Amazon, Apple, and Walmart had built mobile-friendly websites, whereas Target and Home Depot did not meet the SEOmator (n.d.) criteria (see Figure 14). The study has no data for Best Buy because an error occurred during the test of this e-retailer.

Figure 14: *Responsive Design II - SEOmator Results*

E-Retailer	Screenshot SEOmator Result
Amazon	
Apple	
Best Buy	
Home Depot	
Target	
Walmart	

Note: Results from SEOmator. (n.d.). Mobile-friendly test. Results retrieved as screenshots on August 31, 2024, from https://seomator.com/mobile-friendly-test

Together, these findings support the importance of the UI Responsive Design factor.

5.2.8.5 Conclusion

In conclusion, while academic literature appears to overlook UI Responsive Design as an E-SQ factor, practitioner sources such as ACSI (2024) acknowledge its relevance. The website evaluation

highlights its practical importance, and one online review supports this factor. Given this evidence, the study proposes UI Responsive Design as a novel E-SQ factor.

5.3 Product Offering Dimension

5.3.1 Introduction

In this study, Product Offering in e-retail refers to *the assortment of items and services that an e-retailer makes available to its customers online.*

Several authors support the PO dimension (Blut et al., 2016; Francis & White, 2001; Holloway & Beatty, 2008; and Szymanski & Hise, 2000).

The quantitative online review analysis identified 12,271 reviews related to PO, accounting for 40.17% of all reviews (see Table 6). This could correspond to approximately 1.02 billion global e-retail customers in 2024, based on Statista (2025, February 7). These results emphasize that customers frequently discuss items and products, reflecting the central importance of the PO in the e-retail experience.

Table 6: *Frequency of Mentions Related to Product Offering in Online Reviews*

Term Used	No. of Cases	Percentage of Total Reviews (%)
Item*	7,107	23.2643
Product	2,816	9.2180
Products	2,348	7.6860
Total Mentions	12,271	40.1683

Note. The total number of online reviews analyzed was 30,549. "*" is a wildcard that matches any word variation. This table was developed by the author based on the study's findings.

The following sections present the proposed underlying E-SQ factors of the PO dimension.

5.3.2 PO Product Search

5.3.2.1 Introduction

Product search is one of the main functions of the e-retailer UI. This is underscored by Jungle Scout (2024), which reported that when consumers shop for products online, 56 % start their search directly at Amazon.com, 29% at Walmart.com, and 11% at Target.com.

In this study, Product Offering Product Search refers to *the functionality within a UI that enables customers to effectively locate products, such as an internal search engine that allows customers to enter product keywords, facilitating the discovery of the desired product.*

5.3.2.2 Literature Review Evidence

Zeithaml et al. (2000) emphasize the importance of websites providing product search options, such as a product search engine. Wolfinbarger and Gilly (2003) suggest that the website should facilitate easy product discovery and feature search functions that deliver meaningful results. Thus, the literature supports PO Product Search.

5.3.2.3 Online Review Analysis

The online review analysis found reviews related to PO Product Search. For instance, a customer stated that an e-retailer's search options are detailed and user-friendly. However, several reviewers expressed that the search options deliver irrelevant results. The qualitative analysis identified mentions related to the PO Product Search factor in 12 reviews, accounting for 0.039% of all analyzed reviews (see Table 7). This could correspond to approximately 1 million global e-retail customers in 2024, based on Statista (2025, February 7). Due to the low frequency and high variance in how issues are described, this figure may underestimate the true extent of concern.

Table 7: *Frequency of Mentions Related to Product Search in Online Reviews*

Term Used	No. of Cases	Percentage of Total Reviews (%)
Search Bar	4	0.0131
Item Search*	3	0.0098
Search Algorithm*	2	0.0065
Search Option*	2	0.0065
Product Search*	1	0.0033
Total mentions	12	0.0392

Note. The total number of online reviews analyzed was 30,549. "*" is a wildcard operator. This table was developed by the author based on the study's findings.

In conclusion, the discussion of PO Product Search in the reviews supports its relevance as an E-SQ factor.

5.3.2.4 Website Evaluation

The evaluation conducted on August 25, 2024, found that all e-retailers prominently feature product search bars in the top navigation bars (see Figure 8). Behind these search bars are search engines that facilitate finding products. After a customer has typed a product into the search bar, the search engine looks for it and presents the search results. The outstanding product search bar feature on e-retailer UIs supports the notion that PO Product Search is essential for e-retail practices, suggesting it is a relevant E-SQ factor.

5.3.2.5 Section Summary

Literature supports the PO Product Search factor. Further support comes from an online review discussion and from the observation that product search bars are prominently featured on all e-retailer UIs. PO Product Search appears to be an essential UI feature. Without it, finding products can be challenging. Overall, the evidence supports the notion that PO Product Search is a significant E-SQ factor.

5.3.3 PO Advertising

5.3.3.1 Introduction

In this study, Product Offering Advertising refers to the *promotional content used by e-retailers and third-party sellers to market products, services, or digital content to potential customers.*

Amazon sells advertising on its platform to third-party companies. Statista (2023, August 25) reported that Amazon generated 37.74 billion U.S. dollars in revenue from advertising sales in 2022, underscoring the importance of PO Advertising.

5.3.3.2 Literature Review Evidence

Zeithaml et al. (2000) find that advertising influences website aesthetics. Thus, important literature recognizes an aspect of PO Advertising. Nonetheless, this does not fully encompass the study's definition of PO Advertising, which may represent a gap in the literature.

5.3.3.3 Online Review Analysis

The online review analysis identified reviews related to PO Advertising. For example, customers discuss excessive advertisements, third-party ads, ethically problematic ads, accusations of false advertising, and ads promoting products that fail to fulfill their promises.

The quantitative analysis of PO Advertising-related terms revealed a significant discussion on this topic, present in 275 reviews or 0.9% of all cases (see Table 8). This could correspond to approximately 22.9 million global e-retail customers in 2024, based on Statista (2025, February 7).

Table 8: *Frequency of Mentions Related to Advertising in Online Reviews*

Term Used	No. of Cases	Percentage of Total Reviews (%)
Advertising	197	0.6449
Advertisement	78	0.2553
Total Mentions	275	0.9002

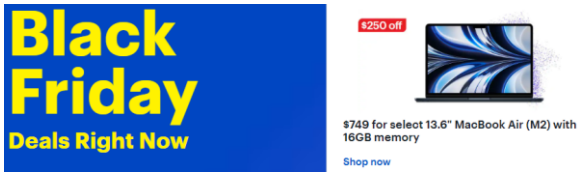
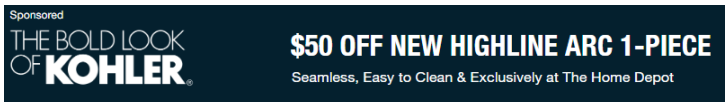
Note. The total number of online reviews analyzed was 30,549. "*" is a wildcard that matches any word variation. This table was developed by the author based on the study's findings.

These results support that PO Advertising is a relevant E-SQ factor.

5.3.3.4 Website Evaluation

An evaluation carried out on November 17, 2024, revealed that all e-retailers prominently display advertising on their websites, underscoring the practical relevance of PO Advertising (see Figure 15).

Figure 15: *Advertising*

E-Retailer	Screenshot from E-Retailer Website
Amazon (1)	
Apple (2)	
Best Buy (3)	
Home Depot (4)	
Target (5)	
Walmart (6)	

Note. All screenshots were retrieved by the author on November 17, 2024, from respective e-retailer websites: (1) Amazon. (https://www.amazon.com), (2) Apple. (https://www.apple.com), (3) Best Buy. (https://www.bestbuy.com),

(4) Home Depot. (https://www.homedepot.com), (5) Target. (https://www.target.com), and (6) Walmart. (https://www.walmart.com).

5.3.3.5 Section Summary

Amazon generates extensive revenues with advertisements on its platform. Zeithaml et al. (2000) mention an aspect of PO Advertising that appears not to cover the entire E-SQ factor. Online reviews frequently mention advertisements. Furthermore, e-retailers prominently display advertising on their websites. This evidence supports that PO Advertising is a relevant new E-SQ factor.

5.3.4 PO Product Variety

5.3.4.1 Introduction

Statista (2023, October 5) reported that for 34% of online consumers, a more extensive product range was a key driver of online purchases in the U.S. in 2023.

This study defines Product Offering Product Variety as *the breadth and diversity of products an e-retailer offers for sale, encompassing different product categories, models, brands, and variations.*

5.3.4.2 Literature Review Evidence

In practical terms, the ACSI (2024) identifies product variety as a key benchmark for e-retailers. The product variety is also a widely recognized E-SQ factor in literature (Bauer et al., 2006; Blut et al., 2015; Fassnacht & Köse, 2006; Francis & White, 2001; Holloway & Beatty, 2008; Szymanski & Hise, 2000; Wolfinbarger & Gilly, 2003; Yoo & Donthu, 2001). Also, Zeithaml et al. (2000) underscore the importance of available brands.

In conclusion, academic and practitioner literature support the notion that PO Product Variety is a key E-SQ factor.

5.3.4.3 Online Review Analysis

The online review analysis revealed a discussion related to PO Product Variety present in 37 reviews, accounting for 0.12% of all reviews (see Table 9). This could correspond to approximately 3.1

million global e-retail customers in 2024, based on Statista (2025, February 7). Furthermore, the qualitative analysis revealed instances where customers praise e-retailers for their extensive POs.

Table 9: *Frequency of Mentions Related to Product Variety in Online Reviews*

Term Used	No. of Cases	Percentage of Total Reviews (%)
Proximity Rule Product Variety	26	0.0851
Product Selection	8	0.0262
Product Range	3	0.0098
Total Mentions	37	0.1211

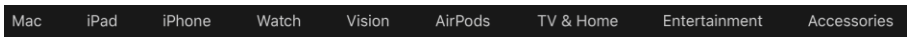
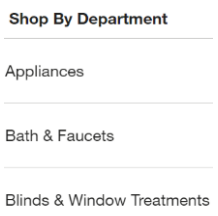
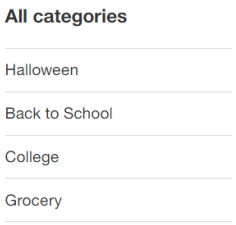
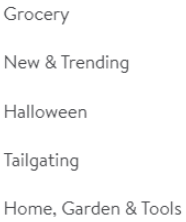
Note. The total number of online reviews analyzed was 30,549. This table was developed by the author based on the study's findings.

In conclusion, a discussion in online reviews supports the PO Product Variety E-SQ factor.

5.3.4.4 Website Evaluation

Based on the evaluation conducted on September 9, 2024, it was observed that the e-retailer websites display diverse product categories (see Figure 16).

Figure 16: *Product Variety*

E-Retailer	Screenshot from E-Retailer Website
Amazon (1)	
Apple (2)	
Best Buy (3)	
Home Depot (4)	
Target (5)	
Walmart (6)	

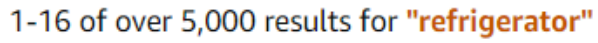
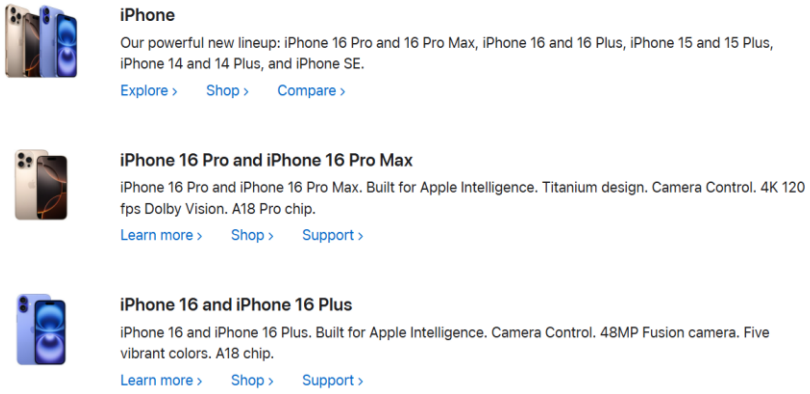
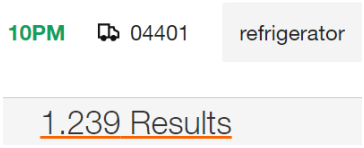
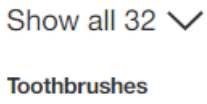
Note. *All screenshots were retrieved by the author on September 9, 2024, from respective e-retailer websites: (1) Amazon. (https://www.amazon.com), (2) Apple. (https://www.apple.com), (3) Best Buy. (https://www.bestbuy.com),

(4) Home Depot. (https://www.homedepot.com), (5) Target. (https://www.target.com), and (6) Walmart. (https://www.walmart.com).

The e-retailer websites do not explicitly state the total number of products they offer. Nonetheless, Capital One Shopping. (2024, July 14) reports that in 2023, over 600 million products were listed on Amazon.

To create an impression of the depth of the product variety of e-retailers, this study searched for specific products on the e-retailer websites on September 9, 2024. These indicative results show that Amazon offers over 5,000 types of refrigerators, Best Buy more than 1,000, Home Depot over 1,200, and Walmart over 1,000 (see Figure 17). Target offers 32 types of toothbrushes, while Apple restricts iPhone variations to just 3 (see Figure 17).

Figure 17: *Product Variety*

E-Retailer	Screenshot from E-Retailer Website
Amazon (1)	
Apple (2)	
Best Buy (3)	
Home Depot (4)	
Target (5)	
Walmart (6)	

Note. Screenshots were retrieved on September 9, 2024, from respective e-retailer websites: (1) Amazon (https://www.amazon.com), (2) Apple (https://www.apple.com), (3) Best Buy (https://www.bestbuy.com), (4) Home Depot (https://www.homedepot.com), (5) Target (https://www.target.com), and (6) Walmart (https://www.walmart.com)

It appears that all e-retailers, except Apple, offer a broad product range, underscoring that PO Variety is a critical E-SQ factor.

5.3.4.5 Section Summary

Statistics demonstrate that product variety is a key driver for online shopping. The PO Product Variety factor is well-supported by literature, mentioned in online reviews, and all e-retailers except Apple offer wide product ranges. Thus, the analysis supports the notion that PO Product Variety is a critical E-SQ factor.

5.3.5 PO Product Availability

5.3.5.1 Introduction

Ton and Raman (2010) define product availability as the presence of items in stock and immediately accessible to customers, emphasizing that increased stock availability is directly linked to higher sales. Similarly, Parasuraman et al. (2005) emphasize that e-retailers must provide accurate information about their inventory and ensure that products are available for delivery within a reasonable timeframe.

Based on the above, this study defines Product Offering Product Availability in e-retail as *the extent to which items offered by e-retailers are in stock and immediately available for purchase by customers.*

5.3.5.2 Literature Review Evidence

Holloway and Beatty (2003) identify the practice of listing products as in stock when they are not as a significant service failure. Zeithaml et al. (2000) specifically address product availability, focusing on whether items are in stock, available in the customer's size, and deliverable within a suitable time frame. The importance of product availability as a crucial E-SQ factor is further supported by academic research from Bauer et al. (2006), Blut et al. (2015), Holloway and Beatty (2008), and Parasuraman et al. (2005), as well as by practical guidelines such as the ACSI (2024).

In conclusion, the literature supports that PO Product Availability is a crucial E-SQ factor.

5.3.5.3 Online Review Analysis

The online review analysis found reviews discussing the availability of items. For example, reviews mentioned that e-retailer websites had displayed stock that did not exist.

Furthermore, the analysis revealed PO Product Availability-related terms in 1,419 reviews, accounting for 4.65% of all reviews (see Table 10). This could correspond to approximately 118 million global e-retail customers in 2024, based on Statista (2025, February 7).

Table 10: *Frequency of Mentions Related to Product Availability in Online Reviews*

Term Used	No. of Cases	Percentage of Total Reviews (%)
In Stock	919	3.0083
Out of stock	500	1.6367
Total Mentions	1,419	4.6450

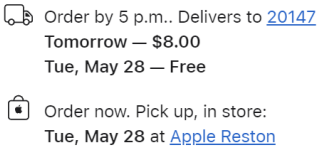
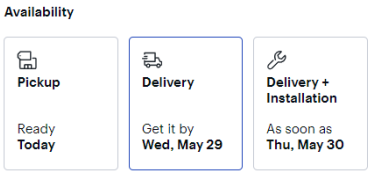
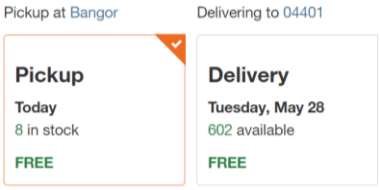
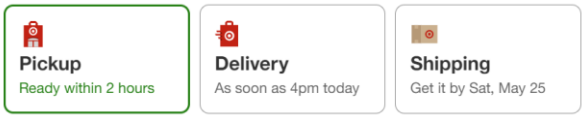
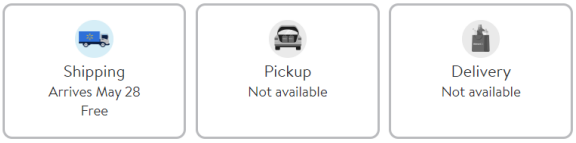
Note. The total number of online reviews analyzed was 30,549. This table was developed by the author based on the study's findings.

The review evidence supports the PO Product Availability E-SQ factor.

5.3.5.4 Website Evaluation

Data gathered during the evaluation on May 23, 2024, found that Amazon explicitly states when a product is in stock, whereas the other e-retailers primarily display delivery times, implicitly supporting product availability (see Figure 18).

Figure 18: *Product Availability*

E-Retailer	Screenshot from E-Retailer Website*
Amazon (1)	
Apple (2)	
Best Buy (3)	
Home Depot (4)	
Target (5)	
Walmart (6)	

Note. All screenshots were retrieved by the author on May 23, 2024, from (1) Amazon. https://www.amazon.com/Brooks-Glycerin-Mens-Supportive-

Running/dp/B09RS16T9H?pd_rd_w=5uWpe&content-id=amzn1.sym.62e0707f-7496-49a3-b5a0-d92fa2386c0f&pf_rd_p=62e0707f-7496-49a3-b5a0-d92fa2386c0f&pf_rd_r=BGXGD689HRVEY3631HBH&pd_rd_wg=2bjAx&pd_rd_r=e8b51d48-58e7-41f5-aba9-48c39dd05dca&pd_rd_i=B096YL2KR4&ref_=Fday_cml_feature_shwc_B096YL2KR4&th=1&psc=1 ; (2) Apple. https://www.apple.com/shop/product/MW2H3AM/A/35w-dual-usb-c-port-compact-power-adapter?fnode=1ad5e813f907e01ce61707222a6b310e693f88dcfe48a83135f81024f91207bdc2da5e79e5a48adbe02750fb826cd6a034bd9709c7c420b05454eea5df8bb68150ab1b1f91dfe2f88235708dbfc3efdf7a7811943fb1e0f2f1471e48debac696 ; (3) Best Buy. https://www.Bestbuy.com/site/samsung-65-class-tu690t-crystal-uhd-4k-smart-tizen-tv/6538957.p?skuId=6538957 ; (4) Home Depot. https://www.Homedepot.com/p/Milwaukee-M12-12V-Lithium-Ion-Cordless-1-4-in-Hex-Screwdriver-Kit-with-Two-1-5Ah-Batteries-Charger-and-Tool-Bag-2401-22/100615066 ; (5) Target. https://www.target.com/p/taylor-swift-the-tortured-poets-department-bonus-track-8220-the-manuscript-8221-cd/-/A-91213853 ; (6) Walmart. https://www.walmart.com/ip/Dyson-V8-Origin-Cordless-Vacuum-Purple-New/728762765

In summary, the analysis found that all e-retailers provide implicit or explicit information about product availability. Therefore, PO Product Availability appears to have a practical relevance among all six e-retailers.

5.3.5.5 Section Summary

PO Product Availability is supported by academic and practical literature. Moreover, it is frequently mentioned in online reviews, and the six e-retailers provide information about it on their websites. Thus, evidence supports that PO Product Availability is a key E-SQ factor.

5.3.6 PO Product Distinction

5.3.6.1 Introduction

The large variety of products offered by e-retailers can sometimes make it difficult for consumers to differentiate between similar items.

In this study, Product Offering Product Distinction in e-retail refers to *the clarity with which an e-retailer helps consumers differentiate between similar products.* This can be facilitated through tools like comparison tables, product filters, or detailed product descriptions, enabling customers to make informed purchasing decisions.

5.3.6.2 Literature Review Evidence

Somewhat related to PO Product Distinction is the work of Zeithaml et al. (2000), who mention the need for presenting complete information about choices. Furthermore, the study was unable to find any relevant literature on this E-SQ factor. Thus, explicitly addressing PO Product Distinction may represent a gap in research.

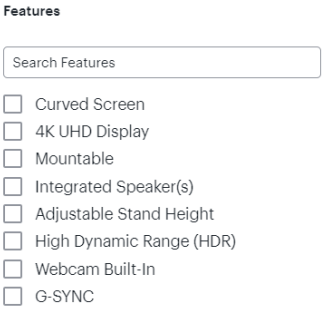
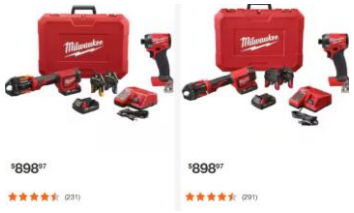
5.3.6.3 Online Review Analysis

The analysis did not identify any reviews that discussed issues related to PO Product Distinction. Thus, this analysis did not deliver direct support for this E-SQ factor.

5.3.6.4 Website Evaluation

Findings from the evaluation on May 23, 2024, indicate that distinguishing between products proved challenging in certain instances. For example, multiple search results are shown on Amazon for the same New Balance Sneaker model. This may create confusion as seemingly identical products appear multiple times, making it difficult for consumers to differentiate between them (see Figure 19). Similarly, Home Depot and Walmart exhibited that distinguishing between comparable products can be challenging (see Figure 19). To overcome confusion and better distinguish products, Apple displays product comparisons, and Best Buy offers filtering options (see Figure 19).

Figure 19: *Product Distinction*

E-Retailer	Screenshot from E-Retailer Website
Amazon (1)	
Apple (2)	
Best Buy (3)	
Home Depot (4)	
Walmart (5)	

Note. (1) The screenshots display search results for specific product queries on major e-retail platforms, retrieved on May 23, 2024, from (1) Amazon. https://www.amazon.com/s?k=new+balance+574&rh=n%3A679255011%2Cn%3A679312011&dc&ds=v1%3AD0i%2FdaaNEknJK19As2OpubzVpMu3HmiTc6rqneVlTtQ&crid=N5TS71DM16UT&qid=1716619788&rnid=2941120011&sprefix=new+balance+574%2Caps%2C213&ref=sr_nr_n_2 ; (2) Apple. https://www.apple.com/iphone/compare/; (3) Best Buy. https://www.Bestbuy.com/site/searchpage.jsp?st=samsung+monitor&_dyncharset=UTF-8&_dynSessConf=&id=pcat17071&type=page&sc=Global&cp=1&nrp=&sp=&qp=&list=n&af=true&iht=y&usc=All+Categories&ks=960&keys=keys ; (4) Screenshot shows the search results for the term “Milwaukee Drill”. Home Depot. https://www.Homedepot.com/b/Tools-Power-Tools-Drills/Milwaukee/N-5yc1vZc27fZzv?NCNI-5&searchRedirect=milwaukee%20drill&semanticToken=h17r10800f22000000000e_20240525070548716445206665

48_us-east1-Zj8br%20h17r10800f22000000000e%20>%20rid%3A%7B4e97ce6ff892e180df518ed2db13ff36%7D%3Arid%20st%3A%7Bmilwaukee%20drill%7D%3Ast%20ml%3A%7B24%7D%3Aml%20br%3A%7Bmilwaukee%7D%3Abr%20pt%3A%7Bdrill%7D%3Apt%20nr%3A%7Bmilwaukee%20drill%7D%3Anr%20nf%3A%7Bn%2Fa%7D%3Anf%20qu%3A%7Bmilwaukee%20drill%7D%3Aqu%20ie%3A%7B0%7D%3Aie%20qr%3A%7Bmilwaukee%20drill%7D%3Aqr ; (5) Walmart. https://www.walmart.com/search?q=black+and+decker+steam+iron+easy+steam

5.3.6.5 Section Summary

The product distinction appears not to be addressed in existing E-SQ literature or online reviews. However, the analysis identified challenges in distinguishing between similar products on Amazon, Home Depot, and Walmart. Based on evidence from the website evaluation, this study proposes the introduction of PO Product Distinction as a new E-SQ factor.

5.3.7 PO Product Authenticity

5.3.7.1 Introduction

Product Offering Product Authenticity refers to *the originality (i.e., not counterfeit) of items offered on e-retailer platforms.*

Alhabash et al.'s (2023) Global Anti-Counterfeiting Consumer Survey 2023 focuses on product counterfeits. The authors found that purchasing counterfeit goods is a widespread phenomenon. Hereby, more than 50% of global consumers knowingly purchased counterfeits. On the other hand, 68% of consumers were deceived into buying counterfeit products at least once in the past year (Alhabash et al., 2023). These findings highlight the immense issue of unauthentic products in the global market.

5.3.7.2 Literature Review Evidence

The analysis could not identify a relevant discussion on PO Product Authenticity in the literature on E-SQ, which may represent a gap in the existing literature.

5.3.7.3 Online Review Analysis

The online review analysis revealed reviews related to PO Product Authenticity, for instance, where customers raised concerns about counterfeit or fake products. Further, the quantitative analysis found 43 reviews, accounting for 0.14% of all reviews related to this E-SQ factor (see Table 11). This could

correspond to approximately 3.6 million global e-retail customers in 2024, based on Statista (2025, February 7).

Table 11: *Frequency of Mentions Related to Product Authenticity in Online Reviews*

Term Used	No. of Cases	Percentage of Total Reviews (%)
Fake product*	19	0.0622
Counterfeit item*	10	0.0327
Counterfeit product*	8	0.0262
Fake item*	5	0.0164
Product Authenticity	1	0.0033
Total Mentions	43	0.1408

Note. The total number of online reviews analyzed was 30,549. "*" is a wildcard that matches any word variation. This table was developed by the author based on the study's findings.

Overall, the review analysis revealed a discussion on PO Product Authenticity in reviews, supporting the relevance of this E-SQ factor.

5.3.7.4 Website Evaluation

According to the evaluation conducted between May 23, 2024, and February 19, 2025, it appears that Amazon and Walmart have a strict non-counterfeit policy towards third-party sellers, forbidding non-authentic items on their online marketplaces (see Figure 20). Further, Apple has a webpage where consumers can report counterfeit products (see Figure 20). Target allows customers to report possible product issues without explicitly mentioning authenticity (see Figure 20). The analysis did not find data on Home Depot and Best Buy. However, four of the six e-retailers display direct or indirect information about counterfeits, supporting PO Product Authenticity as a relevant E-SQ factor.

Figure 20: *Product Authenticity*

E-Retailer	Screenshot from E-Retailer Website
Amazon (1)	
Apple (2)	
Target (3)	
Walmart (4)	

Note. (1) Amazon. Screenshot retrieved on February 19, 2025, from https://sellercentral.amazon.com/help/hub/reference/external/G201165970 ; (2) Apple. Retrieved January 31, 2025, from https://www.apple.com/legal/contact/counterfeit-prevention.html ; (3) Target. Retrieved May 23, 2024, from https://www.target.com/p/taylor-swift-the-tortured-poets-department-bonus-track-8220-the-manuscript-8221-cd/-/A-91213853; (4) Walmart. Retrieved February 19, 2025, from https://marketplacelearn.walmart.com/guides/Prohibited-products-policy:-intellectual-property-(IP)

5.3.7.5 Section Summary

Although PO Product Authenticity is not explicitly addressed in existing E-SQ literature, the analysis identified indirect and direct references from e-retailers. Additionally, evidence from online reviews highlights consumer concern regarding this issue. As a result, the study proposes to introduce PO Product Authenticity as a new critical E-SQ factor.

5.3.8 PO Product Warranty

5.3.8.1 Introduction

This study refers to Product Offering Product Warranty as *the e-retailer's promise that a product will function for a specific period.* If the product has defects or issues within that period, the customer may be entitled to a repair, replacement, or refund.

Selling warranties is a massive market. Credence Research (2024) reports that the global extended warranty market is estimated to be worth 147.82 billion U.S. dollars in 2024.

5.3.8.2 Literature Review Evidence

E-SQ literature appears to have overlooked the PO Product Warranty factor, which may represent a gap in the existing body of research.

5.3.8.3 Online Review Analysis

The quantitative online review analysis revealed that customers frequently discuss PO Warranty, which is present in 866 cases, accounting for 2.83% of all cases (see Table 12). This could correspond to approximately 72 million global e-retail customers in 2024, based on Statista (2025, February 7). Examples include reviewers mentioning difficulties claiming warranty, while one reviewer highlighted that the warranty process functioned conveniently.

Table 12: *Frequency of Mentions Related to Product Warranty in Online Reviews*

Term Used	No. of Cases	Percentage of Total Reviews (%)
Warranty	809	2.6482
Warranties	57	0.1866
Total Mentions	866	2.8348

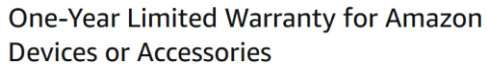
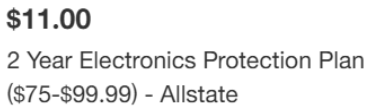
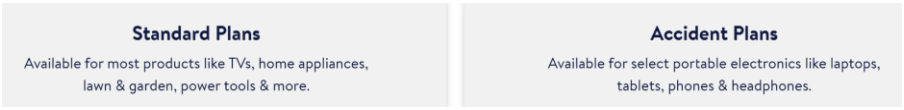
Note. The total number of online reviews analyzed was 30,549. "*" is a wildcard that matches any word variation. This table was developed by the author based on the study's findings.

The results suggest that PO Warranty is a significant E-SQ factor.

5.3.8.4 Website Evaluation

Evidence from the March 9, 2025, evaluation observed that all e-retailers display information about warranties on their websites (Figure 21). This practical evidence supports the PO Product Warranty factor.

Figure 21: *Warranty*

E-Retailer	Screenshot from E-Retailer Website
Amazon (1)	
Apple (2)	
Best Buy (3)	
Home Depot (4)	
Target (5)	
Walmart (6)	

Note. All reviews were retrieved on March 9, 2025, from (1) Amazon. https://www.amazon.com/gp/help/customer/display.html?nodeId=201014520; (2) Apple. https://www.apple.com/legal/warranty/; (3) Best Buy. https://www.bestbuy.com/site/help-topics/manufacturer-warranty-information/pcmcat204400050042.c?id=pcmcat204400050042; (4) Home Depot. https://www.homedepot.com/c/The_Home_Depot_Protection_Plans; (5) Target. https://www.target.com/s?searchTerm=allstate+protection+plan&tref=%7C%7C0%7C%7C%7C%7C%7C%7Chistory&category=0%7CAll%7Cmatchallpartial%7Call+categories&searchTermRaw=; (6) Walmart. https://www.walmart.com/cp/product-care-plan/6993429?q=warranty

5.3.8.5 Section Summary

The E-SQ literature appears not to have considered the PO Product Warranty. Product warranties are a substantial market, as statistics demonstrate, and online reviewers frequently discuss them. Meanwhile, e-retailers prominently display information about them and offer them for sale. This evidence suggests that PO Product Warranty is a relevant new E-SQ factor.

5.4 Price Dimension

5.4.1 Introduction

In this study, the Price in e-retail refers to *the total monetary cost for a customer when purchasing products or services online.* This includes not only the base price of the product but also any added charges such as shipping fees, taxes, handling fees, and other associated costs.

ChannelAdvisor (October 7, 2022) conducted a survey in August 2022 and found that 82% of U.S. online consumers check prices before making a purchase. Moreover, Foresight Factory (2021, July 7) found in a July 2021 survey that 49% of global consumers shop online because they can find cheaper prices. These statistics underscore that price plays a crucial role in e-retail.

Several authors acknowledge the importance of the price for E-SQ (Blut et al., 2015; Blut, 2016; Holloway & Beatty, 2008; Zeithaml et al., 2000).

Moreover, this study identified reviews related to Price, appearing in 2,743 reviews, accounting for 8.98% of all reviews (see Table 13). This could correspond to approximately 228.1 million global e-retail customers in 2024, based on Statista (2025, February 7). These findings indicate that price is frequently mentioned in customer feedback, underscoring its importance in e-retail.

Table 13: *Frequency of Mentions Related to Price in Online Reviews*

Term Used	No. of Cases	Percentage of Total Reviews (%)
Price	1,763	5.7711
Prices	980	3.2080
Total Mentions	2,743	8.9791

Note. The total number of online reviews analyzed was 30,549. "*" is a wildcard that matches any word variation. This table was developed by the author based on the study's findings.

The above suggests that price is a key E-SQ dimension. The study discusses the Price dimension's underlying four E-SQ factors in the following sections.

5.4.2 Price Correctness & Transparency

5.4.2.1 Introduction

This study refers to Price Correctness & Transparency as *the practice of e-retailers of clearly presenting pricing information to customers straightforwardly and understandably.* This encompasses

correct billing and transparent disclosure of the product's base price, along with any added charges such as taxes, shipping fees, or other potential costs associated with the purchase.

According to a 2024 survey by the Baymard Institute (2024), 21% of U.S. adult customers abandon their online shopping carts if they cannot view or calculate total order costs up front. This statistic highlights that non-transparent costs can deter customers from making a purchase, underscoring the significance of the Price Correctness & Transparency E-SQ factor.

5.4.2.2 Literature Review Evidence

Some academic authors mention pricing in general terms (e.g., Blut et al., 2015; Holloway & Beatty, 2008). In detail, Zeithaml et al. (2000) find that the e-retailer's bills must be accurate. Furthermore, these authors emphasize the importance of being able to compare prices across different sites, having precise knowledge of shipping prices upfront, and transparency in costs, including a running total of purchases and shipping costs throughout the transaction, with all prices displayed on the screen (Zeithaml et al., 2000).

On the practical side, Trusted Shops (n.d.) requires e-retailers to display prices, price components, shipping fees, and delivery costs. Moreover, the withdrawal procedure must be transparent, with accessible information on return costs (Trusted Shops, n.d.). The entire order process should be straightforward, with transparent pricing and additional charges on the checkout page (Trusted Shops, n.d.). Retailers must also send immediate email confirmations that list the purchased items and any associated shipping costs (Trusted Shops, n.d.).

In conclusion, the analysis identified relevant literature on the topic of price transparency. Moreover, in practice, Trusted Shops (n.d.) has made it a key criterion for certification. Thus, the literature supports the Price Correctness & Transparency factor.

5.4.2.3 Online Review Analysis

This study found reviews related to Price Correctness and Transparency, for instance, where customers raised concerns about hidden fees, unclear shipping charges, additional shipping fees, and difficulties with subscription cancellations.

This study found reviews related to Price Correctness and Transparency, with the term “hidden fee*” appearing in 6 cases, accounting for 0.02% of all reviews. This could correspond to approximately

0.5 million global e-retail customers in 2024, based on Statista (2025, February 7). Due to the low frequency and high variance in how issues are described, this figure may underestimate the true extent of concern.

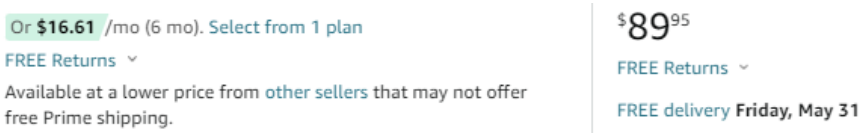
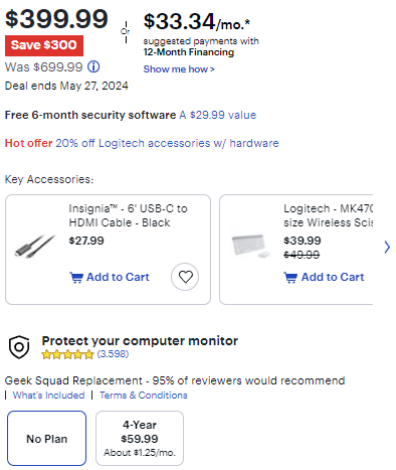
These findings suggest that concerns about hidden fees are present in customer feedback. Moreover, a quantitative analysis highlights a frequent discussion on bank disputes (see 5.5.9.3). These disputes may arise when prices are incorrect or not transparent.

Overall, the review analysis highlights the significance of the Price Correctness & Transparency factor.

5.4.2.4 Website Evaluation

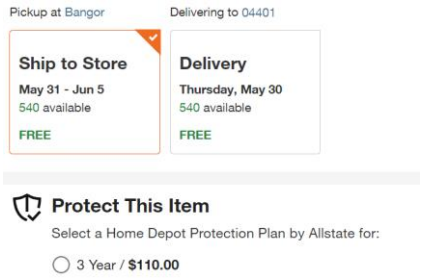
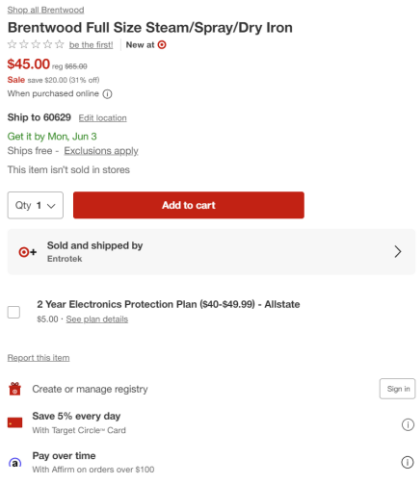
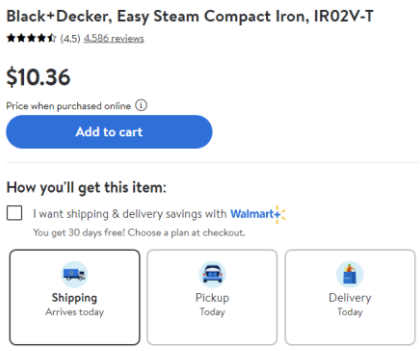
Based on the evaluation conducted on May 25, 2024, it was observed that all six e-retailers display the product base prices with information about possible additional costs, savings, and options (see Figure 22 and Figure 23). This evidence suggests that Price Correctness & Transparency is actively implemented across all six e-retailers.

Figure 22: *Price Correctness & Transparency I*

E-Retailer	Screenshot from E-Retailer Website
Amazon (1)	
Apple (2)	
Best Buy (3)	

Note. All screenshots were retrieved by the author on May 25, 2024, from (1) Amazon. https://www.amazon.com/New-Balance-Sneaker-Black-White/dp/B093QHJZ9M/ref=sr_1_2?crid=1O4K0UKFIK3XL&dib=eyJ2IjoiMSJ9.ng1ldr2ikWselyDMgiLlDUJgg1UALnKqdl58BLCQyiTdqhMme2LTrxTuDjPMvycR4h-EqlGSzCyiGmplBfUivObGanHPZIFjrWDf2wzZiCgMxv7xH9rOCVrwKKtfCM-Z-7Uu-f5Yt5VN9vsS0mMDfBnDbP8MIbYKCxVijx5UghpwYjLq35967VAgX1obnxWOnz1oK_SbBvollH-4Haaiyy2kIJNCplRp_KxRC0oCjBVrliyYuoy-qk5B4l9ZJFJciXdyPh4eaPFmGAdRsXHges5YZ_fAAJrOckv5EsZFMvE.WnYpjk1lmy8fSoRY2tQdT-sUWA2o89xnx52tlL8vGuU&dib_tag=se&keywords=new+balance+574&qid=1716622561&sprefix=new+balance+574%2Caps%2C277&sr=8-2 ; (2) Apple. https://www.apple.com/shop/buy-iphone/iphone-16-pro ; (3) Best Buy. https://www.Bestbuy.com/site/samsung-m80c-32-smart-tizen-4k-uhd-monitor-with-streaming-tv-hdr10-ergonomic-stand-slimfit-camera-built-in-speakers-warm-white/6544148.p?skuId=6544148;

Figure 23: *Price Correctness & Transparency II*

Home Depot (1)	
Target (2)	
Walmart (3)	

Note. All screenshots were retrieved by the author on May 25, 2024, from (1) Home Depot. https://www.Homedepot.com/p/Milwaukee-M18-FUEL-18-Volt-Lithium-Ion-Brushless-1-in-Cordless-SDS-Plus-Rotary-Hammer-Kit-w-6-0-Ah-Battery-2912-22-48-11-1865/322135443 ; (2) Target. https://www.target.com/p/brentwood-full-size-steam-spray-dry-iron/-/A-91511540#lnk=sametab; (3) Walmart. https://www.walmart.com/ip/Black-Decker-Easy-Steam-Compact-Iron-IR02V-T/49840437?athbdg=L1103&from=/search

5.4.2.5 Section Summary

The analysis reveals that the literature addresses Price Correctness & Transparency. Furthermore, online reviews highlight experiences related to accurate and transparent pricing. Moreover, e-retailers display price information prominently on their UIs. The analysis supports that Price Correctness & Transparency is a critical E-SQ factor.

5.4.3 Price Competitiveness

5.4.3.1 Introduction

Price Competitiveness refers to *an e-retailer's ability to offer products at prices that customers perceive as favorable or equal to those of competitors.* For instance, e-retailers can offer lower prices, discounts, or price-matching policies.

As shown in the Section 5.4.1, checking and finding lower prices is a crucial motivation for shopping online. Moreover, according to a 2024 survey by the Baymard Institute (2024), 48% of U.S. adult respondents abandon their online shopping carts if extra fees or taxes are too high. These statistics underscore that Price Competitiveness is a key to generating online revenue.

5.4.3.2 Literature Review Evidence

Zeithaml et al. (2000) emphasize the importance of customers being aware that the site offers competitive prices, including incentives to shop, such as free shipping and discount coupons. Blut (2016) included in his concept the criteria that (1) websites offer competitive prices and (2) website prices are lower than in physical stores. These two sources demonstrate that literature addresses Price Competitiveness.

5.4.3.3 Online Review Analysis

This study found reviews related to Price Competitiveness. For example, comments mentioned high prices, affordability, and competitive pricing. Some reviewers also raised concerns about the price-matching policy.

Further, WordStat Topic Modeling identified "price match" as a notable topic, present in 675 reviews, accounting for 2.2% of all reviews (see Appendix A). This could correspond to approximately 56.1 million global e-retail customers in 2024, based on Statista (2025, February 7).

Overall, the review analysis found support for the Price Competitiveness factor.

5.4.3.4 Website Evaluation

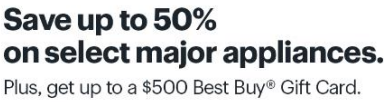
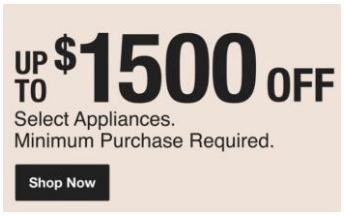
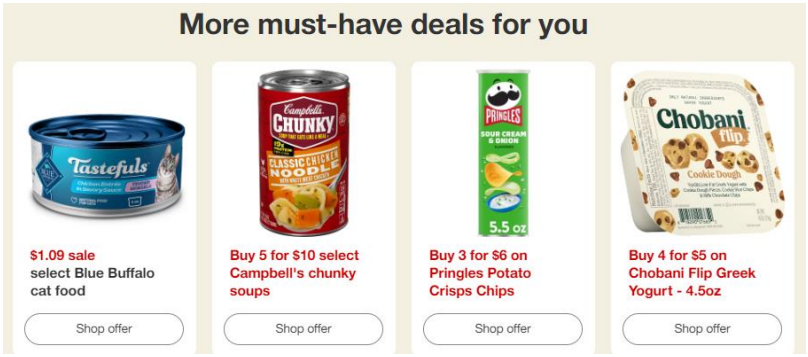
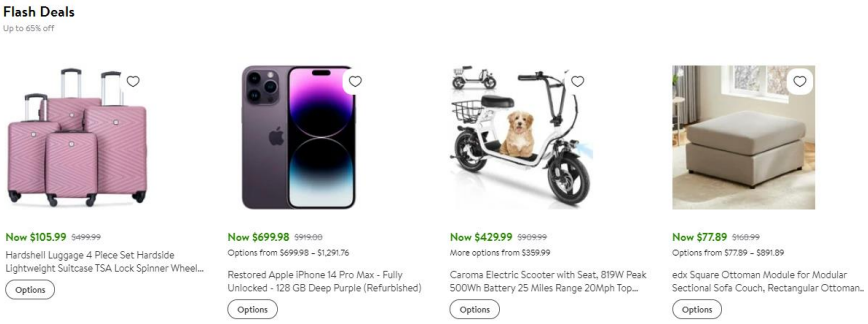
An evaluation carried out on September 11, 2024, revealed the following. First, Amazon and Walmart do not seem to offer a price-matching policy with competitors (see Figure 24). Nonetheless, Amazon and Walmart stated that they aim to offer low prices (see Figure 24). In contrast, Best Buy, Target, and Home Depot provide information about price-match policies (see Figure 24). The analysis was unable to locate relevant information on price matching for Apple. Moreover, all e-retailers, except Apple, appear to prominently display price offers on their websites (see Figure 25).

Figure 24: *Price Competitiveness I*

E-Retailer	Screenshot from E-Retailer Website
Amazon (1)	Price Matching
Best Buy (2)	Price Match Guarantee
Home Depot (3)	The Power of Lower Prices. Guaranteed.®
Target (4)	Price Match Guarantee
Walmart (5)	At Walmart, our customers are number one - always. That's why everything we do is focused on providing excellent customer service and delivering low prices.
Walmart (5)	Sorry, we do not match: • Competitor's online or in-store prices

Note. (1) Amazon. Retrieved September 11, 2024, from https://www.amazon.com/gp/help/customer/display.html?nodeId=G9EAYKPV5YYDB8P7 ; (2) Best Buy. (2024) Retrieved September 11, 2024, from https://www.bestbuy.com/site/help-topics/price-match-guarantee/pcmcat290300050002.c?id=pcmcat290300050002; (3) Home Depot. Retrieved September 11, 2024, from https://www.homedepot.com/c/PM_New_Lower_Price; (4) Target. Retrieved September 11, 2024, from https://help.target.com/help/targetguesthelparticledetail?articleId=ka95d000000gLekAAE&articleTitle=What%27s+Target%27s+price+match+policy%3F&clickSearchVar=Search+Results&searchQuery=price+match; (5) Walmart Corporate. Retrieved September 11, 2024, from https://corporate.walmart.com/policies

Figure 25: *Price Competitiveness II*

E-Retailer	Screenshot from E-Retailer Website
Amazon (1)	
Best Buy (2)	
Home Depot (3)	
Target (4)	
Walmart (5)	

Note: The screenshots above were retrieved on September 11, 2024, from respective e-retailer websites: Apple (https://www.apple.com), Amazon (https://www.amazon.com), Best Buy (https://www.bestbuy.com), Home Depot (https://www.homedepot.com), Target (https://www.target.com), and Walmart (https://www.walmart.com).

In conclusion, all e-retailers, except Apple, provide information on competitive prices and make price offers on their websites. This practical evidence supports Price Competitiveness, underscoring that it is an essential E-SQ factor.

5.4.3.5 Section Summary

The literature addresses low prices, which are directly related to Price Competitiveness. Further, online reviews frequently discuss price matches, and e-retailers provide relevant information on their platforms. This evidence supports that Price Competitiveness is a key E-SQ factor.

5.4.4 Price Consistency Across Channels

5.4.4.1 Introduction

Price Consistency Across Channels refers to *an e-retailer's ability to maintain the same prices for its products and services across all its sales channels, such as websites, mobile apps, and physical stores.* It ensures that customers receive the same price regardless of how and where they interact with the e-retailer. For example, in-store prices and online prices are equal.

5.4.4.2 Literature Review Evidence

Price Consistency Across Channels does not appear to be explicitly addressed in the existing E-SQ literature, which may indicate a gap in current research.

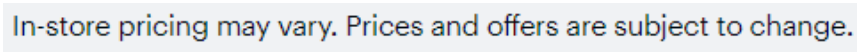
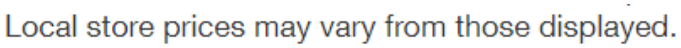
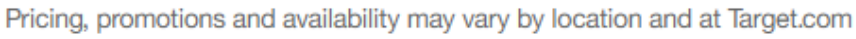
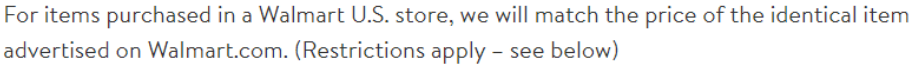
5.4.4.3 Online Review Analysis

The online review analysis identified reviews related to Price Consistency Across Channels, where customers reported discrepancies between online and in-store prices across e-retailers. Examples included physical stores that did not match online prices. However, the analysis could not quantify this factor, as reviewers use too many ways to describe pricing inconsistencies. Nonetheless, this qualitative evidence supports the relevance of Price Consistency Across Channels.

5.4.4.4 Website Evaluation

The evaluation of the websites on September 11, 2024, suggests that Best Buy, Home Depot, Target, and Walmart acknowledge price inconsistencies (see Figure 26). Specifically, Best Buy and Home Depot indicate that in-store prices may differ from online prices (see Figure 26). Further, Target and Walmart state that prices for in-store items may be matched with identical online items (see Figure 26).

Figure 26: *Price Consistency Across Channels*

E-Retailer	Screenshot from E-Retailer Website
Best Buy (1)	
Home Depot (2)	
Target (3)	
Walmart (4)	

Note: The screenshots were retrieved on September 11, 2024, from (1) Best Buy. www.bestbuy.com; (2) Home Depot. www.homedepot.com; (3) Target. www.target.com; (4) Walmart. https://corporate.walmart.com/policies

Overall, the website evaluation found that e-retailers acknowledge possible price differences across sales channels on their websites. This evidence supports that Price Consistency Across Channels is a relevant E-SQ factor.

5.4.4.5 Section Summary

E-SQ literature appears not explicitly to address Price Consistency Across Channels. However, this factor appears in reviews, and e-retailers acknowledge it on their websites. Given this evidence, this study proposes the introduction of Price Consistency Across Channels as a new E-SQ factor.

5.4.5 Price Consistency Over Time

5.4.5.1 Introduction

Price Consistency Over Time refers to *the stability of prices over a given period in e-retail.* This factor ensures that customers are not confused or dissatisfied by frequent or unexplained price changes for the same product or service.

5.4.5.2 Literature Review Evidence

Price Consistency Over Time does not appear to be explicitly discussed in the E-SQ literature, which suggests a potential gap in the existing research.

5.4.5.3 Online Review Analysis

The online review analysis identified reviews highlighting concerns about fluctuating prices in e-retail. For example, a reviewer noted that prices changed multiple times during the checkout process. Another customer reported a price drop after purchase and contacted customer support, which promised to adjust the price; however, this did not occur. Moreover, one customer reported a discrepancy in prices between the order confirmation email and the final charge. Further, a customer stated having to repurchase items lost by the e-retailer at a higher price later. This qualitative evidence underscores the importance of Price Consistency Over Time. However, the findings cannot be quantified due to the variability in how customers express pricing fluctuations.

5.4.5.4 Website Evaluation

The website evaluation carried out on December 31, 2024, revealed the following. Apple and Target appear to offer a 14-day price adjustment policy, while Walmart indicates no decrease in prices after purchase (see Figure 27). Furthermore, Williams (2023, December 7) reports that Home Depot customers may receive a price adjustment within 30 days. This evaluation suggests that e-retailers acknowledge customers' sensitivity to post-purchase price changes.

Figure 27: *Price Consistency Over Time*

E-Retailer	Screenshot from E-Retailer Website
Apple (1)	Should Apple reduce its price on any Apple-branded product within 14 calendar days from the date you receive your product, feel free to visit an Apple Retail Store or contact the Apple Contact Center at 1-800-676-2775 to request a refund or credit of the difference between the price you were charged and the current selling price. To receive the refund or credit you must contact Apple within 14 calendar days of the price change. Please note that this excludes limited-time price reductions, such as those that occur during special sales events, such as Black Friday or Cyber Monday.
Target (2)	• It's an eligible Target product, bought from Target today, or in the past 14 days. Refer to Price Match Policy for full details.
Walmart (3)	Please note that we do not price match the following: • Competitors' prices • Items purchased from Walmart.com that later decrease in price

Note: The screenshots above were retrieved on December 31, 2024, from: (1) Apple. https://www.apple.com/legal/sales-support/sales-policies/retail/; (2) Target. https://help.target.com/help/subcategoryarticle?childcat=Price+Match+Guarantee&parentcat=Policies+%26+Guidelines&searchQuery= ; (3) Walmart. https://www.walmart.com/help/article/walmart-price-match-policy/6295d9e1a501489b9aa40a60c899b288

The evaluation provides indications that Price Consistency Over Time is acknowledged by e-retailers, supporting its relevance as an E-SQ factor in practice.

5.4.5.5 Section Summary

Literature does not address Price Consistency Over Time, representing a gap. However, support for this E-SQ factor comes from reviews and e-retail practice. Based on this support, this study proposes the introduction of Price Consistency Over Time as a new E-SQ factor.

5.5 Purchase Process Dimension

5.5.1 Introduction

In this study, the Purchase Process in e-retail refers to *actions and steps that customers take from the moment they decide to buy a product, through the completion of the transaction on a user interface, to receiving an order confirmation.*

Several works on E-SQ mention the Purchase Process (PP) (Bauer et al., 2006; Blut et al., 2015; Holloway & Beatty, 2008; Parasuraman et al., 2005). Moreover, the online review analysis revealed reviews related to the PP, in 428 reviews, accounting for 1.4% of all reviews (see Table 14). This could correspond to approximately 35.6 million global e-retail customers in 2024, based on Statista (2025, February 7).

Table 14: *Frequency of Mentions Related to Purchase Process in Online Reviews*

Term Used	No. of Cases	Percentage of Total Reviews (%)
Check Out	420	1.3748
Purchase Process	8	0.0262
Total Mentions	428	1.4010

Note. The total number of online reviews analyzed was 30,549. "*" is a wildcard that matches any word variation. This table was developed by the author based on the study's findings.

This study proposes that the PP has eight underlying E-SQ factors, which are discussed in the following sections.

5.5.2 PP Simplicity & Speed

5.5.2.1 Introduction

In this study, Purchase Process Simplicity & Speed refers to *the ease and quickness with which consumers can complete a purchase on an e-retailer UI.*

According to a 2024 survey by the Baymard Institute (2024), 22% of U.S. adult consumers give up their online shopping carts if the checkout process is too long and complicated, and 26% if they must create an account. These results underscore the importance of PP Simplicity & Speed.

5.5.2.2 Literature Review Evidence

Holloway and Beatty (2003) regard a confusing and difficult purchasing process as a service failure. Furthermore, Zeithaml et al. (2000) emphasize the importance of the speed of the checkout process. Similarly, Parasuraman et al. (2005) state that a website must enable customers to complete a transaction

fast. On the practical side, the ACSI (2024) emphasizes that the checkout process must be easy, while Trusted Shops (n.d.) requires a clear and straightforward PP.

Overall, academic and practitioner literature support the notion that PP Process Simplicity & Speed is a relevant E-SQ factor.

5.5.2.3 Online Review Analysis

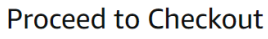
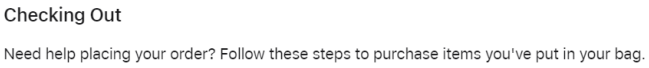
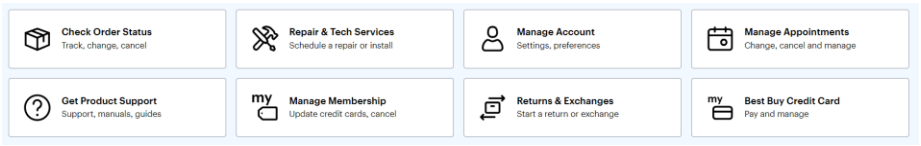
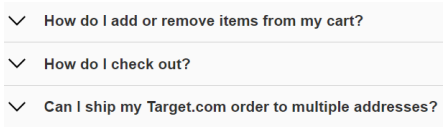
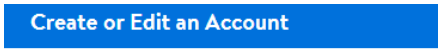
Quantifying the PP Simplicity & Speed factor is challenging because customers use numerous expressions to address this E-SQ factor. Nonetheless, this study found reviews supporting it, for example, where customers discussed the checkout and transaction experience. Feedback highlighted simplicity and efficiency, such as fast and easy checkout; other reviews mentioned disruptions, such as being logged out during the PP.

In conclusion, reviews support the PP Simplicity and Speed E-SQ factor.

5.5.2.4 Website Evaluation

A website evaluation conducted on September 12, 2024, suggests that Amazon, Apple, and Target display information about the PP on their websites (see Figure 28). Furthermore, all e-retailers appear to offer customers the ability to create personal accounts (see Figure 8 and Figure 28). These accounts typically allow customers to enter and store personal information such as name, billing and delivery addresses, payment details, and wish lists. Furthermore, customers can see their past purchases. These features may help simplify and speed up future checkout processes.

Figure 28: *Purchase Process Simplicity and Speed*

E-Retailer	Screenshot of E-Retailer Website
Amazon (1a)	
Amazon (1b)	
Apple (2)	
Best Buy (3)	
Home Depot (3)	
Target (4)	
Walmart (5)	

Note: The screenshots were retrieved on 12 September 2024, from: (1a) Amazon. https://www.amazon.com/gp/help/customer/display.html?nodeId=GHCW5E5LLN48V29E ; (1b) Amazon. Can only be viewed when looked in with Robin Morgenstern's personal Amazon account: https://www.amazon.com/gp/css/homepage.html?ref_=nav_youraccount_btn; (2) Apple. https://www.apple.com/us-edu/shop/help/shopping_experience; (3) Best Buy. https://www.Bestbuy.com/support; (4) Home Depot. https://www.Homedepot.com/auth/view/checkout/signin; (5) Target. https://help.target.com/help/subcategoryarticle?childcat=Create+order&parentcat=Orders+%26+Purchases&searchQuery=search+help#:~:text=Target.com%3A,order%20to%20proceed%20with%20checkout.; (6) Walmart. https://www.walmart.com/help/article/price-and-other-listing-errors/4c06730885e143fe8b4a0719da70bd79

In summary, the evidence suggests that the features displayed on the e-retailer websites may help make the shopping process faster and easier for customers, thereby supporting the relevance of the PP Simplicity & Speed factor.

5.5.2.5 Section Summary

E-SQ and practitioner literature, insights from online reviews, and e-retailer practices support the relevance of the PP Simplicity & Speed factor.

5.5.3 PP Payment Options

5.5.3.1 Introduction

The Baymard Institute (2024) U.S. 2024 consumer survey reported that 13% of all online shoppers abandon their online shopping carts if there are too few payment methods, and 9% if their credit card was declined. These figures underscore the importance of payment methods in e-retail.

In this study, Purchase Process Payment Options refer to *the variety of payment methods offered by an e-retailer to its customers.* This may include credit cards, debit cards, gift cards, digital wallets (such as PayPal and Apple Pay), buy-now-pay-later services, bank transfers, and other options.

5.5.3.2 Literature Review Evidence

Holloway and Beatty (2003) highlight critical issues related to payment in e-retail, including credit card overcharging, confusion during the purchasing process, and difficulties encountered during payment completion. Further, Zeithaml et al. (2000) discuss how customers pay. On the practical side, the ACSI (2024) views the ease of checkout and payment as a crucial benchmark for assessing e-retailers. Thus, academic and practitioner literature support the PP Payment Options factor.

5.5.3.3 Online Review Analysis

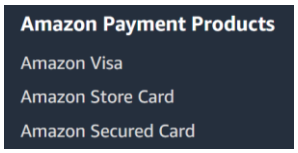
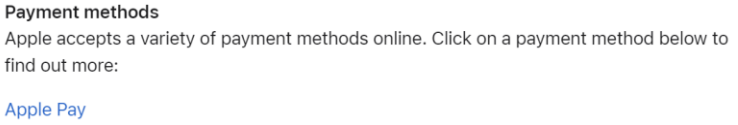
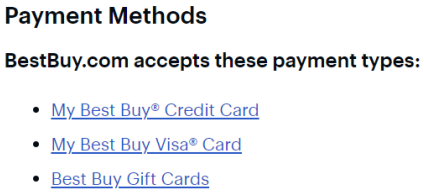
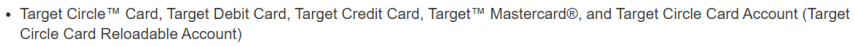
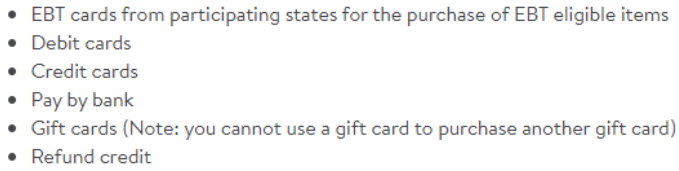
The online review analysis identified reviews related to the PP Payment Options factor. Examples include mentions of PayPal as a payment option, adding multiple payment methods, and challenges with modifying payment methods. Furthermore, WordStat Topic modelling created the topic "CREDIT CARD GIFT" mentioned in 2,837 reviews, accounting for 9.29% of all reviews (see Appendix A). This could correspond to approximately 235.9 million global e-retail customers in 2024, based on Statista (2025,

February 7). The analysis reveals that reviews frequently discuss payment options, including credit cards and gift cards. These findings underscore the relevance of the PP Payment Options factor.

5.5.3.4 Website Evaluation

A website evaluation conducted on May 25, 2024, suggests that all six e-retailers offer various payment options, such as credit cards, gift cards, and PayPal (see Figure 29). This finding supports the relevance of the PP Payment Options E-SQ factor.

Figure 29: *Payment Options*

E-Retailer	Screenshot
Amazon (1)	
Apple (2)	
Best Buy (3)	
Home Depot (4)	
Target (5)	
Walmart (6)	

Note. All screenshots were retrieved by the author on May 25, 2024, from (1) Amazon. https://www.amazon.com ; (2) Apple. https://www.apple.com/shop/help/payments (3) Best Buy. https://www.Bestbuy.com/site/help-topics/payment-options/pcmcat203400050003.c?id=pcmcat203400050003&intl=nosplash; (4) Home Depot. https://www.Homedepot.com/c/Paying_for_Your_Order; (5) Target. https://help.target.com/help/targetguesthelparticledetail?articleId=ka95d000000oVbwAAE&articleTitle=What+payment+types+does+Target+accept%3F&clickSearchVar=Search+Results&searchQuery=sezzle; (6) Walmart. https://www.walmart.com/help/article/payment-methods/af059a7587894f2f831a6159cd92d933

5.5.3.5 Section Summary

Statistics underscore the importance of offering diverse payment options to drive sales. Academic and practical literature support PP Payment Options. Furthermore, reviewers frequently discuss payment

options. Additionally, e-retailers offer various payment options, underscoring their practical importance. Given this evidence, this study supports that PP Payment Options is a crucial E-SQ factor.

5.5.4 PP Shipping Options

5.5.4.1 Introduction

In this study, Purchase Process Shipping Options refers to *the range of shipping choices an e-retailer offers to its customers*. These options can include direct delivery to a designated address or store pick-up.

According to a 2024 survey by the Baymard Institute (2024), 23% of U.S. adult respondents abandon their online shopping carts if shipping is too slow. This shows the impact that slow shipping options have on sales.

5.5.4.2 Literature Review Evidence

Zeithaml et al. (2000) discuss the importance of shipping options, highlighting the feature of using different shipping addresses. Additionally, practical guidelines, such as those from the ACSI (2024), emphasize the variety of shipping options available, underscoring that this is a crucial factor in E-SQ. Thus, the literature supports that PP Shipping Options is a critical E-SQ factor.

5.5.4.3 Online Review Analysis

The online review analysis identified reviews related to PP Shipping Options. For example, customers discussed positive and negative experiences with shipping and in-store pickup.

The quantitative analysis identified a significant discussion of shipping options, present in 225 reviews, or 0.74% of all reviews, as shown in Table 15. This could correspond to approximately 18.7 million global e-retail customers in 2024, based on Statista (2025, February 7).

Table 15: *Frequency of Mentions Related to Shipping Options in Online Reviews*

Term Used	No. of Cases	Percentage of Total Reviews (%)
Next Day Deliver*	129	0.4223
Prime Shipping	45	0.1473
Express Deliver*	33	0.1080
Shipping Option*	17	0.0556
Shipment Option*	1	0.0033
Total Mentions	225	0.7365

Note. The total number of online reviews analyzed was 30,549. "*" is a wildcard that matches any word variation. This table was developed by the author based on the study's findings.

These findings suggest that PP Shipping Options is a relevant E-SQ factor.

5.5.4.4 Website Evaluation

A website evaluation carried out on May 25, 2024, suggests that all six e-retailers offer a range of shipping options (see Figure 22, Figure 23). This evidence supports the practical relevance of the PP Shipping Options factor.

5.5.4.5 Section Summary

Zeithaml et al. (2000) and the ACSI (2024) mention shipping options, and they are frequently addressed in online reviews. Furthermore, all e-retailers offer a variety of shipping options. This evidence supports that PP Shipping Options is a vital E-SQ factor.

5.5.5 PP Gift Cards and Discounts

5.5.5.1 Introduction

In e-retail, Purchase Process Gift Cards & Discounts refer to *the methods and functionalities that allow customers to apply gift cards, promo codes, or digital discount coupons during checkout.*

CivicScience (September 12, 2023) reported that 64% of all U.S. consumers said they would likely buy a gift card in the 2023 holiday season. Furthermore, Dontpayfull (2024, September 1) stated that in 2023, 51% of U.S. online shoppers used digital coupons occasionally, 22% almost every time, and 14% always. These statistics underscore the prominent role of gift cards and discounts in e-retail.

5.5.5.2 Literature Review Evidence

Zeithaml et al. (2000) mention that discounts are available as an aspect of E-SQ. However, the literature does not appear to explicitly conceptualize "PP Gift Cards & Discounts" as a standalone E-SQ factor, which may indicate a gap in current research.

5.5.5.3 Online Review Analysis

The online review analysis found reviews related to PP Gift Cards & Discounts, where customers discussed issues with gift cards, promo codes, and membership discounts. Examples included problems with binding debit accounts for discounts, unusable gift cards, and invalid promo codes.

Further, the quantitative analysis found a significant discussion in reviews, with key terms related to PP Gift Cards and Discounts appearing in 1,756 cases, which account for 5.75% of all reviews (see Table 16). This could correspond to approximately 146 million global e-retail customers in 2024, based on Statista (2025, February 7).

Table 16: *Frequency of Mentions Related to Gift Cards and Discounts in Online Reviews*

Term Used	No. of Cases	Percentage of Total Reviews (%)
Gift card*	987	3.2309
Discount*	591	1.9346
Coupon*	129	0.4223
Promo Code*	49	0.1604
Total Mentions	1,756	5.7482

Note. The total number of online reviews analyzed was 30,549. "*" is a wildcard that matches any word variation. This table was developed by the author based on the study's findings.

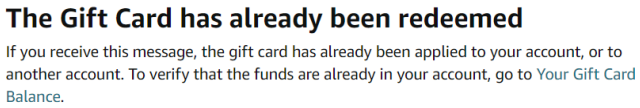
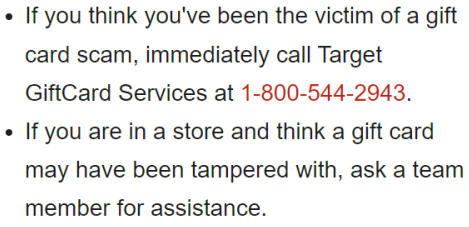
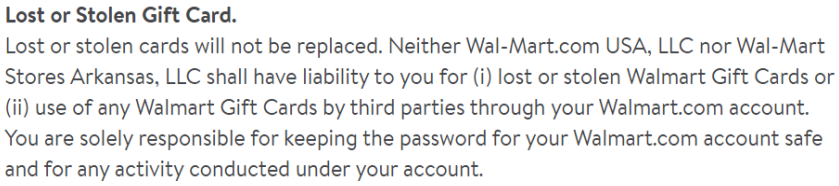
The review discussion provides indications that PP Gift Cards & Discounts are relevant to customers, supporting their consideration as a potential E-SQ factor.

5.5.5.4 Website Evaluation

An evaluation conducted on May 25, 2024, supports that all six e-retailers offer gift cards, and Best Buy, Home Depot, and Target indicate information about gift card fraud on their websites (see Figure 30).

This indicates that gift card fraud is recognized as a significant issue within the industry. These findings support the practical relevance of the PP Gift Cards & Discounts E-SQ factor in the e-retail sector.

Figure 30: *Gift Cards*

E-Retailer	Screenshot from E-Retailer Website
Amazon (1)	
Apple (2)	
Best Buy (3)	
Home Depot (4)	
Target (5)	
Walmart (6)	

Note. All screenshots were retrieved by the author on May 25, 2024, from (1) Amazon. https://www.amazon.com/gp/help/customer/display.html?ref_=hp_left_v4_sib&nodeId=GKHH2QV3FXHLQPE7 ;(2) Apple. https://www.apple.com/shop/gift-cards ; (3) Best Buy. https://www.Bestbuy.com/site/electronics/gift-cards/cat09000.c?id=cat09000#/ ; (4) Home Depot. https://www.Homedepot.com/c/gift_card_scams ; (5) Target. https://security.target.com ; (6) Walmart. https://www.walmart.com/help/article/gift-card-terms-and-conditions/90f9e217278146898946c1d786bedea3

5.5.5.5 Section Summary

E-SQ literature appears to have no significant discussion of gift cards and discounts, which may represent a notable gap in the literature. In contrast, they are frequently mentioned in online reviews. Furthermore, all e-retailers prominently offer gift card options, and statistics highlight their significance. Given the practical evidence of this factor, the study proposes introducing PP Gift Cards & Discounts as a new E-SQ factor.

5.5.6 PP Purchase Limitations

5.5.6.1 Introduction

In e-retail, Purchase Process Purchase Limitations refer to *the restrictions imposed by the e-retailer on the quantity or type of products that customers can buy during a single transaction.* These limitations can include maximum and minimum purchase quantities or amounts, restricted product availability in certain regions, limits based on customer account status, or other restrictions.

5.5.6.2 Literature Review Evidence

The existing E-SQ literature does not appear to address PP Purchase Limitations, suggesting a potential gap in the current body of research.

5.5.6.3 Online Review Analysis

The online review analysis found reviews related to PP Purchase Limitations. One reviewer mentioned being advised to pre-enter card information to complete checkout faster for limited items. Another expressed frustration with the inability to restrict individual purchases under Family Sharing, leading to unexpected charges. Another customer experienced a digital error related to restricted purchases. These cases illustrate how PP Purchase Limitations impact the customer experience. However, these findings could not be quantified due to the varied and indirect ways customers describe purchase limitations. Nonetheless, the examples above support the relevance of the PP Purchase Limitations factor.

5.5.6.4 Website Evaluation

An evaluation conducted on May 26, 2024, revealed that neither Amazon nor Home Depot provides specific information on purchase limitations. However, Apple appears to have limits for buying items for educational purposes, and Best Buy may exclude resellers from buying (see Figure 31). At Target, the sale of alcohol may be subject to state regulations, and Walmart appears to reserve the right to limit the quantity (see Figure 31). These findings suggest that PP Purchase Limitations are present in e-retail, thereby supporting this E-SQ factor.

Figure 31: *Purchase Limitations*

E-Retailer	Screenshot from E-Retailer Website
Apple (1)	**Purchase Quantity** Those eligible to purchase from the Apple Store for Education will be allowed to purchase the following quantities of products per year. Not all products have special Education Pricing.
Best Buy (2)	E. Resellers Resellers are excluded from the Program. If we, in our sole discretion, determine you to be a reseller, your account may be terminated in accordance with Section 6 below.
Target (3)	Items containing alcohol will be subject to state-by-state regulations. Alcohol price matching is not allowed for online exclusive retailers (e.g., Amazon).
Walmart (4)	Walmart.com reserves the right to limit the quantity of items purchased per person, household, or order. These restrictions may apply to orders placed by the same Walmart account; using the same credit card, gift card, and/or checking account; and orders that use the same billing and/or shipping address.

Note. All screenshots were retrieved by the author on May 26, 2024, from (1) Apple. https://www.apple.com/us-edu/shop/browse/open/salespolicies/edu ; (2) Best Buy. https://www.Bestbuy.com/site/best-buy-membership/my-best-buy-program-rules/pcmcat311100050001.c?id=pcmcat311100050001 ; (3) Target.com. https://help.target.com/help/targetguesthelparticledetail?articleId=ka95d000000wpfHAAQ&articleTitle=What+is+Target%27s+price+match+policy%3F&clickSearchVar=Search+Results&searchQuery=price+adjustments ; (4) Walmart.com. https://www.walmart.com/help/article/quantity-limits-and-bulk-purchases/825450266d4245b29e242d06a01bd91d

5.5.6.5 Section Summary

E-SQ literature appears not to directly address PP Purchase Limitations. However, two online reviews mention it, and four e-retailers have purchase limitations. Based on this evidence, the study proposes the introduction of PP Purchase Limitations as a new E-SQ factor.

5.5.7 PP Order Confirmation

5.5.7.1 Introduction

This study defines Purchase Process Order Confirmation as *the e-retailer's communication provided to customers immediately after purchase that summarizes the order details and provides assurance of the transaction.*

In normal circumstances, the order confirmation marks the end of the PP.

5.5.7.2 Literature Review Evidence

Zeithaml et al. (2000) mention order confirmation. Further, the practitioner concept from Trusted Shops (n.d.) emphasizes the importance of immediate order confirmation. Thus, literature supports the PP Order Confirmation factor.

5.5.7.3 Online Review Analysis

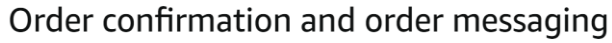
The online review analysis found cases related to PP Order Confirmation. For example, some reviewers reported not receiving confirmation emails; another noted receiving one. One reviewer highlighted an inaccurate confirmation email. Furthermore, the quantitative analysis identified 41 reviews, representing 0.13% of all reviews that mentioned "order confirmation*." This could correspond to approximately 3.4 million global e-retail customers in 2024, based on Statista (2025, February 7).

These findings support that PP Order Confirmation is a relevant E-SQ factor.

5.5.7.4 Website Evaluation

Based on the evaluation conducted on February 20, 2025, it was observed that Amazon and Apple provide information about order confirmation on their websites (see Figure 32). This suggests that PP Order Confirmation is acknowledged in practice and supports its relevance as an E-SQ factor.

Figure 32: *Order Confirmation*

E-Retailer	Screenshot
Amazon (1)	
Apple (2)	

Note. All screenshots were retrieved by the author on February 20, 2025, from (1) Amazon. https://www.amazon.com/gp/help/customer/display.html?nodeId=201633550&utm ; (2) Apple. https://www.apple.com/legal/sales-support/sales-policies/retail_us.html?utm_source

5.5.7.5 Section Summary

Literature acknowledges the importance of order confirmation. Additionally, online reviews emphasize this factor, and both Amazon and Apple provide detailed information on their respective websites. Taken together, this evidence supports the view that PP Order Confirmation is an essential E-SQ factor.

5.5.8 PP Order Modification & Cancellation

5.5.8.1 Introduction

This study refers to Purchase Process Order Modification & Cancellation *as the ability for customers to change their orders, such as adjusting quantities, modifying delivery details, or cancelling the order altogether after the purchase has been placed.*

5.5.8.2 Literature Review Evidence

PP Order Modification & Cancellation does not appear to be explicitly addressed in existing E-SQ literature, indicating a potential gap in current research.

5.5.8.3 Online Review Analysis

The online review analysis found reviews related to PP Order Modification & Cancellation, where customers shared experiences with canceling orders. One reviewer successfully canceled the order, while others reported issues, such as being unable to cancel orders before they were shipped. These reviews highlight challenges customers face when modifying or canceling orders.

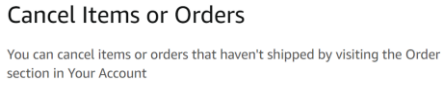
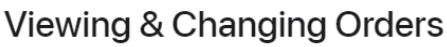
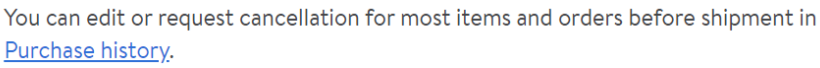
Further, WordStat Topic Modeling identified "cancel the order" as a key topic, appearing in 4,959 reviews, accounting for 16.23% of all reviews (see Appendix A). This could correspond to approximately 412.3 million global e-retail customers in 2024, based on Statista (2025, February 7).

These findings support that PP Order Modification & Cancellation is a relevant E-SQ factor.

5.5.8.4 Website Evaluation

Findings from the evaluation on May 26, 2024, indicate that the e-retailers allow customers to modify or cancel their orders after placement, including features such as rerouting and cancellation (see Figure 33). These findings reveal that PP Order Modification and Cancellation is a standard practice in e-retail, supporting its relevancy as an E-SQ factor.

Figure 33: *Order Modification and Cancellation*

E-Retailer	Screenshot from E-Retailer Website
Amazon (1)	
Amazon (2)	
Apple (3)	
Best Buy (4)	
Home Depot (5)	
Target (6)	
Target (7)	
Walmart (8)	

Note. All screenshots were retrieved by the author on May 26, 2024, from (1) Amazon. https://www.amazon.com/gp/help/customer/display.html?help_keywords=cancel%20order&ref=hp_search_fshubgw ; (2) Amazon. https://www.amazon.com/gp/help/customer/display.html?help_keywords=change+shipping+address&search=true&nodeId=GGE5X8EV7VNVTK6R&kwHidden=true&sprefix=change+shi%2Cchange+shipping+address%2C0&locale=en_US&ref_=hp_articles_search_rd ; (3) Apple. (https://www.apple.com/shop/help/viewing_changing_orders ; (4) Best Buy. https://www.Best Buy.ca/en-ca/help/your-order/cancelling-or-editing-an-order ; (5) Home Depot. https://www.Homedepot.com/c/Customer_Support_Answers#cancel ; (6) Target. https://help.target.com/help/TargetGuestHelpArticleDetail?articleId=ka95d0000000RqYAAU&articleTitle=How+do+I+cancel+an+item+from+my+Target+order%3F ; (7) Target.com. https://help.target.com/help/targetguesthelparticledetail?articleId=ka95d000000wpIHAAY&articleTitle=Can+I+change+the+address+on+my+Target+order%3F&clickSearchVar=Search+Results&searchQuery=change+delivery+address ; (8) Walmart.com. https://www.walmart.com/help/article/edit-or-cancel-an-order/2c7e3d99812044f8aaa65aee0eae3d1c

5.5.8.5 Section Summary

The literature does not appear to address PP Order Modification & Cancellation. However, evidence from the online review analysis and website evaluation suggests that this factor is important to customers and is actively addressed by e-retailers. Therefore, this study proposes the introduction of PP Order Modification & Cancellation as a new E-SQ factor.

5.5.9 PP Charge Dispute

5.5.9.1 Introduction

This study refers to Purchase Process Charge Dispute in e-retail as *occurring when (1) a customer questions the correctness of a payment because of an issue with their purchase, and (2) questions the authorization of a payment method.* Examples include being charged the wrong amount, paying for an order that was damaged or never arrived, receiving a wrong item, not receiving a refund, or being charged with a different payment method than expected.

Charge disputes are included in the PP dimension because, in many cases, they mark the end of the customer journey, when the order was not fulfilled as promised, and a dispute arises.

5.5.9.2 Literature Review Evidence

The literature appears not to explicitly mention the PP Charge Dispute E-SQ factor. Related literature includes Zeithaml et al. (2000), who emphasize the importance of correct billing, and Holloway and Beatty (2003), who regard overcharging a credit card as a service failure. However, these authors do not fully cover this study's definition of PP Charge Dispute (see 5.5.9.1). Therefore, a gap in the literature may exist.

5.5.9.3 Online Review Analysis

WordStat Topic Modeling identified "bank statement dispute the charge" as a frequent topic, present in 1,616 reviews, accounting for 5.29% of all cases, pointing to frequent issues with Price Correctness & Transparency (see Appendix A). This could correspond to approximately 134.4 million global e-retail

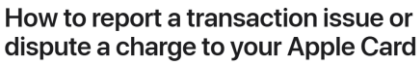
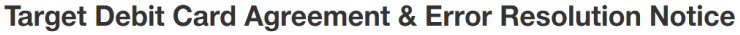
customers in 2024, based on Statista (2025, February 7). Examples included customers being charged for an order that never arrived and disputing fraudulent charges.

This evidence suggests that PP Charge Dispute is a relevant E-SQ factor.

5.5.9.4 Website Evaluation

According to the evaluation conducted on March 10, 2025, it was observed that all e-retailers display information on charge disputes on their websites. This suggests that PP Charge Dispute is recognized in practice, supporting it as a relevant E-SQ factor.

Figure 34: *Charge Dispute*

E-Retailer	Screenshot from E-Retailer Website
Amazon (1)	
Apple (2)	
Best Buy (3)	
Home Depot (4)	
Target (5)	
Walmart (6)	

Note. Screenshots retrieved on March 10, 2025, from (1) Amazon Pay. https://pay.amazon.com/help/201754740; (2) Apple. https://support.apple.com/en-us/102335; (3) Best Buy. https://www.bestbuy.com/site/gift-card-help/best-buy-gift-card-arbitration-policy/pcmcat1576007866920.c?id=pcmcat1576007866920; (4) Home Depot. https://www.homedepot.com/c/general_credit_center_faqs; (5) Target. https://www.target.com/c/target-debit-card-agreement-error-resolution-notice/-/N-4rr23 (6) Walmart. https://marketplacelearn.walmart.com/guides/Policies%20%26%20standards/Orders%20%26%20returns/Dispute-standards

5.5.9.5 Section Summary

The literature appears to have addressed only certain aspects of the PP Charge Dispute E-SQ factor, without providing comprehensive coverage. This may indicate a gap in existing research, especially considering that charge disputes are frequently mentioned in customer reviews and that all e-retailers provide information about them on their websites. Therefore, this study proposes the introduction of PP Charge Dispute as a new E-SQ factor.

5.6 Fulfillment Dimension

5.6.1 Introduction

In this study, fulfillment in e-retail refers to *the post-purchase process where the e-retailer completes the customer's order by ensuring the accurate and timely delivery or installation of the purchased goods or services. This includes return logistics, allowing customers to give back products through diverse options.*

E-retail Fulfillment (FF) is an extensive economic activity. For example, Amazon Logistics handled 4.79 billion parcels in the U.S. in 2022 (Capital One, October 5, 2023). Moreover, FF is a critical component of E-SQ, as supported by authors such as Zeithaml (2002), Parasuraman et al. (2005), Holloway & Beatty (2008), and Blut (2016). In addition, this study's online review analysis revealed that FF-related terms appear in 8,887 reviews, accounting for 29.1% of all reviews (see Table 17). This could correspond to approximately 738.9 million global e-retail customers in 2024, based on Statista (2025, February 7). This evidence underscores the prominence of FF-related discussions in customer reviews. In summary, statistics, literature, and online review discussions provide support for the FF dimension.

Table 17: *Frequency of Mentions Related to Fulfillment in Online Reviews*

Term Used	No. of Cases	Percentage of Total Reviews (%)
Delivery	5,398	17.67
Shipping	2,470	8.09
Shipment*	470	1.54
Deliveries	504	1.65
Fulfillment	45	0.15
Total Mentions	8,887	29.10

Note. The total number of online reviews analyzed was 30,549. "*" is a wildcard that matches any word variation. This table was developed by the author based on the study's findings.

The following sections delve into the FF dimension's underlying E-SQ factors, providing a detailed discussion of each factor.

5.6.2 FF Order Arrival

5.6.2.1 Introduction

This study defines Fulfillment Order Arrival as *the successful delivery of an e-retail order to the customer's hands, ensuring that the item is neither lost nor missing during delivery.*

While this may seem straightforward, receiving the order is the fundamental objective of FF, as it marks the completion of the transaction.

5.6.2.2 Literature Review Evidence

Authors like Holloway and Beatty (2003) classify undelivered purchases as a significant example of service failure. Zeithaml et al. (2000) and Parasuraman et al. (2005) emphasize the importance of delivering the ordered item to the customer. These literature sources are directly linked to FF Order Arrival, supporting its role as a key E-SQ factor.

5.6.2.3 Online Review Analysis

The online review analysis identified a discussion related to FF Order Arrival, for example, where reviewers mentioned orders being lost during the FF process across all six e-retailers.

Terms related to FF Order Arrival were found in 177 reviews, representing 0.58% of all reviews (see Table 18). This could correspond to approximately 14.7 million global e-retail customers in 2024, based on Statista (2025, February 7).

Table 18: *Frequency of Mentions Related to Order Arrival in Online Reviews*

Term Used	No. of Cases	Percentage of Total Reviews (%)
Missing item*	92	0.3012
Lost package*	16	0.0524
Lost my order*	16	0.0524
Order was lost	15	0.0491
Package* lost	12	0.0393
Lost order*	10	0.0327
Missing order*	7	0.0229
Order* missing	5	0.0164
Missing product*	4	0.0131
Total Mentions	177	0.5795

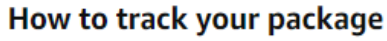
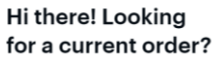
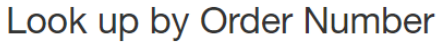
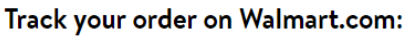
Note. The total number of online reviews analyzed was 30,549. "*" is a wildcard that matches any word variation. This table was developed by the author based on the study's findings.

Overall, these findings underscore the significance of the FF Order Arrival factor.

5.6.2.4 Website Evaluation

Based on evaluations undertaken on June 1, 2024, and on January 3, 2025, it was observed that all e-retailers provide customers with information about delivery status and tools to track their orders, enabling consumers to check if their order is on the way, lost, canceled, or has been delivered (see Figure 35). Further, Amazon, Apple, Target, and Walmart display information on their websites concerning order issues (see Figure 36).

Figure 35: *Order Status and Tracking Information*

E-Retailer	Screenshot from E-Retailer Website
Amazon (1)	
Apple (2)	
Best Buy (3)	
Home Depot (4)	
Target (5)	
Walmart (6)	

Note. All screenshots were retrieved by the author on June 1, 2024, from (1) Amazon. https://www.amazon.com/gp/help/customer/display.html?nodeId=GENAFPTNLHV7ZACW; (2) Apple. https://secure8.store.apple.com/shop/signIn/orders?ssi=1AAABj9KvlhAgJpXF4YdYnaQo4_-qtW-uI4vA6a-qIKvnT9SAEBdlmkIAAAAxaHR0cHM6Ly9zZWN1cmU4LnN0b3JlLmFwcGxlLmNvbS9zaG9wL29yZGVyL2xpc3R8fAACAbrcgOIOUgZvbi380vzxNOpvf7wwb6iMa5mY1ZabcIix ; (3) Best Buy. https://www.Bestbuy.com ; (4) Home Depot. https://www.Homedepot.com/order/view/tracking ; (5) Target. https://help.target.com/help/targetguesthelparticledetail?articleId=ka95d000000wpf6AAA&articleTitle=How+can+I+view+or+track+my+Target.com+order%3F&clickSearchVar=Search+Results&searchQuery=How+can+I+view+or+track+my+Target.com+order%3F; (6) Walmart. https://www.walmart.com/help/article/track-your-order/143cf6e1d8cb48e6a1ed840409881235

Figure 36: *Order Issues*

E-Retailer	Screenshot from E-Retailer Website
Amazon (1)	• Find a Missing Parcel That Shows as Delivered • Where's My Stuff?
Apple (2)	What makes Apple when a shipment is lost?
Target (3)	Order issues
Walmart (4)	Order Not Received

Note. All screenshots were retrieved by the author on January 3, 2025, from (1) Amazon. https://www.amazon.com/gp/help/customer/display.html?nodeId=GSZAYH7K2C2NVNC9 ; (2) Apple. https://discussions.apple.com/thread/4863696?sortBy=rank (3) Target. https://help.target.com/help (4) https://www.walmart.com/help/article/order-not-received/af24f9d61b5143d9973f95c9d5bc3140

In conclusion, it appears to be standard business practice that customers can check the status of their order, allowing them to examine if the order has arrived. This supports the practical relevance of FF Order Arrival as an E-SQ factor.

5.6.2.5 Section Summary

Literature appears to support the importance of orders being successfully delivered to customers. Furthermore, this topic frequently appears in online reviews. Additionally, most e-retailers offer support for tracking and locating orders and display corresponding information on their websites. This evidence supports that FF Order Arrival is a critical E-SQ factor.

5.6.3 FF Timeliness of Delivery

5.6.3.1 Introduction

In this study, Fulfillment Timeliness of Delivery refers to *an e-retailer's ability to deliver products to customers within the promised timeframe.*

Concerning a 2024 survey by the Baymard Institute (2024), 23% of U.S. adult respondents abandon their online shopping carts if delivery times are too slow, showing the negative impact this has on sales.

5.6.3.2 Literature Review Evidence

In general terms, Holloway and Beatty (2003) highlight issues like late deliveries as part of their discussion on service failures. Several authors discuss the timeliness of delivery as an important E-SQ factor (e.g., Bauer et al., 2006; Blut et al., 2015; Holloway & Beatty, 2008; Parasuraman et al., 2005; Wolfinbarger & Gilly, 2003). Zeithaml et al. (2000) especially highlight the quickness of order execution and shipment.

In conclusion, it appears that FF Timeliness of Delivery is a significant topic in E-SQ literature.

5.6.3.3 Online Review Analysis

The online review analysis identified reviews related to FF Timeliness of Delivery, mentioning delayed deliveries or deliveries before the estimated delivery time. Moreover, WordStat Topic Modeling identified "delivery date" and "scheduled delivery/appointment" as significant topics, collectively present in 5,157 reviews, representing 16.88% of all reviews (see Appendix A). This could correspond to approximately 428.8 million global e-retail customers in 2024, based on Statista (2025, February 7).

Overall, the review analysis underscores the importance of the FF Timeliness of Delivery factor.

5.6.3.4 Website Evaluation

Data gathered during the evaluation on November 17, 2024, revealed that Amazon, Home Depot, Target, and Walmart display delivery times on their platforms (see Figure 22 and Figure 23). The connection to the FF Timeliness of Delivery is that displaying delivery times allows customers to assess whether the retailer can deliver their orders on time. By explicitly providing this information, e-retailers inform their customers when they can expect to receive their purchases. This evidence supports the significance of the FF Timeliness of Delivery factor.

5.6.3.5 Section Summary

The delivery timeliness is well supported by academic literature. Further, this study found that it is frequently mentioned in online reviews. Moreover, e-retailers display delivery times on their websites. The evidence supports that FF Timeliness of Delivery is a highly relevant E-SQ factor.

5.6.4 FF Delivery Location Accuracy

5.6.4.1 Introduction

This study refers to Fulfillment Delivery Location Accuracy as *the precision with which an e-retailer delivers a customer's order to the designated location, as specified by the customer, including the avoidance of improper parcel placement.*

5.6.4.2 Literature Review Evidence

General discussions on delivery reliability and FF exist (e.g., Bauer et al., 2006; Blut et al., 2015; Holloway & Beatty, 2008; Parasuraman et al., 2005). However, it appears that the literature on E-SQ does not explicitly focus on FF Delivery Location Accuracy as a distinct factor. This represents a potential gap in the literature.

5.6.4.3 Online Review Analysis

This study found reviews related to FF Delivery Location Accuracy, where customers reported issues with orders delivered to incorrect locations. For example, reviewers mentioned deliveries to the wrong address or inappropriate delivery placements.

Further, WordStat Topic Modeling identified a significant discussion with the topic "wrong address," present in 1,114 reviews, representing 3.65% of all reviews (see Appendix A). This could correspond to approximately 92.6 million global e-retail customers in 2024, based on Statista (2025, February 7).

The review analysis supports that FF Delivery Location Accuracy is an important E-SQ factor.

5.6.4.4 Website Evaluation

The evaluation undertaken on August 25, 2024, did not find specific information regarding FF Delivery Location Accuracy on the retailer's website help sections. Nonetheless, all e-retailers appear to offer customer accounts in which customers can specify the delivery location (see Figure 8). This evidence directly connects to FF Delivery Location Accuracy, supporting this E-SQ factor.

5.6.4.5 Section Summary

Literature seems to overlook FF Delivery Location Accuracy as a distinct E-SQ factor. However, frequent concerns in online reviews and website observations underscore the importance of this factor. Thus, this study proposes to introduce FF Delivery Location Accuracy as a significant novel E-SQ factor.

5.6.5 FF Undamaged Product

5.6.5.1 Introduction

This study refers to Fulfillment Undamaged Product as *the process by which e-retailers ensure that products arrive at their destination in the condition described in the offer, without any damage incurred during shipping or handling.*

PowerReviews. (2023, March 17) reported that in 2022, 80% of U.S. online shoppers had returned an item that was damaged or defective. This figure highlights the significance of delivering undamaged items. The National Retail Federation (2023, December 29) reported that online return costs totaled 213 billion U.S. dollars in 2022. These figures underscore the financial impact of returning damaged products and support the importance of the FF Undamaged Product E-SQ factor.

5.6.5.2 Literature Review Evidence

Blut et al. (2015) discuss delivery conditions, and Holloway and Beatty (2008) highlight merchandise that is damaged during transport. Thus, the literature supports the FF Undamaged Product factor.

5.6.5.3 Online Review Analysis

This study found reviews related to FF Undamaged Product, for instance, flooring delivered damaged, broken screens, and general reports of damaged items upon delivery. Further, the quantitative analysis revealed a significant discussion in 526 reviews, accounting for 1.72% of all reviews (see Table 19). This could correspond to approximately 43.7 million global e-retail customers in 2024, based on Statista (2025, February 7).

Table 19: *Frequency of Mentions Related to Undamaged Product in Online Reviews*

Term Used	No. of Cases	Percentage of Total Reviews (%)
Item damage	231	0.76
Product damage	137	0.45
Broken item	108	0.35
Broken Product	50	0.16
Total Mentions	526	1.72

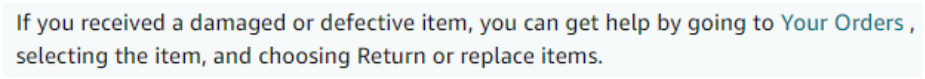
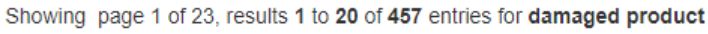
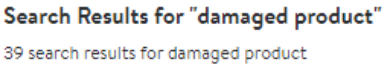
Note. The total number of online reviews analyzed was 30,549. This table was developed by the author based on the study's findings.

These results highlight that reviewers frequently mention damaged products, supporting the significance of FF Undamaged Product as a key E-SQ factor.

5.6.5.4 Website Evaluation

Based on the website observation undertaken on October 12, 2024, it was found that all e-retailers, except Home Depot, address directly or indirectly damaged products on their websites (see Figure 37). This evidence supports the relevance of the FF Undamaged Product factor.

Figure 37: *Undamaged Product*

E-Retailer	Screenshot
Amazon (1)	
Apple (2)	
Best Buy (3)	
Target (4)	
Walmart (5)	

Note. All screenshots were retrieved by the author on October 12, 2024, from: (1) Amazon. https://www.amazon.com/gp/help/customer/display.html?help_keywords=damaged%20item&ref=hp_search_fshubgw ; (2) Apple. https://support.apple.com/repair-products ; (3) Best Buy. https://www.Bestbuy.com/support?search=damaged%20product ; (4) Target. https://help.target.com/help/TargetGuestHelpSearchResultResponsive?searchQuery=damaged+product ; (5) Walmart. https://www.walmart.com/help/search?key=damaged+product

5.6.5.5 Section Summary

Online reviews frequently highlight the importance of receiving products in undamaged condition, and five of the six e-retailers address this factor on their websites. Also, prior literature provides insights into delivery conditions. This evidence supports that FF Undamaged Product is a significant E-SQ factor.

5.6.6 FF Correct Product

5.6.6.1 Introduction

This study defines Fulfillment Correct Product as *the successful delivery of the accurate product to the customer's hands, ensuring that the item is the item ordered and not a wrong product.*

RLM (2018, May 15) reported that in 2018, 36% of U.S. survey respondents stated that receiving the wrong item was a reason for returning products. Section 5.6.5.1 illustrates the significant costs associated

with returns. Thus, sending the correct product that is not returned saves costs, underscoring that FF Correct Product is a crucial E-SQ factor.

5.6.6.2 Literature Review Evidence

Holloway and Beatty (2003) regard delivering the wrong product or the wrong size of a product as a service failure. Blut (2016) states that the delivered product must match the ordered product. Thus, the FF Correct Product E-SQ factor appears to be established in the literature.

5.6.6.3 Online Review Analysis

The online review analysis revealed 274 reviews related to FF Correct Product, accounting for 0.9% of all cases (see Table 20). This could correspond to approximately 22.8 million global e-retail customers in 2024, based on Statista (2025, February 7). Examples included receiving the wrong item.

Table 20: *Frequency of Mentions Related to Correct Product in Online Reviews*

Term Used	No. of Cases	Percentage of Total Reviews (%)
Wrong item	162	0.5303
Wrong items	56	0.1833
Wrong product	45	0.1473
Wrong Products	11	0.0360
Total Mentions	274	0.8969

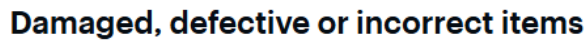
Note. The total number of online reviews analyzed was 30,549. This table was developed by the author based on the study's findings.

In conclusion, the online review analysis provides support for the FF Correct Product factor.

5.6.6.4 Website Evaluation

Based on website data gathered on March 10, 2025, it was revealed that Best Buy addresses incorrect items explicitly (see Figure 38). This evidence supports the FF Correct Product factor.

Figure 38: *Correct Product*

E-Retailer	Screenshot from E-Retailer Website
Best Buy	

Note. Screenshot was retrieved on March 10, 2025, from (1) Best Buy. https://www.bestbuy.com/site/help-topics/return-exchange-policy/pcmcat260800050014.c?id=pcmcat260800050014

5.6.6.5 Section Summary

Statistics highlight that delivering the wrong product can lead to returns that have a negative financial impact on e-retailers. Literature, online review analysis, and website evaluation jointly support the FF Correct Product E-SQ factor. Overall, this evidence supports the significance of the FF Correct Product factor.

5.6.7 FF Pick-Up

5.6.7.1 Introduction

This study refers to Fulfillment Pick-Up as *the process by which an e-retailer allows customers to retrieve their purchased items from a designated physical location, such as a store, rather than having them delivered to their home or another address.*

5.6.7.2 Literature Review Evidence

The literature on E-SQ does not explicitly focus on FF Pick-Up as a distinct E-SQ factor, representing a gap.

5.6.7.3 Online Review Analysis

The online review analysis identified a discussion about FF Pick-Up. For example, feedback includes praise for seamless and efficient pickup services, as well as issues with the pickup.

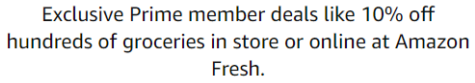
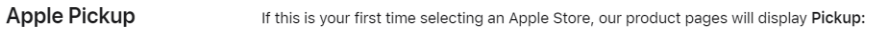
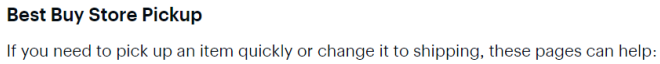
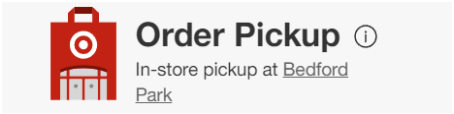
WordStat Topic Modeling identified "store pick up curbside" as a significant topic, present in 1,171 reviews, representing 3.83% of all reviews (see Appendix A). This could correspond to approximately 97.4 million global e-retail customers in 2024, based on Statista (2025, February 7).

The findings underscore the importance of the FF Pick-Up factor in today's e-retail.

5.6.7.4 Website Evaluation

According to the evaluation conducted on May 28, 2024, it appears that all e-retailers offer in-store pickup options, with Amazon providing this service only for groceries through its grocery stores (see Figure 39). This evidence supports the relevance of the FF Pick-Up factor in e-retail.

Figure 39: *Pick-Up*

E-Retailer	Screenshot from E-Retailer Website
Amazon (1)	
Apple (2)	
Best Buy (3)	
Home Depot (4)	
Target (5)	
Walmart (6)	

Note. All screenshots were retrieved by the author on May 28, 2024, from (1) Amazon. https://www.amazon.com/amazonprime ;(2) Apple. https://www.apple.com/shop/help/shipping_delivery ; (3) Best Buy. https://www.Bestbuy.com/site/help-topics/shipping-delivery-store-pickup/pcmcat316000050003.c?id=pcmcat316000050003 ; (4) Home Depot. https://www.Homedepot.com/c/pick_up_in_store; (5) Target. https://www.target.com/c/order-pickup/-/N-ng0a0; (6) Walmart. https://www.walmart.com

5.6.7.5 Section Summary

Literature appears to overlook FF Pick-Up as an E-SQ factor. However, it is a standard business practice among e-retailers and is notably discussed in online reviews. Therefore, this study proposes the introduction of FF Pick-Up as a new E-SQ factor.

5.6.8 FF Multiple Shipment

5.6.8.1 Introduction

In this study, Fulfillment Multiple Shipment refers to *an e-retail order that is divided into separate packages and delivered to the customer.*

5.6.8.2 Literature Review Evidence

E-SQ literature does not appear to address multiple shipments, which may represent a gap in existing research.

5.6.8.3 Online Review Analysis

The online review analysis identified reviews regarding FF Multiple Shipments, in which customers expressed concerns about receiving split shipments. Several customers mentioned ordering multiple items and receiving them in several packages. This includes delivery by different carriers or delivery over several days.

The quantitative analysis highlights a customer discussion about FF Multiple Shipments in 85 reviews, representing 0.28% of all reviews (see Table 21). This could correspond to approximately 7.1 million global e-retail customers in 2024, based on Statista (2025, February 7).

Table 21: *Frequency of Mentions Related to Multiple Shipments in Online Reviews*

Term Used	No. of Cases	Percentage of Total Reviews (%)
Proximity Rule Split Order	35	0.11
Proximity Rule Separate Deliver	17	0.06
Proximity Rule Separate Package	17	0.06
Proximity Rule Split Deliver	16	0.05
Total Mentions	85	0.28

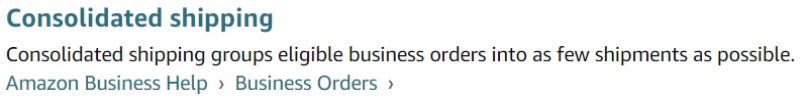
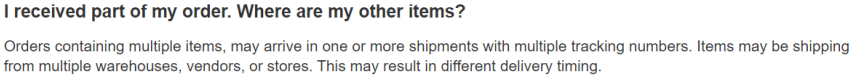
Note. The total number of online reviews analyzed was 30,549. "*" is a wildcard that matches any word variation. This table was developed by the author based on the study's findings.

These results indicate that FF Multiple Shipments is a relevant E-SQ factor.

5.6.8.4 Website Evaluation

Evidence from the June 1, 2024, evaluation points to information about multiple shipments. For instance, Amazon displays information about consolidated shipments; Best Buy provides the service to ship to multiple addresses; and Target explicitly states that orders may arrive in multiple shipments (see Figure 40). This practical evidence supports the FF Multiple Shipments factor.

Figure 40: *Multiple Shipments*

E-Retailer	Screenshot
Amazon (1)	
Best Buy (2)	
Target (3)	

Note. Screenshots retrieved on June 1, 2024, from (1) Amazon. https://www.amazon.com/gp/help/customer/display.html?help_keywords=consolidated+shipping&search=true&nodeId=GX7NJQ4ZB8MHFRNJ&kwHidden=true&sprefix=&locale=en_US&ref_=hp_articles_search_rd ; (2) Best Buy. https://www.Bestbuy.com/site/help-topics/shipping-to-multiple-addresses/pcmcat204400050017.c?id=pcmcat204400050017 ; (3) Target. https://help.target.com/help/targetguesthelparticledetail?articleId=ka95d000000wpI8AAI&articleTitle=I+received+part+of+my+order.+Where+are+my+other+items%3F&clickSearchVar=Search+Results&searchQuery=multiple+shipments

5.6.8.5 Section Summary

It appears that E-SQ literature does not yet address FF Multiple Shipments. However, evidence from online reviews and e-retailer websites highlights its significance. Thus, this study proposes the introduction of FF Multiple Shipments as a new E-SQ factor.

5.6.9 FF Order Status & Tracking

5.6.9.1 Introduction

In this study, Fulfillment Order Status & Tracking refers to *the information provided by e-retailers that enables customers to monitor the progress of their order from the moment of the order until it reaches its final delivery destination.* This may include real-time updates on the order's location and status.

5.6.9.2 Literature Review Evidence

Zeithaml et al. (2000) mention using e-mail to inform customers about the status of their order, including when it has been dispatched and when they can expect it to arrive. Further, Holloway and Beatty (2008) mention shipment tracking. Thus, the literature supports FF Order Status & Tracking as an E-SQ factor.

5.6.9.3 Online Review Analysis

Customer reviews mention FF Order Status & Tracking, particularly issues with tracking updates, such as reviewers highlighting missing or incorrect tracking information across retailers.

Moreover, WordStat Topic Modeling identified three topics related to FF Order Status and Tracking Information: "tracking number", "UPS tracking", and “status tracking” in a joint 2,455 cases, accounting for 8.0% of all reviews (see Appendix A). This could correspond to approximately 204.1 million global e-retail customers in 2024, based on Statista (2025, February 7).

In conclusion, the evidence underscores the relevance of the FF Order Status & Tracking Information factor.

5.6.9.4 Website Evaluation

Based on the website evaluation undertaken on June 1, 2024, the e-retailers appear to offer features to check the order status or track the order (see Figure 35). This evidence supports the practical relevance of the FF Order Status & Tracking factor.

5.6.9.5 Section Summary

The FF Order Status & Tracking factor is mentioned in the E-SQ literature. Further, it is frequently mentioned in online reviews and is a standard feature that all e-retailers provide. Therefore, this study supports that FF Order Status & Tracking Information is a significant E-SQ factor.

5.6.10 FF Packaging Quality

5.6.10.1 Introduction

This study defines Fulfillment Packaging Quality as *the condition and effectiveness of the packaging used by e-retailers to protect products during delivery.* This includes ensuring the packaging is secure, durable, and appropriate for the product to prevent damage during transit. Furthermore, it entails packaging sustainability, ease of unboxing, aesthetic appeal, and brand aspects.

5.6.10.2 Literature Review Evidence

The analysis did not identify E-SQ literature explicitly addressing the FF Packaging Quality factor, which may indicate a gap in current research.

5.6.10.3 Online Review Analysis

Customer reviews raise concerns about FF Packaging Quality, particularly regarding damaged packaging. Examples include reports of damaged boxes for items such as faucets, canning jars, and wine chillers.

Moreover, WordStat Topic Modeling identified "cardboard box" as a notable topic directly related to FF Packaging Quality, present in 639 cases, representing 2.09% of all reviews (see Appendix A). This

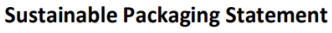
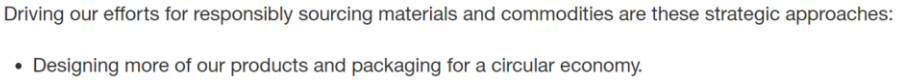
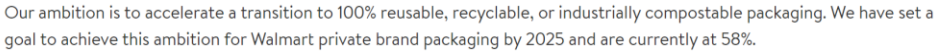
could correspond to approximately 53.1 million global e-retail customers in 2024, based on Statista (2025, February 7).

In conclusion, reviews underscore FF Packaging Quality.

5.6.10.4 Website Evaluation

As of May 28, 2024, the evaluation showed that the e-retailers discuss packaging (see Figure 41). Therefore, practical evidence supports the relevance of the FF Packaging Quality factor.

Figure 41: *Packaging Quality*

E-Retailer	Screenshot from E-Retailer Website
Amazon (1)	
Apple (2)	
Best Buy (3)	
Home Depot (4)	
Target (5)	
Walmart (6)	

Note. All screenshots were retrieved by the author on May 28, 2024, from (1) Amazon. https://www.amazon.com/gp/help/customer/display.html?help_keywords=frustration%20free%20packaging&ref=hp_search_fshubgw ; (2) Apple. https://www.apple.com/environment/ ; (3) Best Buy. https://corporate.Bestbuy.com/wp-content/uploads/2023/06/Sustainable-Packaging-Statement-FY24.pdf ; (4) Home Depot. https://ecoactions.Homedepot.com ; (5) Target. https://corporate.target.com/sustainability-governance/responsible-resource-use ; (6) Walmart. https://corporate.walmart.com/askwalmart/what-is-walmart-doing-to-minimize-packaging-waste

5.6.10.5 Section Summary

While packaging quality appears not to be addressed in the literature, it is a significant topic in online reviews, and e-retailers provide information about it. Therefore, this study proposes the introduction of FF Packaging Quality as a new E-SQ factor.

5.6.11 FF Geographic Aspects

5.6.11.1 Introduction

This study refers to Fulfillment Geographic Aspects as *the logistical factors of the customer's geographical location, which can impact shipping availability, delivery times, costs, and options.*

5.6.11.2 Literature Review Evidence

The analysis did not identify academic E-SQ literature explicitly addressing FF Geographic Aspects, which may suggest a gap in the existing research.

5.6.11.3 Online Review Analysis

The online review analysis provides evidence for issues related to geographic constraints in the FF process. For example, reviewers reported delays caused by items being held at customs. Other reviewers mentioned challenges with deliveries to remote areas.

The quantitative analysis identified reviews related to FF Geographic Aspects, appearing in 15 reviews, accounting for 0.06% of all reviews. This could correspond to approximately 1.4 million global e-retail customers in 2024, based on Statista (2025, February 7). Due to the low frequency and high variance in how issues are described, this figure may underestimate the true extent of concern.

Table 22: *Frequency of Mentions Related to Geographic Aspects in Online Reviews*

Term Used	No. of Cases	Percentage of Total Reviews (%)
Customs	9	0.0327
Remote Area	6	0.0229
Total Mentions	15	0.0556

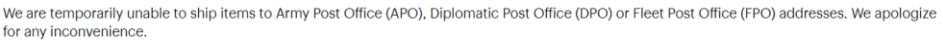
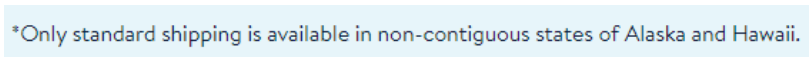
Note. The total number of online reviews analyzed was 30,549. "*" is a wildcard that matches any word variation. This table was developed by the author based on the study's findings.

These findings support the relevance of the FF Geographic Aspects factor.

5.6.11.4 Website Evaluation

Based on data observed on May 27, 2025, the following findings were noted. Amazon provides links to global shipping times and rates, Apple informs about shipping to Puerto Rico, Best Buy cannot deliver to specific locations, and Walmart states that only standard shipping is available for Hawaii and Alaska (see Figure 42). Overall, this practical evidence supports the FF Geographic Aspects factor.

Figure 42: *Geographic Aspects*

E-Retailer	Screenshot
Amazon (1)	
Apple (2)	
Best Buy (3)	
Walmart (4)	

Note. All screenshots were retrieved by the author on May 27, 2025, from (1) Amazon. https://www.amazon.com/gp/help/customer/display.html?nodeId=GE66DNRRQVDZAR5E (2) Apple. https://www.apple.com/shop/help/shipping_delivery ; (3) Best Buy. https://www.Bestbuy.com/site/help-topics/shipping-to-a-military-address/pcmcat204400050018.c?id=pcmcat204400050018 (4) Home Depot. https://marketplace.walmart.com/shipping-and-fulfillment/

5.6.11.5 Conclusion

Although geographical aspects of FF are not explicitly mentioned in the literature, a few online reviews discuss this factor, and information on e-retailer websites highlights its relevance to business practices. Therefore, this study proposes the introduction of FF Geographic Aspects as a new E-SQ factor.

5.6.12 FF Digital Product

5.6.12.1 Introduction

This study refers to Fulfillment Digital Products as *the process through which e-retailers successfully deliver digital goods (such as software, e-books, music, or subscriptions) to customers.* This typically involves providing immediate access through downloads, streaming, or activation keys without physical delivery.

5.6.12.2 Literature Review Evidence

E-SQ literature does not appear to address the FF of digital products, as it predominantly focuses on the delivery of physical goods. However, given the growing importance of digital goods in e-retail, ensuring effective FF of such products is becoming increasingly relevant. This observation suggests that FF Digital Products may represent a gap in existing literature.

5.6.12.3 Online Review Analysis

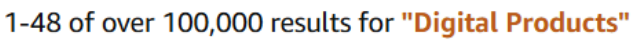
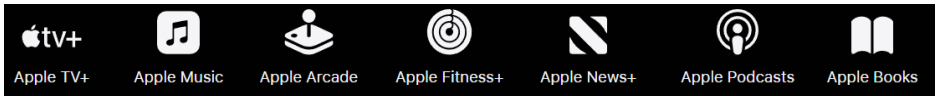
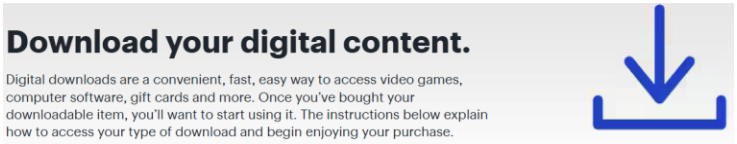
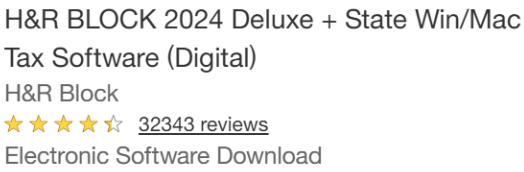
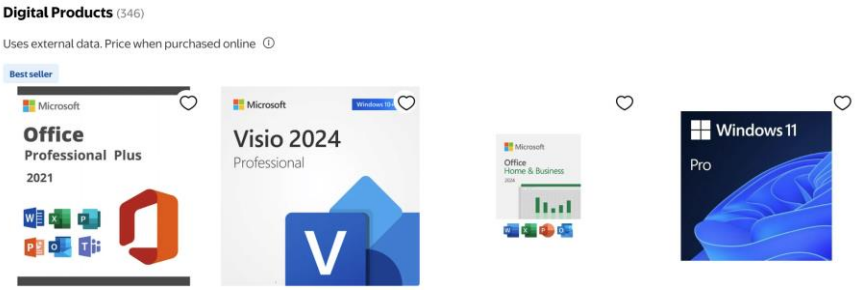
The online review analysis revealed that some customers provided feedback related to FF Digital Products. For example, one reviewer reported receiving a Mac instead of a Windows version and being denied an exchange. Others reported problems downloading purchased items or updates, including failed or non-functioning downloads. While the findings cannot be quantified due to the variety of expressions used, the examples suggest that FF Digital Products is a relevant E-SQ factor.

5.6.12.4 Website Evaluation

The website evaluation conducted on February 8, 2025, suggests that all e-retailers, except Home Depot, deliver digital products (see Figure 43). For example, Amazon indicates more than 100,000 search results for “digital products,” while Apple offers digital music, games, podcasts, and books. Additionally,

Best Buy, Target, and Walmart offer digital products, such as software, for direct download. The evidence supports the relevance of the FF Digital Products factor.

Figure 43: *Digital Product*

E-Retailer	Screenshot
Amazon (1)	
Apple (2)	
Best Buy (3)	
Target (4)	
Walmart (5)	

Note: All screenshots were retrieved by the author on February 8, 2025, from (1) Amazon. https://www.amazon.com/Digital-Products/s?k=Digital+Products; (2) Apple https://www.apple.com/services/ ; (3) Best Buy. https://www.bestbuy.com/site/help-topics/how-it-works-digital-downloads/pcmcat248100050001.c?id=pcmcat248100050001&utm ;(4) Target. https://www.target.com/s?searchTerm=software&tref=typeahead%7Cterm%7Csoftware%7C%7C%7Chistory ; (5) Walmart. https://www.walmart.com/c/kp/digital-products

5.6.12.5 Conclusion

FF Digital Products does not appear to be explicitly addressed in the E-SQ literature. However, a few online reviews mention it, and the e-retailers, except Home Depot, offer digital products. Given its increasing relevance in practice, this study proposes the introduction of FF Digital Products as a new E-SQ factor.

5.6.13 FF Installation Quality

5.6.13.1 Introduction

In this study, Fulfillment Installation Quality refers to *the skillful and correct execution of installation tasks by the installation personnel, ensuring that the installed products function correctly and safely.*

5.6.13.2 Literature Review Evidence

The analysis could not identify literature that explicitly references FF Installation Quality, indicating a potential gap in existing E-SQ research.

5.6.13.3 Online Review Analysis

This study found reviews discussing FF Installation Quality. Feedback included successful delivery and installation as requested. However, negative experiences included unskilled workers who were unable to complete installations, incomplete installation services that required additional professional intervention, and a lack of proper installation instructions.

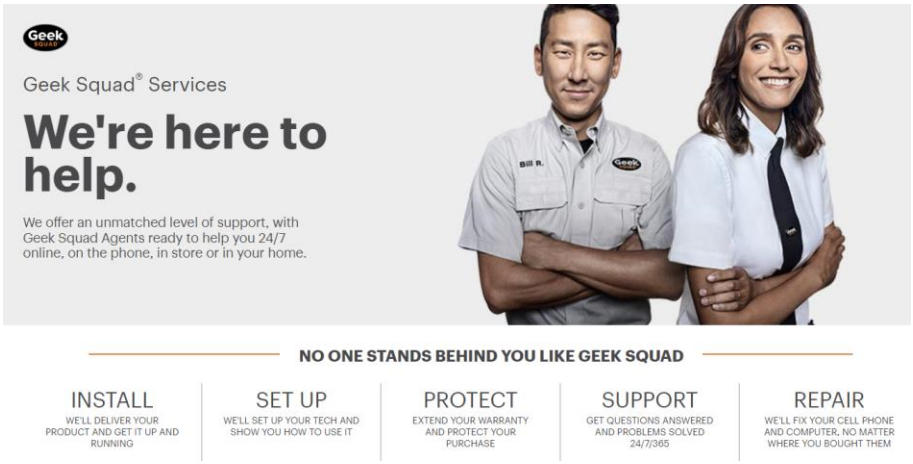
The term “installation*” is found in 835 reviews, accounting for 2.73% of all reviews. This could correspond to approximately 69.4 million global e-retail customers in 2024, based on Statista (2025, February 7).

These findings provide supporting evidence that FF Installation Quality is a relevant E-SQ factor.

5.6.13.4 Website Evaluation

A website evaluation undertaken on June 1, 2024, and November 16, 2024, revealed that Best Buy and Home Depot offer installation services (see Figure 44). This evidence supports the FF Installation Quality factor.

Figure 44: *Technical Quality and Installation Service*

E-Retailer	Screenshot
Best Buy (1)	
Home Depot (2)	

Note. Screenshot retrieved by the author: (1) June 1, 2024, from Best Buy. https://www.Bestbuy.com/site/services/geek-squad/pcmcat138100050018.c?id=pcmcat138100050018&intl=nosplash ; (2) November 16, 2024, from Home Depot. https://www.Homedepot.com/services/

5.6.13.5 Section Summary

The quality of installation services does not appear to be addressed in the existing literature. However, online reviews frequently discuss this factor, and e-retailers such as Best Buy and Home Depot actively offer installation services. Given its practical relevance, this study proposes the introduction of FF Installation Quality as a new E-SQ factor.

5.6.14 FF Respectful Behavior

5.6.14.1 Introduction

In e-retail, the respectful behavior of delivery and installation personnel plays a significant role in shaping customer experience. Beyond simply delivering or installing a product, respectful interactions ensure that customers feel valued and respected throughout the FF process. FF Respectful Behavior is essential for home delivery and in-home installation services, where customers and personnel interact directly.

This study refers to Fulfillment Respectful Behavior as *the ability of delivery and installation personnel to interact with customers in a friendly, helpful, and polite manner, avoiding any rudeness, intimidation, or threatening behavior.*

5.6.14.2 Literature Review Evidence

FF Respectful Behavior does not appear to be addressed in existing E-SQ literature, indicating a potential gap in the field.

5.6.14.3 Online Review Analysis

The online review analysis revealed reviews discussing FF Respectful Behavior. For instance, reviewers praised professional and caring delivery service personnel. Negative feedback included aggressive, rude, threatening, and cursing behavior of personnel.

Moreover, the quantitative analysis identified terms indicating unprofessional conduct in customer contact in 1,796 reviews, accounting for 5.88% of all reviews (see Table 23). This could correspond to approximately 149.3 million global e-retail customers in 2024, based on Statista (2025, February 7). It is important to note that this figure encompasses all personnel types, including delivery drivers, installation staff, and CS representatives.

Table 23: *Frequency of Mentions Related to Respectful Behavior in Online Reviews*

Term Used	No. of Cases	Percentage of Total Reviews (%)
Rude	1,255	4.1082
Disrespect*	243	0.7854
Insult*	148	0.4845
Respectful*	64	0.2095
Rudeness	37	0.1211
Aggressive*	31	0.1015
Cursing	10	0.0327
Cursed	8	0.0262
Total Mentions	1,796	5.8791

Note. The total number of online reviews analyzed was 30,549. "*" is a wildcard that matches any word variation. This table was developed by the author based on the study's findings.

These findings provide indications that FF Respectful Behavior is a critical E-SQ factor.

5.6.14.4 Website Evaluation

An evaluation conducted on June 13, 2025, did not observe information about the FF Respectful Behavior factor on the e-retailer websites. Thus, website evaluation has found no direct support for this factor.

5.6.14.5 Section Summary

The literature does not explicitly address FF Respectful Behavior, nor is it prominently featured on e-retailer platforms. However, online reviews underscore its relevance. Therefore, this study proposes the introduction of FF Respectful Behavior as a critical E-SQ factor.

5.6.15 FF Damage Free

5.6.15.1 Definition

This study defines Fulfillment Damage Free as *the process by which an e-retailer ensures that products are delivered and installed at the customer's location without causing any damage to the product itself or the customer's premises.*

5.6.15.2 Literature Review Evidence

This study could not identify E-SQ literature that directly addresses FF Damage-Free, suggesting a potential gap in the existing research.

5.6.15.3 Online Review Analysis

The online review analysis identified several reviews related to FF Damage-Free. For example, customers reported damage caused during delivery or installation, such as water leaks leading to ceiling and floor damage, driveway damage, and harm to the house. While these examples highlight the relevance of FF Damage-Free, the findings could not be quantified due to the diverse ways reviewers described their experiences.

5.6.15.4 Website Evaluation

According to the evaluation conducted on June 13, 2025, it appears that Amazon and Best Buy address property damages. This evidence supports the FF Damage-Free factor.

Figure 45: *Damage-Free*

E-Retailer	Screenshot
Amazon (1)	A-to-z Guarantee for Property Damage and Personal Injury
Best Buy (2)	❑ **DAMAGES/ FUNCTIONALITY** When your new appliance(s) arrive, look for dents, scratches and dings. If there is damage, confer with delivery teams on options. Ensure delivery team tests the appliance for functionality. Ensure your home has been left in its original condition. Please note any damage on your delivery paperwork.

Note: All screenshots were retrieved by the author on June 13, 2025, from: (1) Amazon. https://www.amazon.com/gp/help/customer/display.html?nodeId=GS3GYAU8JGDBGWH2&utm_source=chatgpt.com; (2) Best Buy. https://images.bestbuy.com/BestBuy_US/en_US/images/abn/2013/global/services/gs/Home_Delivery_Terms_and_Conditions.pdf

5.6.15.5 Section Summary

Literature appears not to address the FF Damage-Free factor. However, reports of such issues in online reviews indicate the factor's relevance, and evidence from e-retailer websites further supports this factor. Therefore, this study proposes the introduction of FF Damage-Free as a new E-SQ factor.

5.6.16 FF Post-Installation Cleanliness

5.6.16.1 Introduction

This study refers to Fulfillment Post-Installation Cleanliness as *the clean-up process performed by the installation personnel after installation.* This service ensures that customers' premises are left clean and free from any debris, waste, or packaging resulting from the installation.

5.6.16.2 Literature Review Evidence

Current E-SQ research appears to overlook the FF Post-Installation Cleanliness factor, which may indicate a gap in the literature.

5.6.16.3 Online Review Analysis

The qualitative online review analysis revealed mentions of FF Post-Installation Cleanliness, primarily in the context of Home Depot. Examples included positive feedback noting the installation team's cleanliness and professionalism, while negative reviews highlighted instances where installers left the site in a messy state. The findings could not be quantified due to the varied ways in which reviewers described their experiences. However, the examples presented above support the view that FF Post-Installation Cleanliness is a relevant E-SQ factor.

5.6.16.4 Website Evaluation

Based on the website evaluation conducted on June 1, 2024, it was observed that only Home Depot provides information about post-installation cleanliness on its website, while the other e-retailers do not

appear to address this factor (see Figure 46). This evidence supports the FF Post-Installation Cleanliness factor.

Figure 46: *Post-Installation Cleanliness*

E-Retailer	Screenshot from E-Retailer Website
Home Depot (1)	**Clean Removal** • The delivery team will dispose of all new appliance packaging • Replaced appliances will be moved or hauled away If you have opted for the additional service and they have been emptied and disconnected

Note. The screenshot was retrieved from (1) Home Depot, June 1, 2024, https://www.Homedepot.com/c/Appliance_Delivery_Installation

5.6.16.5 Section Summary

The literature does not appear to address FF Post-Installation Cleanliness. However, customer reviews mention this factor, and Home Depot provides related information on its website. Based on this evidence, the study proposes the introduction of FF Post-Installation Cleanliness as a new E-SQ factor.

5.6.17 FF Return Options

5.6.17.1 Introduction

The National Retail Federation (2023, December 29) reported that online return costs totaled 248 billion U.S. dollars in 2023. Moreover, a 2022 survey by Narvar (2022, October 31) found that the most popular return methods among U.S. online customers were (1) dropping off their items at a third-party location (37% of all respondents), (2) dropping off items at a mail carrier (31%), (3) pickup from home (13%) and (4) drop off at a storefront (10%). These statistics illustrate the substantial costs associated with returns for e-retailers and the diverse options they offer for returns.

This study refers to Fulfillment Return Options as *customers' choices for returning purchased items, such as dropping off items at third-party locations, returning orders via mail carriers or retail stores, or scheduling home pickups.*

5.6.17.2 Literature Review Evidence

Zeithaml et al. (2000) note the value of offering a brick-and-mortar option for customers to return items. Similarly, Parasuraman et al. (2005) mention the option of pick-up return from the customer's home or business. According to Wolfinbarger and Gilly (2003), returns must be straightforward. Overall, the literature delivers support for the FF Return Options factor.

5.6.17.3 Online Review Analysis

The study identified reviews related to FF Return Options. For example, reviewers discussed returning items to stores, home pickup, or handing the return to a carrier. One reviewer mentioned that the case was resolved without requiring the return of the item. Moreover, the quantitative analysis found a frequent discussion about returning items, with 1,577 reviews, representing 5.16% of all reviews (see Table 24). This could correspond to approximately 131.1 million global e-retail customers in 2024, based on Statista (2025, February 7).

Table 24: *Frequency of Mentions Related to Return Options in Online Reviews*

Term Used	No. of Cases	Percentage of Total Reviews (%)
Proximity rule for item return	1,176	3.8496
Proximity rule for product return	384	1.2570
In-store return*	10	0.0327
Return option*	6	0.0196
Home pick up	1	0.0033
Total Mentions	1,577	5.1622

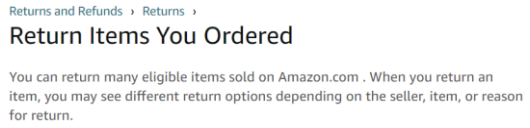
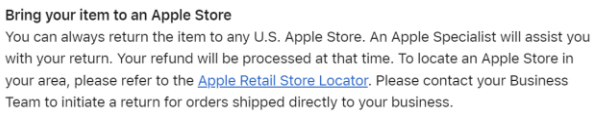
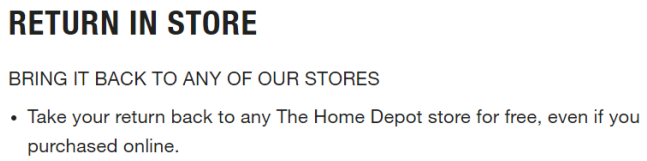
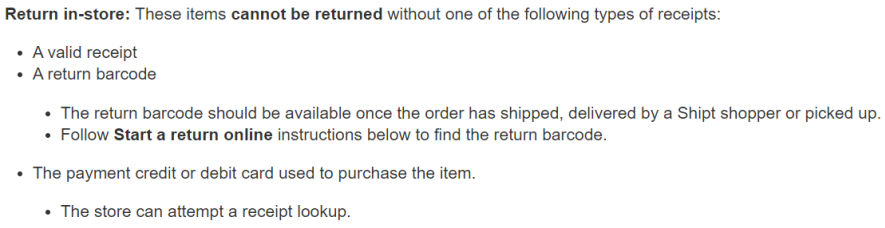
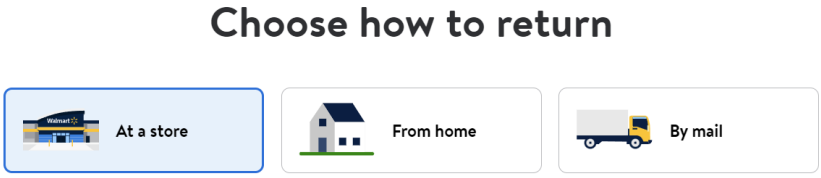
Note. The total number of online reviews analyzed was 30,549. "*" is a wildcard that matches any word variation.

In conclusion, evidence from reviews appears to support the FF Return Options factor.

5.6.17.4 Website Evaluation

Based on data gathered during the evaluation on June 2, 2024, it was observed that all e-retailers offer a send-back option for returns, and customers can also return online purchases to physical stores at all e-retailers except Amazon (see Figure 47). This evidence supports the FF Return Options factor.

Figure 47: *Return Options*

E-Retailer	Screenshot from E-Retailer Website
Amazon (1)	
Apple (2)	
Best Buy (3)	
Home Depot (4)	
Target (5)	
Walmart (6)	

Note All screenshots were retrieved by the author on June 2, 2024, from: (1) Amazon. https://www.amazon.com/gp/help/customer/display.html/ref=hp_ais_gt_rr_retord?nodeId=G6E3B2E8QPHQ88KF ; (2) Apple. https://www.apple.com/shop/help/returns_refund ; (3) Best Buy. https://www.Bestbuy.com/site/help-topics/return-exchange-policy/pcmcat260800050014.c?id=pcmcat260800050014 ; (4) Home Depot. https://www.Homedepot.com/c/Return_Policy ; (5) Target. https://help.target.com/help/targetguesthelparticledetail?articleId=ka95d000000wpNgAAI&articleTitle=How+do+I+return+an+item+that+was+purchased+from+Target.com%3F&clickSearchVar=Search+Results&searchQuery=How+do+I+return+an+item+that+was+purchased+from+Target.com%3F ; (6) Walmart. https://www.walmart.com/cp/returns/1231920

5.6.17.5 Section Summary

Statistics highlight the high costs associated with returns and the fact that e-retailers offer a diverse range of return options. Moreover, the literature, reviews, and evidence from the e-retailer websites support that FF Return Options is a critical E-SQ factor.

5.7 Customer Service Dimension

5.7.1 Introduction

Several authors support that Customer Service (CS) is critical to E-SQ (Blut et al., 2015; Blut, 2016; Gounaris & Dimitriadis, 2003; Holloway & Beatty, 2008; Wolfinbarger & Gilly, 2003). Moreover, WordStat Topic Modeling revealed that the "customer service" topic is mentioned in 10,231 reviews, accounting for 33.49% of all reviews (see Appendix A). This could correspond to approximately 850.7 million global e-retail customers in 2024, based on Statista (2025, February 7). This evidence supports the pivotal role of CS and relevance as an E-SQ dimension.

In this study, Customer Service refers to *the e-retailer's comprehensive support and assistance for customers throughout all phases of the customer journey.*

This definition encompasses all phases of the customer journey because CS plays a vital role in every stage—from answering questions about the UI, responding to inquiries about the product and price, assisting with the purchase, to providing post-purchase support such as returns, refunds, and issue resolution. These examples support the notion that CS spans the entire customer journey and represents an overarching dimension.

The following sections discuss the proposed underlying E-SQ factors of the CS dimension.

5.7.2 CS Ease-of-Contact

5.7.2.1 Introduction

This study refers to Customer Service Ease of Contact as *the ability of customers to reach the e-retailer's customer service team quickly and conveniently through multiple communication channels, such as phone, email, live chat, or social media.* Ideally, customer service answers quickly, without long hold times or other delays.

5.7.2.2 Literature Review Evidence

Barnes and Vidgen (2002) and Gounaris and Dimitriadis (2003) mention the ease of communicating with a company. Furthermore, Zeithaml et al. (2000) emphasize that help for problems must be available. Parasuraman et al. (2005) state that websites should provide CS that customers can reach online and via telephone. Besides that, Trusted Shops (n.d.) emphasizes the significance of providing excellent communication. Thus, the literature provides support for the CS Ease-of-Contact factor.

5.7.2.3 Online Review Analysis

This online review analysis identified cases that highlighted challenges in reaching CS. Reviewers reported issues including long waiting times, difficulty accessing technical support, dropped calls with no follow-up, and unavailability. The quantitative analysis found a frequent discussion, with 1,961 reviews, or 6.42% of all reviews mentioning themes related to CS Ease-of-Contact (see Table 25). This could correspond to approximately 163 million global e-retail customers in 2024, based on Statista (2025, February 7).

Table 25: *Frequency of Mentions Related to Ease-of-Contact in Online Reviews*

Term Used	No. of Cases	Percentage of Total Reviews (%)
Hung Up	793	2.5958
Proximity Rule Answer Call	561	1.8364
Proximity Rule Answer Phone	363	1.1883
Proximity Rule Answer Email	81	0.2651
Proximity Rule Reach Customer Service	78	0.2553
Hold Time*	62	0.2030
Proximity Rule Customer Service Wait Time	18	0.0589
Phone Wait Time*	2	0.0065
Easy To Contact	1	0.0033
Line Wait Time*	1	0.0033
Proximity Rule Reach CS	1	0.0033
Total Mentions:	1,961	6.4192

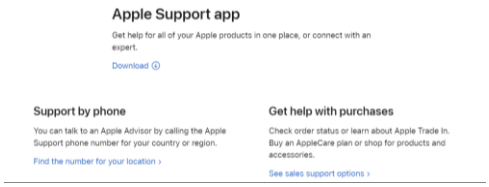
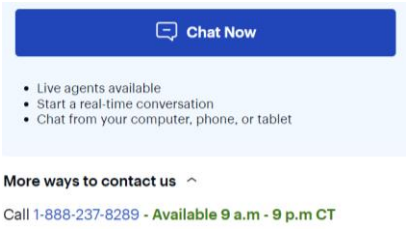
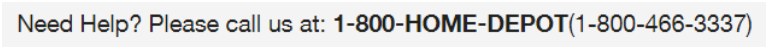
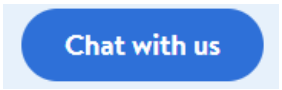
Note. The total number of online reviews analyzed was 30,549. "*" is a wildcard that matches any word variation. This table was developed by the author based on the study's findings.

Overall, the review analysis supports the CS Ease-of-Contact factor.

5.7.2.4 Website Evaluation

Based on data retrieved on June 2, 2024, from the e-retailers' websites, it was revealed that the e-retailers provide multiple options for customers to reach out before, during, or after the purchase. For example, Amazon offers a callback service; Apple provides phone support; Best Buy features an online chat and a toll-free support number; and Home Depot displays a support phone number prominently (see Figure 48). Further, Target offers a phone number and an email contact option, and Walmart facilitates customer interaction through an online chat feature (see Figure 48). It appears that all e-retailers offer a range of communication options that facilitate contacting CS. In conclusion, the evidence from the website evaluation supports that CS Ease-of-Contact is a significant E-SQ factor.

Figure 48: *Ease of Contact*

E-Retailer	Screenshot of E-Retailer Website
Amazon (1)	
Apple (2)	
Best Buy (3)	
Home Depot (4)	
Target (5)	
Walmart (6)	

Note. All screenshots were retrieved by the author on June 2, 2024, from (1) Amazon. https://www.amazon.com/hz/contact-us/express-c2c-phone?linkCode=sl2&ref_=as_li_ss_tl&language=en-US&tag=techlicious-20&linkId=8b27a0281af0c9e894dbd728c71352c7 ;(2) Apple. https://support.apple.com/contact ; (3) Best Buy. https://www.Bestbuy.com/contact-us?contactOption=other ; (4) Home Depot. https://www.Homedepot.com/c/Appliance_Delivery_Installation ; (5) Target. https://contactus.target.com/ContactUs?selection=Security+Concerns ; (6) Walmart. from https://www.walmart.com/help

5.7.2.5 Section Summary

Evidence from literature, online reviews, and the e-retailer websites underscores the importance of CS Ease of Contact. Therefore, this study supports that CS Ease of Contact is a relevant E-SQ factor.

5.7.3 CS Respectfulness

5.7.3.1 Introduction

In this study, Customer Service Respectfulness refers to *the manner in which e-retailers' customer service engages with their customers, ensuring that interactions are conducted with courtesy, politeness, and high professionalism.*

5.7.3.2 Literature Review Evidence

This study did not identify E-SQ literature explicitly addressing the CS Respectfulness factor, which may suggest a gap in current research.

5.7.3.3 Online Review Analysis

The online review analysis identified issues with CS Respectfulness, where customers reported experiencing disrespectful behavior from CS representatives. Examples include being called a liar, being hung up on, or feeling disrespected. In another case, a representative accused a customer of being rude.

Evidence from Section 5.6.14.3 shows that disrespectful behavior is a common issue, with frequent discussions about the behavior of CS representatives, delivery drivers, and installation personnel.

Overall, these findings underscore the importance of the CS Respectfulness factor.

5.7.3.4 Website Evaluation

According to data gathered on June 2, 2024, it was observed that Best Buy, Home Depot, Target, and Walmart display information about respectful service on their websites (see Figure 49). This evidence suggests that FF-Respectfulness is a concern for e-retailers, supporting its significance as an E-SQ factor.

Figure 49: *Respectfulness*

E-Retailer	Screenshot of E-Retailer Website
Best Buy (1)	Our customers are the reason we are here, so we treat them with respect, honesty and fairness.
Home Depot (2)	**RESPECT FOR ALL PEOPLE** In order to remain successful, our associates must work in an environment of mutual respect, free of discrimination and harassment where each associate is regarded as a part of The Home Depot team.
Target (3)	Exhibiting honesty, respect and concern for others through every interaction.
Walmart (4)	We treat people with dignity, lead by example, and listen to each other. We seek and embrace differences in people, ideas, and experiences.

Note. All screenshots were retrieved by the author on June 2, 2024, from: (1) Best Buy. https://s2.q4cdn.com/785564492/files/doc_downloads/Gov_docs/2023/BBY-CODE-OF-ETHICS.pdf ; (2) Home Depot. https://corporate.Homedepot.com/page/our-values ; (3) Target. https://corporate.target.com/sustainability-governance/operating-ethically/code-of-ethics ; (4) Walmart. https://www.walmartethics.com/content/walmartethics/en_us/code-of-conduct.html ;

5.7.3.5 Section Summary

While the literature does not appear to address CS Respectfulness explicitly, its relevance emerges from online review analysis and e-retailer practices. Based on this evidence, the study proposes CS Respectfulness as an important E-SQ factor.

5.7.4 CS Competency

5.7.4.1 Definition CS Competency

This study defines Customer Service Competency as *the ability of an e-retailer's customer service team to effectively identify, address, and resolve customer issues, including product inquiries, order issues, and returns.*

5.7.4.2 Literature Review Evidence

In practice, the ACSI (2024) benchmarks the helpfulness of CS through live chat, help pages, and call centers. Holloway and Beatty (2003) identify poor CS as a significant service failure, while Blut et al. (2015) and Holloway and Beatty (2008) recognize CS level as a critical E-SQ factor. However, these authors do not explicitly define "CS level." Therefore, this study suggests that the concept of CS Competency has not yet been clearly addressed in the literature, pointing to a potential gap in current E-SQ research.

5.7.4.3 Online Review Analysis

The reviews highlight varying levels of CS Competency. Positive feedback praised effective issue resolution, such as prompt solutions to order problems and technical assistance. Conversely, other reviews addressed poor problem-solving.

Moreover, WordStat Topic Modeling identified "resolve the issue" as a notable topic, present in 1,026 reviews, accounting for 3.36% of all reviews (see Appendix A). This could correspond to approximately 85.3 million global e-retail customers in 2024, based on Statista (2025, February 7).

In conclusion, the review analysis underscores the significance of the CS Competency factor.

5.7.4.4 Website Evaluation

Findings from the evaluation on June 13, 2025, observed no explicit information on the e-retailer website concerning CS Competency. Therefore, the website evaluation does not provide direct support for this factor.

5.7.4.5 Section Summary

Reviews highlight the relevance of CS Competency, whereas the website evaluation did not provide explicit information about it. Additionally, although the literature touches on elements related to CS Competency, it does not appear to provide a clear definition of this concept. To address this gap, this study defines CS Competency and proposes to introduce it as a new E-SQ factor.

5.7.5 CS Proactiveness

5.7.5.1 Introduction

This study defines Customer Service Proactiveness as *an approach where customer service helps customers before they encounter a problem.* Examples include proactively notifying customers about order delays, providing troubleshooting advice for common problems without being requested, or following up after a purchase to ensure satisfaction.

5.7.5.2 Literature Review Evidence

Related to proactive support is the work of Zeithaml et al. (2000), who emphasize the importance of post-purchase care. They note that e-retailers should follow up with customers after the purchase or inform them if the order did not go through. Furthermore, Parasuraman et al. (2005) emphasize that e-retailers must clearly inform consumers how to proceed if transactions do not proceed as expected. However, this study conceptualizes CS Proactiveness in more detail and broader than previous work (see 5.7.5.1). Therefore, this study argues that CS Proactiveness represents a gap in the literature.

5.7.5.3 Online Review Analysis

The online review analysis cannot quantify the CS Proactiveness factor, as reviewers describe this topic in too many ways. However, review examples highlight its relevance, such as employees proactively following up or providing updates and solutions.

In conclusion, the review analysis underscores the importance of the CS Proactiveness factor.

5.7.5.4 Website Evaluation

A website evaluation conducted on June 13, 2025, found no relevant information about CS Proactiveness on the e-retailer websites. Thus, website evaluation does not deliver direct support for this factor.

5.7.5.5 Section Summary

Online reviews underscore the significance of CS Proactiveness, although this study did not find explicit evidence of it on e-retailer platforms. While related concepts appear in the literature, they are not clearly defined. Therefore, this study proposes a definition of the CS Proactiveness factor and supports its introduction as a new E-SQ factor.

5.7.6 CS Contact Frequency

5.7.6.1 Introduction

In this study, Customer Service Contact Frequency refers to *the number of interactions between a customer and the e-retailer's support team to resolve an issue.* Ideally, a customer's issue should be resolved within as few interactions as possible.

5.7.6.2 Literature Review Evidence

Existing E-SQ literature seems to overlook the specific role of CS Contact Frequency, indicating a possible research gap.

5.7.6.3 Online Review Analysis

The online review analysis identified reviews related to CS Contact Frequency. Examples highlight excessive contact, such as customers making repeated calls.

What is more, WordStat Topic Modeling identified "multiple calls" as a significant topic, appearing in 1,512 reviews, accounting for 4.95% of all reviews (see Appendix A). This could correspond to approximately 125.7 million global e-retail customers in 2024, based on Statista (2025, February 7).

This analysis supports the relevance of the CS Contact Frequency factor.

5.7.6.4 Website Evaluation

The website evaluation undertaken on June 13, 2025, suggests that none of the six e-retailers display explicit information about the frequency of CS contact. Thus, CS Contact Frequency does not appear to be formally addressed on their websites. As a result, this evaluation delivers no direct support for this factor.

5.7.6.5 Section Summary

Neither the literature nor the e-retailer platforms provide explicit evidence for CS Contact Frequency. However, online reviews suggest that this topic is of concern to customers. This indicates that CS Contact Frequency is a relevant E-SQ factor, and this study proposes its introduction as a new one.

5.7.7 CS Seamlessness

5.7.7.1 Introduction

This study defines Customer Service Seamlessness as *a system that prevents customers from being transferred between multiple representatives, experiencing disconnections, or having to explain the same issue repeatedly.*

5.7.7.2 Literature Review Evidence

CS Seamlessness does not appear to be explicitly addressed in existing E-SQ literature, indicating a potential gap in the field.

5.7.7.3 Online Review Analysis

The online review analysis identified 1,190 reviews (3.9% of all reviews) mentioning topics related to CS Seamlessness (see Table 26). This could correspond to approximately 98.9 million global e-retail customers in 2024, based on Statista (2025, February 7). Examples reveal customer frustrations with being transferred between multiple CS agents or departments, repeated transfers to specialists, or extended hold times before being transferred again.

Table 26: *Frequency of Mentions Related to Seamlessness in Online Reviews*

Term Used	No. of Cases	Percentage of Total Reviews (%)
Hung Up	793	2.5958
Transferred To	210	0.6874
Proximity Rule Transfer Department*	52	0.1702
Proximity Rule Pass* Around	45	0.1473
Proximity Rule Wrong Department*	29	0.0949
Proximity Rule Between Department*	26	0.0851
Proximity Rule Customer Service Back And Forth	20	0.0655
Proximity Rule Between Agent*	8	0.0262
Department-To-Department	7	0.0229
Total Mentions:	1,190	3.8953

Note. The total number of online reviews analyzed was 30,549. "*" is a wildcard that matches any word variation. This table was developed by the author based on the study's findings.

In conclusion, the analysis provides support for the relevance of CS Seamlessness as an E-SQ factor.

5.7.7.4 Website Evaluation

According to the evaluation conducted on June 13, 2025, it appears that the e-retailer websites provide no information concerning the seamlessness of their CS. Thus, website evaluation provides no direct support for the CS-Seamlessness factor.

5.7.7.5 Section Summary

Literature and e-retailer websites do not appear to provide evidence for CS Seamlessness. However, indications from online reviews suggest that it is relevant. Accordingly, this study proposes the introduction of CS Seamlessness as a significant new E-SQ factor.

5.7.8 CS Time Efficiency

5.7.8.1 Introduction

This study defines Customer Service Time Efficiency as *the ability of the customer service to answer questions and resolve issues in a timely manner. This involves minimizing phone waiting times, providing quick response times, and resolving issues in a single interaction whenever* possible.

5.7.8.2 Literature Review Evidence

Zeithaml et al. (2000) explicitly state that e-retailers must quickly respond to customer queries and take care of problems promptly. Similarly, Gounaris and Dimitriadis (2003) are concerned with the CS response time for customer emails and queries. Furthermore, Wolfinbarger and Gilly (2003) and Loiacono et al. (2002) reference the company's ability to respond quickly to customer needs. What is more, Bauer et al. (2006) mention customer waiting times and the speed of CS responses. Overall, the literature appears to support the CS Time Efficiency factor.

5.7.8.3 Online Review Analysis

The online review analysis identified reviews related to CS Time Efficiency. Review examples include extended hold times, such as waiting hours to reach assistance, lengthy phone resolution times, and unfulfilled promises of follow-up within a specified timeframe.

Furthermore, WordStat Topic Modeling identified "waste of time" as a highly significant topic, present in 3,081 reviews, accounting for 10.09% of all reviews (see Appendix A). This could correspond to approximately 256.2 million global e-retail customers in 2024, based on Statista (2025, February 7).

Overall, the analysis underscores the importance of the CS Time Efficiency factor.

5.7.8.4 Website Evaluation

As of June 13, 2025, the evaluation showed that Amazon, Apple, Best Buy, and Walmart provide information about response times on their websites. This evidence supports the CS Time Efficiency factor.

Figure 50: *Time Efficiency*

E-Retailer	Screenshot of E-Retailer Website
Amazon (1)	Sellers usually respond to your emails within 48 hours.
Apple (2)	**Initial Response Times**[8] — Select / Preferred / Alliance System / service down (high-priority): 4 hours / 2 hours / 1 hour Performance problem (medium-priority): 48 hours / 24 hours / 4 hours Other question or issue (low-priority): 72 hours / 48 hours / 24 hours
Best Buy (3)	Need something fixed ASAP? Have questions? Agents are available 24/7.
Walmart (4)	When you receive a customer or Walmart Customer Care inquiry via email, phone or in your Seller Center Inbox, you're required to send a high-quality response within **48 hours** of receipt including weekends and Additional Days Off or Operational Outage periods. If you receive a Better Business Bureau or Attorney General Complaint, you must provide a high-quality response within the **first hour** of receipt.

Note. All screenshots were retrieved by the author on June 13, 2025, from (1) Amazon. https://www.amazon.com/gp/help/customer/display.html?nodeId=G3JQ9V9LQ8FFMR7W; (2) Apple. https://www.apple.com/support/professional/it-departments/ ; (3)Best Buy. https://www.bestbuy.com/site/computer-tablet-services/geek-squad-24-7-support-welcome/pcmcat748300520360.c?id=pcmcat748300520360&utm; (4) Walmart. https://marketplacelearn.walmart.com/guides/Order%20management/Customer%20care/Customer-Care-policy

5.7.8.5 Section Summary

The literature supports CS Time Efficiency, and both online reviews and e-retailer websites further underscore its importance. Therefore, this study supports the view that CS Time Efficiency is a significant E-SQ factor.

5.7.9 CS Language Skills

5.7.9.1 Introduction

In this study, Customer Service Language Skills refers to *the ability of the CS team to communicate in a clear, easily comprehensible language.* It also involves addressing language barriers, such as low English proficiency or difficult accents, which can hinder communication or make it more difficult.

5.7.9.2 Literature Review Evidence

Gounaris and Dimitriadis (2003) refer to the importance of ease of communication with CS. Furthermore, Loiacono et al. (2002) discuss ease of understanding related to this factor. Nonetheless, the literature does not explicitly address language skills or barriers. Thus, CS Language Skills appears to represent a gap in the literature.

5.7.9.3 Online Review Analysis

The online review analysis identified reviews related to CS Language Skills. Review examples include customer praises regarding the English proficiency of customer support representatives. Negative feedback includes reports of communication difficulties due to limited English fluency or comprehension. Conversely, one e-retailer received positive feedback for agents who were described as helpful and fluent in the English language.

Moreover, WordStat Topic Modeling identified "speak English" as a significant topic, present in 438 reviews, accounting for 1.43% of all reviews (see Appendix A). This could correspond to approximately 36.4 million global e-retail customers in 2024, based on Statista (2025, February 7).

The findings of the review analysis underscore the significance of the CS Language Skills factor.

5.7.9.4 Website Evaluation

Based on the evaluation conducted on June 13, 2025, no information regarding CS Language Skills was found on the e-retailer websites. Thus, the website evaluation delivers no direct evidence for this factor.

5.7.9.5 Section Summary

The CS Language Skills factor does not appear to be explicitly mentioned in the E-SQ literature, nor is relevant information provided by e-retailers. However, online reviews highlight the factor’s importance. Therefore, this study proposes the introduction of CS Language Skills as a new significant E-SQ factor.

5.7.10 CS Quality Consistency

5.7.10.1 Introduction

This study refers to Customer Service Quality Consistency as *the ability of a customer service team to maintain a uniform standard of service across all interactions, ensuring that customers receive the same high-quality support regardless of the time, representative, sales channel, or communication channel involved.*

5.7.10.2 Literature Review Evidence

The analysis did not identify E-SQ literature that explicitly addresses CS Quality Consistency, which may indicate a gap in existing research.

5.7.10.3 Online Review Analysis

The online review analysis identified reviews related to CS Quality Consistency. For example, reviewers reported excellent and consistent service from e-retailers, with prompt issue resolution and dependable support. Other experiences highlighted inconsistencies, including disparities between in-store and online CS levels. Although the CS Quality Consistency factor could not be quantified due to the wide variety of expressions used by reviewers, the qualitative findings suggest that CS Quality Consistency is a significant E-SQ factor.

5.7.10.4 Website Evaluation

The evaluation undertaken on June 13, 2025, found that Best Buy's standard operating procedures aim at providing customers with a consistent experience (see Figure 51). This evidence supports the CS Quality Consistency factor.

Figure 51: *Quality Consistency*

E-Retailer	Screenshot of E-Retailer Website
Best Buy (1)	The success of our business depends on putting people before all else, and providing them an unparalleled level of service before, during and after the sale of our products and services. We have standard operating procedures (SOPs) in place to ensure that we meet (or exceed!) customer expectations and provide a positive, consistent experience, no matter which employee they meet. It is the right thing to do and it is consistent with our Guiding Behaviors.

Note. Screenshot was retrieved on June 13, 2025, from (1) https://corporate.bestbuy.com/wp-content/uploads/2020/07/BBY_COE_EXT_FINAL_070820_SECURE.pdf

5.7.10.5 Section Summary

The literature does not appear to explicitly address CS Quality Consistency. However, the Best Buy website provides relevant information, and online reviews support its relevance. Based on this observation, the study proposes the introduction of CS Quality Consistency as a novel and important E-SQ factor.

5.7.11 CS Artificial Interaction

5.7.11.1 Introduction

In this study, Customer Service Artificial Interaction refers to *customers using e-retailers' automated systems, such as automated phone systems, chatbots, virtual assistants, and AI-driven responses.*

5.7.11.2 Literature Review Evidence

Bauer et al. (2006) mention the availability of alternative communication channels. However, these authors do not explicitly mention artificial interaction. The analysis was unable to identify E-SQ literature that directly discusses CS Artificial Interaction. This may represent a gap in the literature.

5.7.11.3 Online Review Analysis

The online review analysis found reviews related to CS Artificial Interaction. Review examples highlight unhelpful automated replies, difficulty navigating chatbots, and issues with automated voice systems that failed to connect users to human representatives or did not understand the customer's voice.

Additionally, reviewers expressed dissatisfaction with AI systems that provided unhelpful responses. These examples underscore the limitations of artificial interaction in resolving customer issues.

The quantitative analysis found reviews related to CS Artificial Interaction in 276 reviews, accounting for 0.9% of all reviews (see Table 27). This could correspond to approximately 22.9 million global e-retail customers in 2024, based on Statista (2025, February 7).

Table 27: *Frequency of Mentions Related to Artificial Interaction in Online Reviews*

Term Used	No. of Cases	Percentage of Total Reviews (%)
Robot	66	0.2160
Bots	52	0.1702
Automated System*	48	0.1571
Bot	44	0.1440
Robots	37	0.1211
Chat Bot*	18	0.0589
Automated Voice*	8	0.0262
Chatbot	3	0.0098
Total Mentions:	276	0.9033

Note. The total number of online reviews analyzed was 30,549. "*" is a wildcard that matches any word variation. This table was developed by the author based on the study's findings.

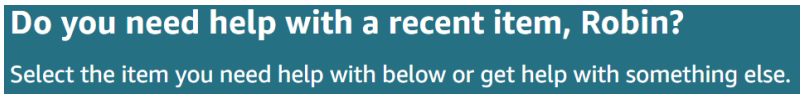
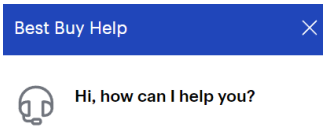
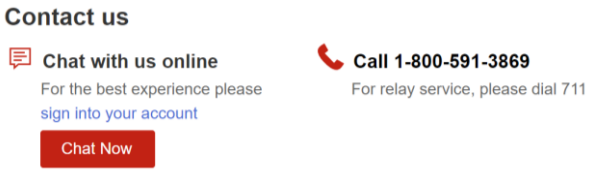
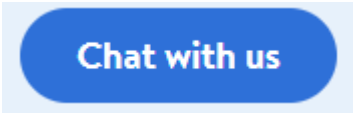
In conclusion, this evidence supports the importance of the CS Artificial Interaction factor.

5.7.11.4 Website Evaluation

According to the evaluation conducted on June 7, 2024, it appears that the e-retailer websites provide artificial customer interaction options, such as the Amazon help pages, which are partly automated, Apple offers a support app, and Best Buy, Home Depot, Target, and Walmart provide chatbots (see Figure 52).

In conclusion, evidence from the website evaluation suggests that CS Artificial Interaction is a relevant E-SQ factor.

Figure 52: *Customer Service Artificial Interaction*

E-Retailer	Screenshot from E-Retailer Website
Amazon (1)	
Apple (2)	
Best Buy (3)	
Home Depot (4)	
Target (5)	
Walmart (6)	

Note. All screenshots were retrieved by the author on June 7, 2024, from: (1) Amazon. https://www.amazon.com/hz/contact-us/foresight/hubgateway ; (2) Apple. https://support.apple.com/ ; (3) Best Buy. https://www.Bestbuy.com/site/help-topics/return-exchange-policy/pcmcat260800050014.c?id=pcmcat260800050014 ; (4) Home Depot. https://www.Homedepot.com ; (5) Target. https://contactus.target.com/ContactUs?selection=Target.com+Order+Experience ; (6) Walmart. https://www.walmart.com/help

5.7.11.5 Section Summary

Literature does not address CS Artificial Interaction, yet reviews and e-retailer platforms provide evidence supporting its significance. Therefore, the study introduces CS Artificial Interaction as a new E-SQ factor.

5.7.12 CS Return & Refund Policies

5.7.12.1 Introduction

In this study, Customer Service Return & Refund Policies refer to *the guidelines and processes set up by e-retailers for customers to return products and receive refunds, including clear information on eligibility, time limits, steps for making a return, and any associated fees or conditions.*

Return options can influence sales. According to a 2024 survey by the Baymard Institute (2024), 18% of U.S. adult respondents abandon their online shopping carts if the return policy is unsatisfactory.

5.7.12.2 Literature Review Evidence

Several authors address return handling policies as an E-SQ factor (Blut et al., 2015; Holloway & Beatty, 2003, 2008; Wolfinbarger & Gilly, 2003). Parasuraman et al. (2005) are concerned with convenient return options for customers and the quality of return handling. In practice, Trusted Shops (n.d.) states that e-retailers must have a straightforward withdrawal process and easy-to-access information about returns and return costs. Thus, the literature supports CS Return & Refund Policies.

5.7.12.3 Online Review Analysis

The reviews related to CS Return & Refund Policy highlight, for example, unclear or restrictive policies across several retailers, as well as policies that do not match the stated guidelines. Furthermore, reviewers mentioned limited return windows or exclusions for specific items.

The quantitative analysis identified reviews related to CS Return & Refund Policy in 4,717 cases, accounting for 15.44% of all reviews (see Table 28). This could correspond to approximately 392.2 million global e-retail customers in 2024, based on Statista (2025, February 7).

Table 28: *Frequency of Mentions Related to CS Return & Refund Policy in Online Reviews*

Term Used	No. of Cases	Percentage of Total Reviews (%)
Refund*	4,370	14.3049
Return Polic*	347	1.1359
Total Mentions:	4,717	15.4408

Note. The total number of online reviews analyzed was 30,549. "*" is a wildcard that matches any word variation. This table was developed by the author based on the study's findings.

Overall, the review analysis supports that CS Return & Refund Policies is a critical E-SQ factor.

5.7.12.4 Website Evaluation

Data gathered during the evaluation on June 2, 2024, suggests that all e-retailers provide detailed information about their return and refund policies (see Figure 47). This evidence supports the CS Return & Refund Policies E-SQ factor.

5.7.12.5 Section Summary

Literature, reviews, and e-retailer platforms support the significance of CS Return & Refund Policies. Accordingly, this study underscores that CS Return & Refund Policies represents a critical E-SQ factor.

5.7.13 CS Refund Timeliness

5.7.13.1 Introduction

In this study, Customer Service Refund Timeliness refers to *the speed with which an e-retailer completes refunds for returned or canceled products, including minimizing the period between a refund request and final reimbursement to the customer.*

5.7.13.2 Literature Review Evidence

Parasuraman et al. (2005) note that a website must handle returns effectively and compensate for issues. Nonetheless, these authors do not address the timeliness of refunds. The analysis could not identify E-SQ literature explicitly focusing on CS Refund Timeliness. This represents a potential gap in the literature.

5.7.13.3 Online Review Analysis

The online review analysis identified mixed experiences regarding how prompt refunds were processed by e-retailers. Examples included reviews highlighting fast refunds. Conversely, other reviewers reported delays or non-processed refunds.

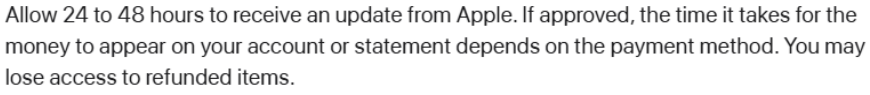
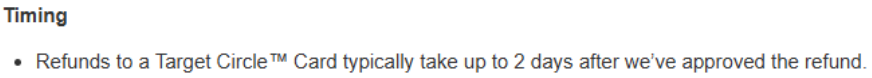
Further, WordStat Topic Modeling identified that the "full refund wait" topic was present in 1,683 reviews, accounting for 5.51% of all reviews (see Appendix A). This could correspond to approximately 139.9 million global e-retail customers in 2024, based on Statista (2025, February 7).

These findings underscore the importance of the CS Refund Timeliness factor.

5.7.13.4 Website Evaluation

Evidence from November 30, 2024, evaluation found that all e-retailers display information on refund timing (see Figure 53). The evidence supports the CS Refund Timeliness factor.

Figure 53: *Refund Timeliness*

E-Retailer	Screenshot
Amazon (1)	
Apple (2)	
Best Buy (3)	
Home Depot (4)	
Target (5)	
Walmart (6)	

Note. All screenshots were retrieved by the author on November 30, 2024, from (1) Amazon. https://www.amazon.com/gp/help/customer/display.html?nodeId=GKQNFKFK5CF3C54B ; (2) Apple. https://support.apple.com/en-us/118224 ; (3) Best Buy. https://www.Bestbuy.com/site/help-topics/return-exchange-policy/pcmcat260800050014.c?id=pcmcat260800050014 ; (4) Home Depot. https://housegrail.com/what-is-home-depots-return-policy/ ; (5) Target. https://help.target.com/help/TargetGuestHelpArticleDetail?articleId=ka95d000000gMGCAA2&articleTitle=How+will+I+be+refunded%3F ; (6) Walmart. https://www.walmart.com/help/article/refunds/a86a0400e237444cb9a5f3c3ce500d1b

5.7.13.5 Section Summary

The literature does not appear to address CS Refund Timeliness directly. However, online reviews highlight its importance, and e-retailer websites provide detailed information related to this factor. Based on this evidence, the study proposes the introduction of CS Refund Timeliness as a new and significant E-SQ factor.

5.7.14 CS Repair Service Quality

5.7.14.1 Introduction

This study refers to Customer Service Repair Service Quality as *the degree to which an e-retailer provides efficient, timely, and professional repair services, ensuring the repair is performed to a high standard and that the product functions as intended after repair.*

5.7.14.2 Literature Review Evidence

The analysis did not identify literature that explicitly addresses CS Repair Service Quality, which may indicate a gap in existing E-SQ research.

5.7.14.3 Online Review Analysis

The online review analysis quantified "repair service" in 19 cases, accounting for 0.06% of all reviews. This could correspond to approximately 1.7 million global e-retail customers in 2024, based on Statista (2025, February 7). Due to the low frequency and high variance in how issues are described, this figure may underestimate the true extent of concern.

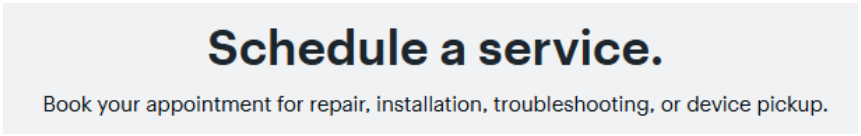
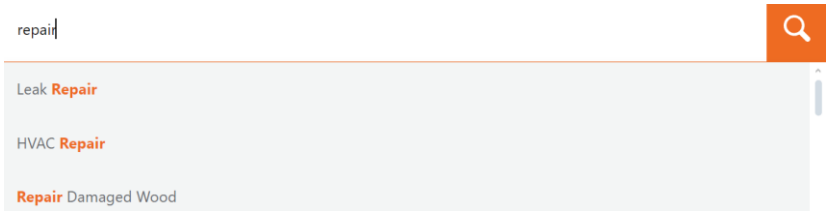
Example reviews highlight issues such as long wait times for warranty repairs, overpriced repair services, limitations on services that cannot be conducted locally, and challenges with third-party repair services failing to honor warranties or providing competent assistance. Additionally, a positive review praised a quick and cost-free repair.

These findings underscore the relevance of the CS Repair Service Quality factor.

5.7.14.4 Website Evaluation

An evaluation carried out between June 2, 2024, and November 30, 2024, revealed that Apple, Best Buy, and Home Depot display information about repair services on their websites (see Figure 54). This evidence highlights the significance of the CS Repair Service Quality factor.

Figure 54: *Repair Service Quality*

E-Retailer	Screenshot E-Retailer Website
Apple (1)	
Best Buy (2)	
Home Depot (3)	

Note. Apple and Home Depot Screenshots were retrieved on June 2, 2024, from (1) Apple. https://support.apple.com/iphone/repair; (2) Best Buy screenshot was retrieved November 30, 2024, from Best Buy. https://www.Bestbuy.com/services/triage/home (3) Home Depot. https://www.Homedepot.com/services/

5.7.14.5 Section Summary

The literature appears to overlook CS Repair Service Quality, but evidence from online reviews highlights its relevance, and e-retailers prominently feature information about repair services on their websites. Accordingly, this study proposes the introduction of CS Repair Service Quality as a new E-SQ factor.

5.7.15 CS Failure Compensation

5.7.15.1 Introduction

This study refers to Customer Service Failure Compensation as *providing customers with financial reimbursement, discounts, or other forms of compensation in response to issues such as delayed deliveries, service disruptions, or product-related problems.*

5.7.15.2 Literature Review Evidence

Parasuraman et al. (2005) specifically highlight the importance of compensating consumers in cases of delayed deliveries. Similarly, Zeithaml et al. (2000) acknowledge that e-retailers compensate customers for problems caused during the service process. Thus, prior literature supports the CS Failure Compensation factor.

5.7.15.3 Online Review Analysis

Example reviews highlight customer feedback related to CS Failure Compensation. For instance, reviewers expressed dissatisfaction with compensation amounts or refusal to compensate for issues.

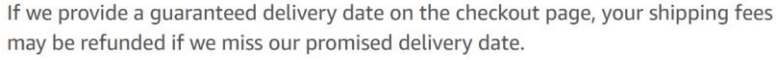
Further, WordStat Topic Modeling identified "inconvenience offered" as a notable topic, present in 149 reviews, accounting for 0.49% of all reviews (see Appendix A), which is connected to instances where customers were compensated for issues. This could correspond to approximately 12.4 million global e-retail customers in 2024, based on Statista (2025, February 7).

Overall, the review analysis supports the CS Failure Compensation factor.

5.7.15.4 Website Evaluation

Based on the evaluation conducted on February 17, 2025, it was observed that Amazon states that it will compensate if it does not keep its guaranteed delivery promises (see Figure 55). This evidence supports the CS Failure Compensation factor.

Figure 55: *Failure Compensation*

E-Retailer	Screenshot from E-Retailer Website
Amazon	

Note. Screenshot retrieved on February 17, 2025, from Amazon. https://www.amazon.com/gp/help/customer/display.html?nodeId=GZ5R2Y8QHENSLW75&utm

5.7.15.5 Section Summary

The literature supports CS Failure Compensation. Evidence from reviews underscores its importance, and Amazon provides information on this topic. This evidence collectively suggests that CS Failure Compensation is a relevant E-SQ factor.

5.8 Customer Protection Dimension

5.8.1 Introduction

Prior E-SQ literature (Blut et al., 2015; Holloway & Beatty, 2008; Parasuraman et al., 2005; Wolfinbarger & Gilly, 2003) has predominantly focused on customer data privacy and online transaction security. In contrast, this study proposes a broader conceptualization of CP, thereby introducing it as a novel dimension of E-SQ. This broader perspective is reflected in the following definition:

In this study, Customer Protection in e-retail refers to *the measures implemented by e-retailers to safeguard customers' rights, health, personal information, and financial security, and protect customers from fraud or other criminal activities throughout the customer journey.*

Customer Protection (CP) is considered an overarching concept because the customer must be safe and protected throughout the entire customer journey. This encompasses, for instance, a secure UI system that does not disclose private or financial data; protection from fraudulent prices or counterfeit products; and ensuring that appliances installed in the customer's home are safe. These considerations suggest that CP is a fundamental dimension of E-SQ, requiring protective mechanisms to be embedded across all service touchpoints.

This study supports that the CP dimension has underlying E-SQ factors, which are discussed in the following sections.

5.8.2 CP Data and Transaction Security

5.8.2.1 Introduction

Data security and transaction protection appear to be fundamental to e-retail, as consumers must be safeguarded against threats to their personal information, and their financial transactions must be secure. To ensure this, various governments and regulatory bodies provide guidelines to guard the security of data

transmission and online transactions. For example, European Union regulation emphasizes encryption and security controls to protect personal data during transmission (European Commission, 2016).

Globally, the Payment Card Industry Data Security Standard requires secure handling of financial transactions (PCI Security Standards Council, n.d.). In the United States, the Federal Trade Commission enforces guidelines to protect consumer data, with a focus on encryption and secure networks (Federal Trade Commission, 2016). Furthermore, the National Institute of Standards and Technology (2024) outlines a cybersecurity concept that emphasizes the use of encryption and multi-factor authentication for secure data transmission.

To achieve security, e-retailers may implement security certificates to encrypt data transmission and ensure secure transactions. According to Chapple (2001), a website security certificate is a digital document issued by a trusted certificate authority that verifies the identity of a website and enables secure, encrypted communication between the user and the website.

Based on this understanding, this study presents the following definition:

In this study, Customer Protection Data and Transaction Security refers to *the security protocols and measures employed by e-retail user interfaces to safeguard personal data and financial transactions.*

Perceived transaction security can also influence customer behavior. A recent survey by the Baymard Institute (2024) suggests that 25% of U.S. adult respondents may abandon their online shopping carts if they are uncertain about entering their credit card information.

In summary, data and transaction security are subject to government regulations and standards. E-retailers can enhance security by utilizing security certificates and two-factor authentication tools to safeguard personal customer data and financial transactions. Moreover, perceived insecurity in data transactions may hurt sales.

5.8.2.2 Literature Review Evidence

Authors such as Szymanski and Hise (2000) and Gounaris and Dimitriadis (2003) emphasize the importance of secure financial transactions. Zeithaml et al. (2000) emphasize the importance of a secure site, highlighting visible security symbols, third-party verification, careful handling of credit card information, and strict adherence to privacy practices. Similarly, Wolfinbarger and Gilly (2003) emphasize that websites must protect privacy, ensure secure transactions, and incorporate adequate security features. Similarly, Parasuraman et al. (2005) emphasize the importance of websites protecting credit card information and avoiding the sharing of personal data with other sites. Holloway and Beatty (2008) and Blut

et al. (2015) identify security and privacy as key E-SQ factors. In practice, Trusted Shops (n.d.) has the criteria for secure and fully encrypted data transmission.

In conclusion, literature indicates an awareness of the role of CP Data and Transaction Security in e-retail.

5.8.2.3 Online Review Analysis

The qualitative online review analysis highlights concerns related to CP Data and Transaction Security. For example, customers express dissatisfaction with inadequate measures to prevent fraud, the inability to secure stored payment information, and rigid data protection rules limiting account retrieval options. Additional related evidence is discussed in Section 5.8.7.3, which addresses incidents involving hacked accounts.

Moreover, WordStat Topic Modeling identified "closed my account locked" as a notable topic, present in 971 reviews, accounting for 3.18% of all reviews, highlighting potential security issues that resulted in customer accounts being locked. This could correspond to approximately 80.7 million global e-retail customers in 2024, based on Statista (2025, February 7).

Overall, this evidence underscores the significance of the CP Data and Transaction Security factor.

5.8.2.4 Website Evaluation

To evaluate the security of the e-retailer UIs, this study applied SSLSHOPPER (n.d.) on May 15, 2024. SSLSHOPPER is an online tool that verifies if a website has valid security certificates, which help ensure secure communication. The results show that all e-retailers have implemented valid security certificates to secure their websites (see Figure 56). This evidence supports the relevance of the CP Data and Transaction Security E-SQ factor.

Figure 56: *Data and Transaction Security - Security Certificates*

Amazon



Apple



Best Buy



Home Depot



Target



Walmart



Note. The analysis verified the validity of SSL certificates for the e-retailers using the SSLSHOPPER tool and documented the results with screenshots taken by the author for reference. SSLSHOPPER. SSL CHECKER. Retrieved May 15, 2024, from https://www.sslshopper.com/ssl-checker.html

5.8.2.5 Section Summary

Academic literature provides support for CP Data and Transaction Security. Moreover, online review analysis supports its importance, and e-retailers demonstrate its implementation through the use of valid security certificates. In sum, this evidence suggests that CP Data and Transaction Security is a critical E-SQ factor.

5.8.3 CP Compliance with Consumer Protection Legislation

5.8.3.1 Introduction

In this study, Customer Protection Compliance with Consumer Protection Legislation refers to *the e-retailer's responsibility to adhere to legal standards and regulations to safeguard customers.*

5.8.3.2 Literature Review

On the practitioner side, Trusted Shops (n.d.) outlines certification criteria requiring e-retailers to comply with consumer protection laws. However, this analysis could not identify academic E-SQ literature that explicitly addresses CP Compliance with Consumer Protection Legislation. This absence may indicate a gap in existing research.

5.8.3.3 Online Review Analysis

The quantitative analysis revealed that the term “consumer protection” appears in 20 reviews, accounting for 0.07% of all reviews. This could correspond to approximately 1.7 million global e-retail customers in 2024, based on Statista (2025, February 7). Due to the low frequency and high variance in how issues are described, this figure may underestimate the true extent of concern.

The qualitative analysis provided examples such as disputes over charges, concerns about repair policies, and customers expressing intentions to file consumer fraud complaints.

Overall, these findings suggest that CP Compliance with Consumer Protection Legislation is a relevant E-SQ factor.

5.8.3.4 Website Evaluation

Findings from the evaluation on June 8, 2024, indicate that e-retailers inform consumers about their adherence to consumer rights. For instance, Amazon refers to the My Health My Data Act; Apple generally informs users about its compliance policies; Best Buy, Home Depot, Target, and Walmart display state-specific privacy protection policies on their websites (see Figure 57). These observations suggest that e-retailers actively communicate their legal responsibilities toward consumer rights, supporting the relevance of the CP Compliance with Consumer Protection Legislation factor.

Figure 57: *Compliance with Consumer Protection Legislation*

E-Retailer	Screenshot
Amazon (1)	This Consumer Health Data Privacy Disclosure ("CHD Disclosure") supplements the Amazon Privacy Notice and is effective as of March 31, 2024. The Amazon Privacy Notice describes the personal information that we collect and the sources from which we collect it. This additional disclosure is required by the My Health My Data Act ("MHMDA") in Washington and Nevada's Consumer Health Data Privacy law ("NV CHDP"), and applies only to personal information that may be considered "Consumer Health Data" under those laws.
Apple (2)	A number of compliance functions are deeply integrated into our business organization. Apple's Compliance and Business Conduct team focuses on Business Conduct, Political Compliance, Export and Sanctions Compliance, Health Compliance, Antitrust Compliance, and Anti-Corruption Compliance.
Best Buy (3)	**State-Specific Privacy Information** This Statement is designed to be consistent with California, Colorado, Connecticut, Utah and Virginia privacy laws. This Statement uses certain terms that have the meanings given to them by the California Consumer Privacy Act (CCPA), as amended, unless otherwise specified.
Home Depot (4)	The California Consumer Privacy Act (CCPA) provides that California residents have the right (subject to certain limitations) to:
Target (5)	**State-Specific Privacy Information** • California Residents • Colorado Residents • Connecticut, Utah and Virginia Residents • Nevada Residents
Walmart (6)	Walmart California Consumer Privacy Act Notice

Note. Screenshots were retrieved June 8, 2024, from: (1) Amazon. from https://www.amazon.com/gp/help/customer/display.html?ie=UTF8&nodeId=TnACMrGVghHocjL8KB&ref_=footer_consumer_health_data_privacy ; (2) Apple. https://www.apple.com/compliance/ (3) Best Buy. https://www.Bestbuy.com/site/privacy-policy/state-privacy-rights/pcmcat204400050063.c?id=pcmcat204400050063 ; (4) Home Depot. https://www.Homedepot.com/privacy/California-Privacy-Rights-and-Report ; (5) Target. https://www.target.com/c/target-privacy-policy/-/N-4sr7p#State-Specific%20Privacy%20Information ; (6) Walmart. Screenshot retrieved on November 30, 2024, from https://corporate.walmart.com/privacy-security/california-privacy-rights

5.8.3.5 Section Summary

While CP Compliance with Consumer Protection Legislation appears to be absent from existing E-SQ literature, indications of its relevance emerge from online reviews and e-retailer platforms. Based on

this evidence, the study proposes the introduction of CP Compliance with Consumer Protection Legislation as a new E-SQ factor.

5.8.4 CP Personal Health and Safety

5.8.4.1 Introduction

In this study, Customer Protection Personal Health and Safety refers to *the measures taken by e-retailers to ensure that the products they sell and their deliveries to customers do not pose any risks to the physical well-being or safety of their customers.*

5.8.4.2 Literature Review Evidence

The analysis did not identify E-SQ literature that explicitly addresses CP Personal Health and Safety, suggesting that this may be an overlooked area within the E-SQ field.

5.8.4.3 Online Review Analysis

The qualitative online review analysis highlights concerns related to CP Personal Health and Safety. Customers reported injuries caused by delivery negligence, as well as dangerous product malfunctions, including exploding devices and smoking appliances such as dryers and ovens. The quantitative analysis identified reviews related to CP Personal Health and Safety in 11 cases, accounting for 0.04% of all reviews (see Table 29). This could correspond to approximately 0.9 million global e-retail customers in 2024, based on Statista (2025, February 7). Due to the low frequency and high variance in how issues are described, this figure may underestimate the true extent of concern.

Table 29: *Frequency of Mentions Related to CP Personal Health & Safety in Online Reviews*

Term Used	No. of Cases	Percentage of Total Reviews (%)
Fire Hazard*	7	0.0229
Hazardous Material*	4	0.0131
Total Mentions:	11	0.0360

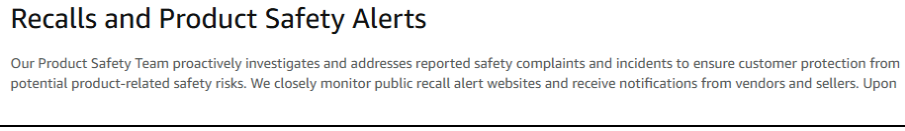
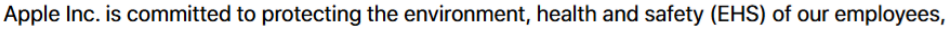
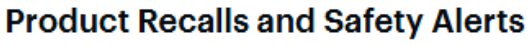
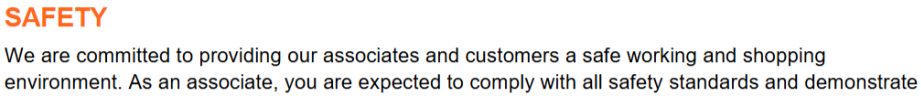
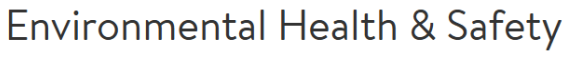
Note. The total number of online reviews analyzed was 30,549. "*" is a wildcard that matches any word variation. This table was developed by the author based on the study's findings.

These findings suggest the potential importance of addressing CP Personal Health and Safety within the context of E-SQ.

5.8.4.4 Website Evaluation

The evaluation undertaken on November 30, 2024, observed that all e-retailers display information about the CP Personal Health and Safety factor, including safety alerts, product recalls, and safety commitments (see Figure 58). This observation supports the potential relevance of CP Personal Health and Safety as an E-SQ factor.

Figure 58: *Health and Safety*

E-Retailer	Screenshot
Amazon (1)	
Apple (2)	
Best Buy (3)	
Home Depot (4)	
Target (5)	
Walmart (6)	

Note. All screenshots were retrieved by the author on November 30, 2024, from: (1) Amazon. https://www.amazon.com/product-safety-alerts ; (2) Apple. https://www.apple.com/environment/pdf/Apple_EHS_Policy_Statement_2022.pdf; (3) Best Buy. https://www.Bestbuy.com/site/help-topics/product-recalls/; (4) Home Depot. https://ir.Homedepot.com/~/media/Files/H/Home Depot-IR/2024/bcce-eng-jan-2024.pdf; (5) Target. https://corporate.target.com/sustainability-governance/operating-ethically/product-safety-quality-assurance ; (6) Walmart. https://corporate.walmart.com/suppliers/requirements/compliance-areas

5.8.4.5 Section Summary

The CP Personal Health and Safety factor is not yet covered in existing E-SQ literature but is supported by review data and e-retailer websites. Based on this evidence, this study proposes the introduction of CP Personal Health and Safety as a novel and significant E-SQ factor.

5.8.5 CP Fraud Protection

5.8.5.1 Introduction

In this study, Customer Protection Fraud Protection refers to *the measures implemented by e-retailers to protect consumers from illegal activities.* This includes preventing incidents such as selling counterfeit or fake products, shipping used or damaged goods as new, non-delivery of purchased items, phishing schemes, overcharging, and failing to process refunds or reimbursements.

5.8.5.2 Literature Review Evidence

Holloway and Beatty (2008) briefly address credit card fraud. However, the analysis did not identify broader E-SQ literature that explicitly discusses CP Fraud as defined above in this study. This suggests a potential gap in current E-SQ theory.

5.8.5.3 Online Review Analysis

The analysis found reviews related to CP Fraud Protection that highlight several incidents of theft and fraud. For example, a reviewer reported a stolen package because the delivery driver failed to follow the instructions. Another expressed frustration with an e-retailer for refusing to assist or refund a stolen package. One reviewer reported that the order was sent to the incorrect address, and the e-retailer failed to refund or replace the item. Additionally, a reviewer described receiving a package without the ordered device.

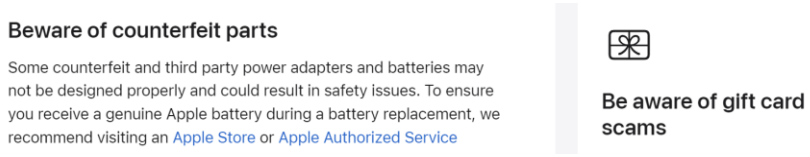
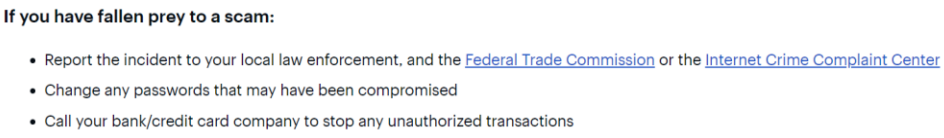
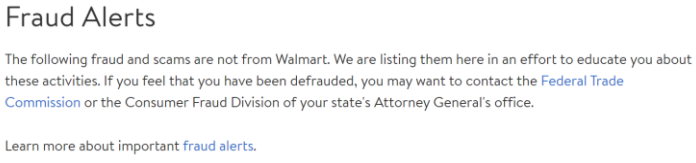
Moreover, WordStat Topic Modeling identified "police report" as a notable topic, present in 208 reviews, accounting for 0.68% of all reviews, pointing to instances where customers reported issues requiring police intervention. This could correspond to approximately 17.3 million global e-retail customers in 2024, based on Statista (2025, February 7).

In conclusion, the review analysis provides support for the CP Fraud Protection E-SQ factor.

5.8.5.4 Website Evaluation

According to the evaluation conducted on November 30, 2024, information and procedures for customers responding to fraud were observed on the e-retailer websites (see Figure 59). This suggests a proactive approach to fraud protection and supports the potential relevance of CP Fraud Protection as an E-SQ factor.

Figure 59: *Fraud*

E-Retailer	Screenshot from E-Retailer Website
Amazon (1)	
Apple (2)	
Best Buy (3)	
Target (4)	
Walmart (5)	

Note. All screenshots were retrieved by the author on November 30, 2024, from (1) Amazon. https://www.amazon.com/gp/help/customer/display.html?help_keywords=fraud&ref=hp_search_fshubgw ; (2) Apple. https://support.apple.com/?cid=gn-ols-home-hp-explore ; (3) Best Buy. https://www.Bestbuy.com/site/privacy-policy/protect-yourself/pcmcat266100050002.c?id=pcmcat266100050002 ; (4) Target. https://security.target.com ; (5) Walmart. https://corporate.walmart.com/privacy-security

5.8.5.5 Section Summary

It appears that the literature does not explicitly address CP Fraud Protection; however, online reviews highlight its importance, and e-retailers provide relevant information on fraud protection on their

websites. Based on this evidence, the study proposes the introduction of CP Fraud Protection as an important and novel E-SQ factor.

5.8.6 CP Recall Policy

5.8.6.1 Introduction

This study refers to Customer Protection Recall Policy as *an e-retailer's procedures to manage the recall of defective or potentially harmful products efficiently.*

CPSC (2024, July 29) reports that in 2023, in the U.S., 323 consumer goods were recalled by their respective manufacturers because of issues. Moreover, Kids in Danger (2024, March 27) reported that in 2023, 25 children's products were recalled in the U.S. due to burn hazards, 21 for choking hazards, and 11 for the risk of suffocation. These statistics underscore the significance of product recalls.

5.8.6.2 Literature Review Evidence

The analysis did not identify E-SQ literature explicitly focusing on CP Recall Policy, which may indicate a gap in current E-SQ research.

5.8.6.3 Online Review Analysis

The analysis identified reviews discussing CP Recall Policy, highlighting issues with refunding or returning recalled items. For example, reviewers reported difficulties obtaining refunds for recalled products, while another customer experienced confusion and technical barriers when attempting to resolve a recall. Additionally, the quantitative analysis identified seven reviews related to CP Recall Policy, accounting for 0.02% of all reviews (see Table 30. This could correspond to approximately 0.6 million global e-retail customers in 2024, based on Statista (2025, February 7). Due to the low frequency and high variance in how issues are described, this figure may underestimate the true extent of concern.

Table 30: *Frequency of Mentions Related to CP Recall Policy in Online Reviews*

Term Used	No. of Cases	Percentage of Total Reviews (%)
Recalled Item*	4	0.0131
Recalled Product*	2	0.0065
Product Recall*	1	0.0033
Total Mentions:	7	0.0229

Note. The total number of online reviews analyzed was 30,549. "*" is a wildcard that matches any word variation. This table was developed by the author based on the study's findings.

These findings suggest that CP Recall Policy is a relevant E-SQ factor.

5.8.6.4 Website Evaluation

Data gathered during the evaluation on June 7, 2024, suggests that all e-retailers have recall management systems (see Figure 60). This evidence supports the significance of the CP Recall Policy factor.

Figure 60: *Recall Policy*

E-Retailer	Screenshot from E-Retailer Website
Amazon (1)	Ordering › Safety Information, Recalls, Warranties, and Legal Notices › Product Safety and Recalls
Apple (2)	Apple Service Programs
Best Buy (3)	Product Recalls and Safety Alerts
Home Depot (4)	The Consumer Product Safety Commission (CPSC)
Target (5)	At Target, our purpose is to help all families discover the joy of everyday life. It is who we are, how we work, and what we value. Our guests, *your safety*, is our highest priority. For this reason, we maintain a comprehensive list of our recalled products. Find Target's most recent recalls or search recalls by category below:
Walmart (6)	The recall information provided below links to the manufacturers' and regulatory agencies' press releases for product sold through Walmart stores, Walmart.com, Sam's Club or Samsclub.com. The press releases provide the steps you should take if you have purchased one of the recalled items.

Note. All screenshots were retrieved by the author on June 7, 2024, from (1) Amazon. https://www.amazon.com/-/en/gp/help/customer/display.html?nodeId=GLD7VXFKV4AWU78X ; (2) Apple. https://support.apple.com/service-programs ; (3) Best Buy. https://www.Bestbuy.com/site/help-topics/product-recalls/pcmcat114800050015.c?id=pcmcat114800050015 ; (4) Home Depot. https://www.Homedepot.com/c/Product_Recalls ; (5) Target. https://help.target.com/help/productrecallpage?childcat=Product+recalls&parentcat=Product+Safety+%26+Recalls&searchQuery=search+help ; (6)Walmart. https://corporate.walmart.com/recalls

5.8.6.5 Section Summary

E-SQ research does not appear to address CP Recall Policy explicitly. However, support from online reviews and evidence from e-retail business practices highlights its potential significance. Therefore, this study proposes the introduction of CP Recall Policy as a novel E-SQ factor.

5.8.7 CP Emergency Management

5.8.7.1 Introduction

In this study, Customer Protection Emergency Management refers to *the preparedness and responsiveness of e-retailers in handling unforeseen incidents that may impact customer privacy, safety, health, or finances.*

5.8.7.2 Literature Review Evidence

This study was unable to identify explicit discussions of CP Emergency Management in existing E-SQ literature, which may indicate a gap.

5.8.7.3 Online Review Analysis

The online review analysis identified reviews concerning CP Emergency Management that point to significant gaps in retailers' responses to fraudulent activities. For instance, a reviewer highlighted how hackers accessed the account and expressed that CS was unhelpful. One reviewer experienced account hacking, which resulted in fraudulent purchases that the e-retailer shipped despite an immediate cancellation request. Similarly, a customer discovered that hackers had placed two large orders on their account; despite fast cancellation attempts, the charges were processed, and resolution took months. A reviewer raised concerns about the lack of support from the fraud department. Lastly, a reviewer noted the absence of a fraud response plan. Although these findings could not be quantified due to the diverse ways in which reviewers expressed their experiences, the cases underscore the importance of robust CP Emergency Management in e-retail.

Based on this, the findings support the relevance of CP Emergency Management as an important E-SQ factor.

5.8.7.4 Website Evaluation

According to a website evaluation conducted on November 30, 2024, five of the six e-retailers display information about emergency management measures (see Figure 59). Further, it appears that all e-

retailers have installed product recall plans (see Figure 58). Overall, the evidence from the e-retailer websites supports the CP Emergency Management factor.

5.8.7.5 Section Summary

In conclusion, the literature does not address the CP Emergency Management factor. However, evidence from online reviews and e-retail practices underscores the significance of this. Consequently, the study proposes the introduction of CP Emergency Management as a novel E-SQ factor.

5.9 Electronic Word of Mouth Trustworthiness Dimension

5.9.1 Introduction

This section discusses the E-WOM Trustworthiness dimension, which is argued to influence the entire customer journey and is therefore proposed as an overarching E-SQ dimension. A definition of E-WOM has already been introduced earlier in Section 2.11.

Turning now to the trustworthiness of E-WOM. In this study, E-WOM-Trustworthiness refers to *the perceived credibility of customer reviews and ratings on e-retail UIs.* This function ensures that customer feedback is genuine, unbiased, and reflects authentic experiences with products and the e-retailers.

This study proposes that E-WOM Trustworthiness represents a novel overarching dimension of E-SQ. While Zeithaml et al. (2000) briefly mention E-WOM, it appears that the concept has not yet been fully conceptualized in the E-SQ literature.

Given that E-WOM is accessible before, during, and after the purchase, it holds the potential to influence customer perceptions and decisions throughout the entire customer journey. For instance, reviews may comment on various E-SQ aspects such as product authenticity, price competitiveness, packaging quality, or delivery timeliness—ultimately shaping purchasing behavior and post-purchase evaluations depending on the perceived trustworthiness of the information.

Accordingly, E-WOM Trustworthiness appears to function as an overarching dimension that influences customer expectations, choices, and outcomes across the customer journey. Its conceptual introduction may offer a meaningful extension to existing E-SQ theory.

5.9.2 Literature Review Evidence

On the academic side, Zeithaml et al. (2000) state that customer ratings influence trust. On the practical side, the ACSI (2024) and Trusted Shops (n.d.) underscore the importance of a rating function. Thus, the literature acknowledges the E-WOM rating function; however, the perspective appears limited and may overlook the broader role of E-WOM trustworthiness. This indicates a potential gap in current E-SQ research. This study addresses that gap by extending the concept and proposing E-WOM Trustworthiness as an overarching E-SQ dimension that influences how reviews are trusted across all stages of the customer journey. This perspective may offer a novel contribution to the E-SQ field.

5.9.3 Online Review Analysis

The quantitative online review analysis identified 30 reviews, accounting for 0.1% of all reviews, that addressed the term “fake review*.” This could correspond to approximately 2.5 million global e-retail customers in 2024, based on Statista (2025, February 7). Due to the low frequency and high variance in how issues are described, this figure may underestimate the true extent of concern.

The qualitative analysis revealed that customers are concerned about the trustworthiness of reviews on the e-retailer websites. For example, reviewers reported that their reviews were taken down or not made visible on the websites. Also, reviewers complained about being blocked from posting reviews, and that reviews cannot be altered later. Additionally, customers considered reviews to be fake.

These findings support the relevance of the E-WOM Trustworthiness dimension as part of E-SQ.

5.9.4 Website Evaluation

Findings from the June 8, 2024, evaluation show that Amazon, Best Buy, Home Depot, and Target display information regarding E-WOM Trustworthiness (see Figure 61). This evidence supports the relevance of the E-WOM Trustworthiness dimension.

Figure 61: *Electronic Word of Mouth Trustworthiness*

E-Retailer	Screenshot
Amazon (1)	**How We Keep Reviews Trustworthy and Useful** To ensure only genuine customers post reviews, we have submission requirements.
Best Buy (2)	**Best Buy Reviews** At Best Buy, we have millions of product reviews from over 2 million reviewers. You can depend on the authenticity of our reviews, because the vast majority come from verified purchases.
Home Depot (3)	By submitting any content to Home Depot, you represent and warrant that: • you are the sole author and owner of the intellectual property rights thereto; • all "moral rights" that you may have in such content have been voluntarily waived by you; • all content that you post is accurate; • you are at least 18 years old; • use of the content you supply does not violate these Terms of Use and will not cause injury to any person or entity.
Target (4)	**Report Suspected Violations** If you see a review containing content that you want to report, use the "Report review" link on the right side of the review. If someone offers you compensation to create, edit, or post content that violates our Review Guidelines, forward the offer to ethics@target.com. Please include: • Contact information • Product detail page • Screenshot of the compensation offer

Note. All screenshots were retrieved by the author on June 8, 2024, from (1) Amazon. https://www.amazon.com/gp/help/customer/display.html?nodeId=G8UYX7LALQC8V9KA ; (2) Best Buy. https://www.Bestbuy.com/site/help-topics/best-buy-reviews/pcmcat1562873232835.c?id=pcmcat1562873232835 ; (3) Home Depot. https://www.Homedepot.com/c/Ratings_and_Reviews_Terms_Of_Use ; (4) Target. https://help.target.com/help/TargetGuestHelpArticleDetail?articleId=ka95d000000wqTQAAY&articleTitle=What+are+the+guidelines+for+writing+product+reviews+on+Target.com%3F

5.9.5 Section Summary

In conclusion, while literature addresses E-WOM Trustworthiness only to a limited extent, both online reviews and e-retail practices provide support for its relevance. In contrast to existing literature, this study proposes that E-WOM Trustworthiness functions as an overarching E-SQ dimension, which may influence customer perceptions, expectations, and decisions before, during, and after the purchase. In this form, the study proposes that E-WOM Trustworthiness represents a new and critical overarching E-SQ dimension.

5.10 Ethical, Social, Economic, and Environmental Aspects

5.10.1 Introduction

In this study, Ethical, Social, Economic, and Environmental Aspects refer to *the influence of e-retail on society, the economy, and the environment, as well as the extent to which e-retailers adhere to ethical business practices.*

Ethical considerations may include price transparency, consumer protection, and respectful business conduct, all of which contribute to building customer trust. Social aspects may relate to accessibility for individuals with disabilities, promoting inclusiveness in the online shopping experience. Economic factors can involve competitive pricing, supporting affordability for a broader range of consumers, including those with lower incomes. Environmental aspects may include efforts to reduce packaging waste, implement eco-friendly shipping practices, and minimize the environmental impact of operations.

This study proposes that ESEE should be conceptualized as a novel overarching dimension of E-SQ. ESEE is introduced as a dimension that spans the entire customer journey, influencing service delivery across all touchpoints. As such, when managers implement changes to enhance E-SQ, these actions may simultaneously affect ESEE-related outcomes. For instance, introducing accessibility features may not only improve the overall user experience but also contribute to broader ethical and social objectives. It is therefore advisable that managers consider the broader ESEE implications when making decisions related to E-SQ management.

5.10.2 Literature Review

This study did not identify E-SQ literature that explicitly addresses ESEE, which may indicate a gap in the existing research.

5.10.3 Online Review Analysis

The online review analysis found reviews that provide examples of customer concerns regarding the ESEE impact of e-retailers. Examples include negative feedback regarding the use of plastic bags, praise for offering reusable alternatives, criticism of perceived environmental harm, concerns about working conditions, and references to contributions to electronic waste. These examples illustrate customer awareness and demand for sustainable and ethical practices in the e-retail sector. However, the findings

could not be quantified due to the diverse ways reviewers express these concerns. Nevertheless, the presence of ESEE themes in customer reviews offers qualitative support for the relevance of the ESEE dimension.

5.10.4 Website Evaluation

This study found, in its evaluation conducted between June 8, 2024, and December 31, 2024, that all six e-retailers display information about ESEE on their websites (see Figure 62). For example, Amazon informs about its sustainability efforts. Apple emphasizes its values, including accessibility, environmental responsibility, inclusion, diversity, and racial equity. Best Buy demonstrates its commitment to zero carbon emissions, reports on its e-waste recycling program, and strives to offer eco-friendly products and promote human rights. Home Depot provides information on corporate responsibility, diversity, equity, and inclusion, while Target emphasizes its efforts to strengthen communities, offer affordable products, reduce waste, and operate in an ethical manner. Additionally, Walmart addresses topics like animal welfare, supply chain workers, and human rights. Moreover, Apple and Amazon report on their economic impact, providing insights into how their operations contribute to the economy.

The findings suggest that e-retailers are concerned with ESEE, as they provide prominent information about ESEE on their websites. This evidence supports the view that ESEE is a significant E-SQ dimension.

Figure 62: *Ethical, Social, Economic, and Environmental Aspects*

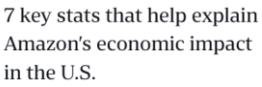
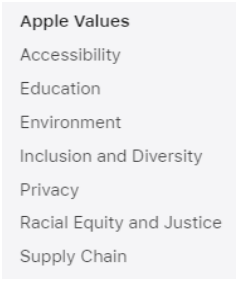
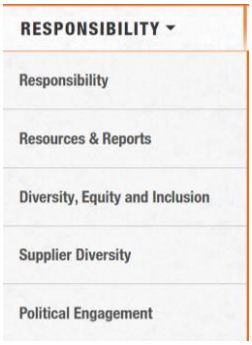
E-Retailer	Screenshot
Amazon (1)	
Amazon (2)	
Apple (3)	
Apple (4)	
Best Buy (5)	
Home Depot (6)	
Target (7)	

Figure 62 continued

Walmart (8)

Our People	Climate Change	Serving Communities	Ethics & Compliance
Supplier Opportunity	Regeneration of Natural Resources: Forests, Land, Oceans	Safer, Healthier Food & Other Products	Engagement in Public Policy
	Waste: Circular Economy	Disaster Preparedness & Response	Corporate Governance
	People in Supply Chains		Responsible Use of Data and Technology
	Product Supply Chain Sustainability		Human Rights
	Animal Welfare		

Note. (1) Amazon. Retrieved on June 8, 2024, from https://sustainability.aboutamazon.com/approach ; (2) Amazon. Retrieved June 9, 2024, from https://www.aboutamazon.com/news/job-creation-and-investment/7-key-stats-that-help-explain-amazons-economic-impact-in-the-u-s#:~:text=In%202022%20alone%2C%20we%20directly,construction%2C%20healthcare%2C%20retail%2C%20and ; (3) Apple. Retrieved June 9, 2024, from https://www.apple.com/compliance/; (4) Apple. Retrieved June 9, 2024, from https://education-static.apple.com/smart-investment/2023_Forrester_TEI_K-12_Education_Report.pdfhttps://www.apple.com/compliance/ ; (5) Best Buy. Retrieved December 31, 2024, from https://corporate.Bestbuy.com/our-goals/ ; (6) Home Depot. Retrieved December 31, 2024, from https://www.Homedepot.com/c/Pro_Xtra ; (7) Target. Retrieved December 31, 2024, from https://corporate.target.com/sustainability-governance ; (8) Walmart. Retrieved December 31, 2024, from https://corporate.walmart.com/purpose/esgreport

5.10.5 Section Summary

The online review discussion and the evaluation of retailer websites jointly support the ESEE dimension. This overarching E-SQ dimension appears to reflect growing customer demand for corporate responsibility in e-retail. Notably, the literature appears to have overlooked ESEE, highlighting a significant gap in existing research. Therefore, this study proposes the introduction of ESEE as a novel overarching E-SQ dimension within E-SQ theory.

5.11 Information Accuracy Dimension

5.11.1 Introduction

This study proposes that Information Accuracy is a novel overarching E-SQ dimension based on the quality of data an e-retailer provides throughout the customer journey.

Concerning Pipino et al. (2002), data quality measures the reliability, absence of errors, and usability of the data. In the context of e-retail, high data quality refers to the provision of accurate, error-

free, and comprehensive information about products, prices, services, and other relevant details from the e-retailer. Based on the above, this study refers to Information Accuracy as follows:

In this study, Information Accuracy refers to *the quality of data, which encompasses the availability, correctness, and completeness of the information an e-retailer provides throughout the customer journey.*

5.11.2 Literature Review Evidence

Zeithaml et al. (2000) stress that product information should be clear, objective, and include accurate pictures. Barnes and Vidgen (2002) emphasize that websites must provide information that is accurate, believable, timely, relevant, easy to understand, in the right level of detail, and in the correct format. Additionally, several scholars support information quality as an E-SQ factor (Blut et al., 2015; Collier & Bienstock, 2006; Fassnacht & Köse, 2006; Holloway & Beatty, 2008; Janda et al., 2002; Loiacono et al., 2002; Wolfinbarger & Gilly, 2003). Gounaris and Dimitriadis (2003) add that information quality must be reliable, complete, and up-to-date, and should match personal interests and lifestyles. On the practical side, the ACSI (2024) emphasizes the importance of clear and helpful product descriptions and images.

In summary, Information Accuracy is supported in the E-SQ literature. However, it does not yet appear to be explicitly conceptualized as an overarching dimension that spans the entire customer journey—an understanding this study proposes.

5.11.3 Online Review Analysis

Incorrect information plays a central role in E-SQ issues throughout the entire customer journey. As demonstrated in earlier sections, inaccurate information on prices (see 5.4.2), product availability (see 5.3.5), delivery times (see 5.6.3), or delivery locations (see 5.6.4), consistently leads to negative customer experiences across the customer journey. Therefore, the findings from previous online review analyses provide support for the relevance of Information Accuracy as an overarching E-SQ dimension.

5.11.4 Website Evaluation

An evaluation conducted on August 31, 2024, found disclaimers on all e-retailer websites, indicating that the website information may not be error-free (see Figure 63). Notably, Walmart points to issues with its generative AI, stating that its information may not be accurate (see Figure 63). These findings

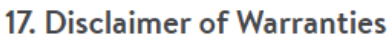
suggest that Information Accuracy is a practical concern for e-retailers. This evidence supports the Information Accuracy dimension.

Figure 63: *Information Accuracy*

E-Retailer	Screenshot E-Retailer Website*
Amazon (1)	**DISCLAIMER OF WARRANTIES AND LIMITATION OF LIABILITY**
Apple (2)	**Disclaimers** APPLE DOES NOT PROMISE THAT THE SITE OR ANY CONTENT, SERVICE OR FEATURE OF THE SITE WILL BE ERROR-FREE OR UNINTERRUPTED, OR THAT ANY DEFECTS WILL BE CORRECTED, OR THAT YOUR
Best Buy (3)	**Disclaimers and limitation of liability.**
Home Depot (4)	**NO WARRANTIES; EXCLUSION OF LIABILITY** THE HOME DEPOT AND HDPA MAKE NO REPRESENTATION ABOUT THE SUITABILITY OF THE MATERIALS ON THIS SITE FOR ANY PURPOSE. ALL SUCH MATERIALS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. THE HOME DEPOT AND HDPA SPECIFICALLY DISCLAIM ALL WARRANTIES AND
Target (5)	**Disclaimers of Warranties** Target cannot and does not represent or warrant that the Site or its server will be error-free, uninterrupted, free from unauthorized access (including third-party hackers or denial of service attacks), or otherwise meet your requirements.

Figure 63 continued

Walmart (6)



Note. All screenshots were retrieved by the author on August 31, 2024, from (1) Amazon. https://www.amazon.com/gp/help/customer/display.html?nodeId=508088 ; (2) Apple. https://www.apple.com/legal/internet-services/terms/site.html ; (3) Best Buy. https://www.bestbuy.com/site/help-topics/terms-and-conditions/pcmcat204400050067.c?id=pcmcat204400050067 ; (4) The Home Depot. https://www.homedepot.com/c/Terms_of_Use ; (5) Target. https://www.target.com/c/terms-conditions/-/N-4sr7l#disclaimers ; (6) Walmart. https://www.walmart.com/help/article/walmart-com-terms-of-use/3b75080af40340d6bbd596f116fae5a0

5.11.5 Section Summary

Information Accuracy ensures that customers can make well-informed purchasing decisions and are not negatively affected by misinformation at any stage of the customer journey.

Evidence from the literature, online review analysis, and platform evaluations supports that Information Accuracy is a significant component of E-SQ theory. However, in contrast to earlier conceptualizations, this study proposes that Information Accuracy should not be viewed as a peripheral concern or limited to website content. Instead, it appears to function as an overarching dimension that influences E-SQ throughout the entire customer journey, from providing accurate information about products, prices, and payment terms to ensuring that deliveries reach the correct address.

Accordingly, this study proposes that Information Accuracy should be recognized as a novel and critical overarching dimension of E-SQ, warranting greater attention in future research and managerial practice.

5.12 Personalization Dimension

5.12.1 Introduction

According to Adomavicius and Tuzhilin (2005), personalization is tailoring digital content, product recommendations, services, communications, and interactions on an e-commerce platform to individual consumer preferences.

In this study, Personalization focuses on creating *an individual online shopping experience for each user throughout the customer journey.* This is achieved through adaptive elements, such as personal settings (e.g., invoice address, shipping address), UI settings (e.g., adjusting layout, text size), communication preferences (e.g., newsletters, emails), product recommendations, and customizing products (e.g., products with a customer's name).

The study proposes that Personalization represents an overarching E-SQ dimension that spans the entire customer journey, as it is closely interlinked with various E-SQ factors. For example, personalization may include adapting the website interface to accommodate individuals with impairments, displaying advertisements that reflect a customer's preferences, or enabling customers to select their preferred shipping and payment options. Given its wide-ranging relevance across the customer journey, the study suggests that Personalization should be considered a significant and overarching dimension of E-SQ.

5.12.2 Literature Review Evidence

Personalization is widely supported in the literature. For instance, Barnes and Vidgen (2002) emphasize the importance of creating a personalized website experience. Zeithaml et al. (2000) view Customization/Personalization as a dimension of E-SQ. They highlight the value of websites that help customers find exactly what they want by offering personalized recommendations, a targeted shopping experience, a wish list feature to save items, and a wide selection of merchandise. Additionally, they emphasize the importance of storing customer information to simplify future transactions.

Further, Loiacono et al. (2002) identify "Tailored Communications" (Loiacono et al., 2002, p. 3) as a crucial E-SQ dimension. Similarly, Wolfinbarger and Gilly (2003) discuss the necessity of an appropriate level of personalization, ensuring it is neither excessive nor insufficient. Bauer et al. (2006) further support this by including "Personalization of information and offerings" (Bauer et al., 2006, p. 870) as a critical E-SQ factor. Finally, Blut et al. (2015) and Blut (2016) reinforce the significance of personalization.

In conclusion, the literature suggests that Personalization plays a central role in E-SQ. This study proposes that Personalization should be explicitly conceptualized as an overarching dimension that spans all stages of the customer journey.

5.12.3 Online Review Analysis

The analysis identified reviews related to Personalization. For instance, reviews highlighted the e-retailer's ability to save wish lists, manage shopping carts, and customize account settings, including payment options and shipping addresses. Other reviews highlighted frustrations with setting and maintaining delivery preferences, as well as the lack of personalized assistance. Furthermore, customers discussed product recommendations. Examples included mentions of technical aspects, such as page loading speed influenced by product suggestions and the display of unavailable or out-of-stock products in recommendations. The examples suggest that Personalization is significant throughout the entire customer journey.

Moreover, WordStat Topic Modeling identified "closed my account locked" as a notable topic, present in 971 reviews, accounting for 3.18% of all reviews. This could correspond to approximately 80.7 million global e-retail customers in 2024, based on Statista (2025, February 7). Locked or inaccessible accounts can severely disrupt the personalization experience by preventing access to features such as saved preferences, purchase history, and customized settings. Also, inaccessible accounts can make it impossible for customers to shop online.

In summary, these findings indicate that Personalization is a frequently discussed topic in online reviews. Furthermore, the qualitative examples support the relevance of Personalization across the entire customer journey, from account settings to recommendation systems. Overall, this evidence supports the view that Personalization is an important overarching E-SQ dimension.

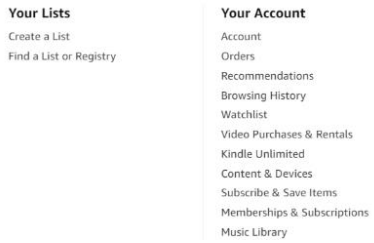
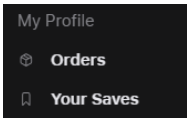
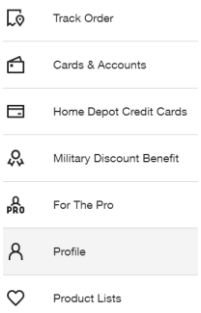
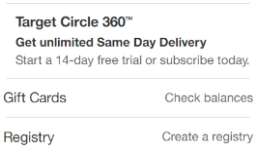
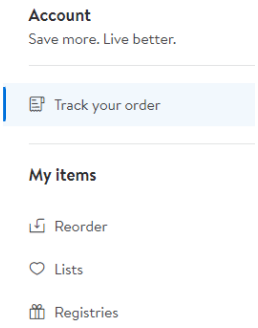
5.12.4 Website Evaluation

An evaluation carried out on May 17, 2024, observed several personalization features on the e-retailer websites (see Figure 64). For example, Amazon customers can personalize their accounts to save their shipping addresses and preferred payment methods. Further, Amazon customers can track their orders, view past purchases, create wish lists, and manage returns or exchanges. Moreover, Amazon customers can access past orders, recommendations, browsing history, personal watchlists, membership functions, and other features. Apple customers can quickly access their orders and save items for future use. Best Buy

highlights recently viewed products, the order status, and a list of saved items. Home Depot provides links for order tracking, credit card information, benefits for military personnel, and product lists. At Target, customers can, e.g., track and manage their orders, sign up for a membership, and purchase gift cards. Walmart's customer account prominently features order tracking, reorder options, lists, and gift registry features.

In conclusion, all e-retailers offer features that enhance personalization across the customer journey. This evidence supports the view that Personalization is a critical overarching E-SQ dimension.

Figure 64: *Personalization*

E-Retailer	Screenshot E-Retailer Website*
Amazon (1)	
Apple (2)	
Best Buy (3)	
Home Depot (4)	
Target (5)	
Walmart (6)	

Note. *All screenshots were retrieved by the author on May 17, 2024, from (1) Amazon. https://www.amazon.com ; (2) Apple. https://www.apple.com; (3) Best Buy. https://www.Bestbuy.com ; (4) Home Depot. https://www.Homedepot.com ; (5) https://www.Target.com ; (6) Walmart. https://www.walmart.com/orders

5.12.5 Section Summary

This section explored Personalization as an overarching dimension of E-SQ. Evidence from the literature, online reviews, and website evaluation indicates that personalization influences the customer experience across all stages of the journey. While widely recognized as important in E-SQ theory, it has not been explicitly conceptualized as an overarching dimension of E-SQ. This study supports that Personalization plays a central and overarching role in shaping E-SQ in e-retail.

6 Discussion

6.1 Introduction

This chapter discusses the key findings of the study in the context of E-SQ in e-retail. Building on the proposed E-SQ concept introduced in the previous chapters, the discussion interprets the results, explores their theoretical and practical implications, and evaluates how they contribute to advancing the E-SQ field.

The study aimed to develop a comprehensive E-SQ concept for e-retail by triangulating evidence from three distinct methodological approaches: a literature review, an online review analysis, and an e-website evaluation. The findings confirmed the continued relevance of several established E-SQ dimensions and factors, while also introducing novel insights that reflect the evolving nature of today's e-retail landscape.

This chapter examines the extent to which the proposed E-SQ concept aligns with, extends, or challenges existing E-SQ literature. It also highlights the study's contributions, including the introduction of four new overarching E-SQ dimensions and 37 novel E-SQ factors.

The chapter is structured into three main sections. First, the Theoretical Implications section explores how the findings relate to and expand existing E-SQ theory. This includes a reflection on how the proposed E-SQ concept validates, refines, or extends current knowledge. Second, the Managerial Implications section translates the findings into actionable insights for practitioners, offering guidance on how e-retailers can manage and improve E-SQ to enhance what matters most to customers and strengthen their competitive positioning. Third, the Limitations and Future Research Directions section acknowledges the study's limitations and provides suggestions for future research in this field.

6.2 Theoretical Implications

6.2.1 Introduction

This section examines how the proposed E-SQ concept aligns with, validates, and expands existing E-SQ theory. The chapter begins with a discussion of the general theoretical implications for E-SQ theory. It then proceeds to a detailed analysis of each of the eleven proposed E-SQ dimensions. For each dimension, the discussion highlights how the findings support prior research and identifies where the proposed E-SQ concept introduces novel elements.

6.2.2 General Theoretical Implications

This section outlines the broader theoretical implications of the proposed E-SQ concept developed in this study. Given the dynamic nature of e-retail, revisiting and refining E-SQ theory has become increasingly important. Building on established literature, this study proposes a conceptual framework that integrates insights from earlier works and emerging E-SQ elements relevant to contemporary e-retail. The following paragraphs discuss how the study contributes to theory by (1) structuring E-SQ along the customer journey, (2) validating existing E-SQ dimensions and factors, (3) introducing new E-SQ elements, (4) applying a unique triangulated methodology, and (5) developing and proposing a consistent terminology for future research and practical applications.

Zeithaml et al. (2000) argue that the internet is dynamic and acknowledge that E-SQ theory must be revised periodically. Following this recommendation, this study built its proposed E-SQ concept on the foundational literature of the E-SQ field. Updating the E-SQ field became necessary because the last significant E-SQ concept from Blut (2016) was nearly a decade ago. This study addresses the need to modernize E-SQ theory continuously to reflect the latest e-retail trends. Moreover, the study tested the relevance of existing E-SQ insights in today's e-retail. This is discussed in the following.

The study validates the continued relevance of several foundational E-SQ concepts. The results support the applicability of prominent models in the current e-retail context, including those by Blut et al. (2015), Blut (2016), Holloway and Beatty (2008), Parasuraman et al. (2005), Wolfinbarger and Gilly (2003), and Zeithaml et al. (2000). These findings support the theoretical robustness of these earlier E-SQ studies in today's e-retail environment. Building on this, the study supports several dimensions and factors of E-SQ that are significant to today's e-retail sector but are currently absent from existing frameworks. This study's proposed E-SQ concept reflects emerging customer needs, platform features, and societal values, such as responsive design for mobile devices, inclusivity for individuals with disabilities, and customer interaction with artificial CS. The theoretical implication is that this study not only supports the validity of established E-SQ theories but also meaningfully expands the scope of E-SQ theory by proposing new, increasingly important dimensions and factors of E-SQ. Turning now to the alignment of E-SQ along the customer journey.

A key theoretical contribution of this study is its proposed systematization of eleven E-SQ dimensions along the customer journey. The concept is structured into five process dimensions that reflect the sequential nature of the customer journey: User Interface; Product Offering; Price; Purchase Process; and Fulfillment. Furthermore, the concept proposes six overarching dimensions that are important in all phases of the customer journey: Customer Service; Customer Protection; E-WOM Trustworthiness; Ethical, Social, Economic, and Environmental Aspects; Information Accuracy; and Personalization. Among the

overarching dimensions, Customer Protection, E-WOM Trustworthiness, Ethical, Social, Economic, and Environmental Aspects, and Information Accuracy are particularly novel. In previous research, these dimensions were either overlooked, treated as secondary aspects, or conceptualized differently; this thesis, however, positions them as central components of a comprehensive E-SQ concept.

Furthermore, the study supports that the proposed eleven dimensions encompass 63 underlying E-SQ factors, 37 of which are novel to the literature and reflect current trends in e-retail. The theoretical implication is that this study's structured and comprehensive E-SQ concept enriches E-SQ theory, making it applicable to current and emerging e-retail contexts.

Beyond its content contributions, this study offers a significant methodological advancement in E-SQ research by employing a unique triangulation methodology. Whereas most prior studies relied on focus groups, interviews, surveys, or literature reviews alone, this study employed a triangulated approach that integrates three viewpoints: the academic perspective (via literature review), the consumer perspective (via online review analysis), and the e-retailer perspective (via systematic website evaluation). This triangulation of methods enriches the findings, allowing them to reflect theory and real-world practices. The theoretical implication is that this study's triangulated research design provides a more holistic, balanced, and validated model of E-SQ. Moreover, it may be an interesting methodology for future researchers aiming to continually update E-SQ theory to incorporate the latest trends and to use multiple perspectives.

In addition, this study advances the E-SQ field by offering clearly defined and systematically structured E-SQ terminology. This study's terminology addresses a common challenge in the E-SQ field, where varying, overlapping, or missing terminology may have led to conceptual misunderstandings. By proposing a unified E-SQ vocabulary, the study contributes to the coherence and usability of E-SQ as a theoretical construct. Future research could build on this foundation, facilitating more accurate comparisons across studies and promoting the development of E-SQ knowledge.

Together, the proposed E-SQ concept offers a robust and future-ready theoretical model. It validates the foundations of existing theory, systematizes E-SQ theory, proposes new and critical E-SQ elements, employs a methodologically innovative design, and initiates a common field language. As such, it establishes a foundation for further conceptual development in the E-SQ field.

Having established the general theoretical implications of this study, the following sections examine the specific theoretical contributions associated with each of the proposed E-SQ dimensions. Each dimension is discussed in terms of how it validates, refines, or extends existing E-SQ theory. The subsequent sections begin by examining the five process dimensions and then turn to the six overarching dimensions.

6.2.3 User Interface Dimension

This study advocates for expanding the scope of E-SQ e-retail research beyond an exclusive focus on websites. Instead, it emphasizes the inclusion of the e-retailer's UI, which encompasses its entire digital eco-system, including websites, mobile apps, voice-controlled devices, and digital kiosks, enabling customers to engage in online purchasing.

This study's evidence supports eight underlying E-SQ factors within the UI dimension. The study contributes to the E-SQ theory by supporting that four existing E-SQ factors remain relevant in today's e-retail:

1. Search Engine Visibility refers to how easily consumers can find an e-retailer's UI when conducting online searches. This study observed that e-retailers rank high in Google search results.
2. Aesthetic Design is widely acknowledged as a crucial E-SQ factor. This study proposes expanding the scope of Aesthetic Design from solely visual aspects to encompass all human senses.
3. Ease of Navigation is supported by the literature, and this study observed that navigation features are prominent on the e-retailer websites.
4. UI Availability is a straightforward E-SQ factor. When UIs are down, customers are unable to shop online. The study found that historical data for four e-retailers implied perfect website availability in 2023.

Moreover, the study contributes to E-SQ literature by introducing two new E-SQ factors:

1. Accessibility for Individuals with Impairments concerns UIs that are accessible to users with disabilities. Given the large number of people with impairments and the advantage for all users to easily access UIs, improving accessibility can widen the e-retailer's customer base. Notably, this major E-SQ factor appears to have received limited attention in existing research, despite its visible presence on e-retailer websites.
2. Responsive Design refers to the ability of a UI to adapt optimally to various digital devices and screen sizes. Mobile e-retail is a substantial market. E-retailers can better participate in this market by designing websites with responsible design. Unexpectedly, the study found that e-retailers' responsive design is far from perfect, underscored by, for example, slow mobile loading speeds. Notably, research may have overlooked this major E-SQ factor, despite the enormous scale of the mobile e-retail market and the intensive efforts of e-retailers to make their UI designs responsive.

The identification of these two major novel factors has several important theoretical implications. First, it suggests that E-SQ theory should reflect the increasing importance of inclusive user experiences regardless of the device. Second, it highlights the potential need to integrate ethical and accessibility considerations into the theoretical E-SQ discourse, which appears to be underrepresented despite its increasing practical significance. Furthermore, the results support the continued relevance of four existing E-SQ factors. Taken together, the results suggest that both new and established E-SQ factors provide a more holistic understanding of the UI dimension. Having addressed the UI dimension, the discussion proceeds to the next logical step in the customer journey: the PO.

6.2.4 Product Offering Dimension

After the customer has accessed the UI, they typically continue to evaluate the PO, which focuses on the items that the e-retailer's online store sells. This study found that the PO dimension includes seven E-SQ factors. The analysis supports that the following E-SQ factors present in prior literature are still relevant in contemporary e-retail:

1. Product Search facilitates finding products on e-retailer UIs. To facilitate product discovery, the UIs include several features, such as an internal search engine and links to product categories and filter options. It appears that product search features have a central presence in the UIs and could represent a major E-SQ factor.
2. Product Variety refers to the breadth and depth of the PO and appears to be one of the primary reasons people shop online. The analysis has shown that five of the six e-retailers offer a wide range of products, and statistics emphasize that a broad product range is crucial for sales. Together, Product Variety appears to be a major E-SQ factor.
3. Product Availability is regarded by ACSI (2024) as a key benchmark for e-retailers, and statistics show that it is a key driver of sales. Overall, the availability of items appears to be a major E-SQ factor.

In addition, this study contributes to the field by introducing four new E-SQ factors that expand the scope of E-SQ:

1. Advertising concerns product advertisements in e-retail and represents a massive market for companies like Amazon. Notably, advertisements may be intrusive or counterproductive when they overlay product search results that are better suited for customers.

2. Product Distinction recommends that product offers are unique and that consumers can keep them apart. While this may be a minor detail, the enormous scale of the e-retail market could underscore the significance of this factor.
3. Product Authenticity ensures that the PO is original and not counterfeit. This appears to be a significant challenge for e-retail, as selling counterfeit products is a massive global market. Especially, stopping third-party sellers from selling fakes on UI marketplaces such as Amazon or Walmart.
4. Product Warranty provides an additional layer of security for customers in the event of issues with their products. Notably, the extended product warranty market appears to be vast. However, e-retailers could face trust issues when offering unnecessary and expensive product warranties.

This section has significant theoretical implications, as it expands the scope of the PO dimension by introducing four novel E-SQ factors, while also supporting the continued relevance of the three established ones. These insights provide a more comprehensive understanding of PO for academics and practitioners.

In the section that follows, the Price dimension is conceptualized in terms of four underlying E-SQ factors.

6.2.5 Price Dimension

This section will focus on the Price dimension, a significant element of e-retail, underscored by statistics that highlight pricing as a key driver for online shopping.

This study highlights the significance of the Price dimension in e-retail and supports four underlying E-SQ factors. The evaluation deductively supports the current relevance of two factors that already exist in the literature:

1. Price Correctness & Transparency is concerned with displaying accurate prices that are easily viewable and understandable by consumers. This E-SQ factor is of major importance as hidden charges or overpricing have negative consequences for customer trust and retention.
2. Price Competitiveness refers to offering prices that are regarded as favorable by consumers. Given that competitive pricing is consistently identified as a major driver of online shopping, this represents a significant E-SQ factor.

Notably, the study contributes two new major E-SQ factors to the literature:

1. Price Consistency Across Channels highlights that an e-retailer should have the same price for a specific product across all its distribution channels. It appears that this is not standard business practice, as exemplified by e-retailers displaying on their websites that prices between their online store and physical stores can vary. Large e-retailers, such as Walmart, are hybrid companies that offer their products through both virtual and physical sales channels. Price discrepancies between sales channels could lead to customer concerns, as evidenced by online review analysis. Considering that most large e-retailers are hybrids, Price Consistency Across Channels represents a major e-SQ factor.
2. Price Consistency Over Time addresses price fluctuations over time that can confuse or dissatisfy customers. Fluctuating prices could frustrate customers when they have overpaid for a product or service. Regarding the large-scale revenues generated on mega sale days, Price Consistency Over Time is considered a major E-SQ factor.

Overall, prior research has tended to overlook two major E-SQ factors, as e-retailer UIs directly display information about price discrepancies across sales channels, and price fluctuations appear to be common, particularly on mega sales days, such as Black Friday.

To sum up, this study contributes to the E-SQ literature by proposing the expansion of the Price dimension through the introduction of two significant new E-SQ factors. In addition, the continued relevance of two established Price-related E-SQ factors is supported. Together, these findings considerably broaden the scope of E-SQ research within the pricing context. Following this, the discussion proceeds to the next phase of the customer journey: the PP.

6.2.6 Purchase Process Dimension

This section presents a discussion of insights into the PP, specifically the customer's checkout experience.

This study supports that the PP consists of eight underlying E-SQ factors. The study contributes to the field by supporting that the following four existing E-SQ factors are still impactful in contemporary e-retail:

1. Simplicity and Speed call for an easy and quick PP, as it reduces shopping cart abandonment.

2. Payment Options offer a diverse range of convenient payment methods to customers. Customers may not purchase if their preferred payment option is not available.
3. Shipping Options refer to the shipment choices available to the customer. Especially slow shipping options may lead to shopping cart abandonment.
4. Order Confirmation is an assurance that the e-retailer has received the order. Typically, receiving an order confirmation marks the end of the PP. Practical and academic literature support this factor.

Crucially, this study introduces four new E-SQ factors:

1. Gift cards and Discounts address the fact that gift cards and applicable discounts are honored by e-retailers, an E-SQ factor frequently discussed by reviewers.
2. Purchase Limitations state that e-retailers may restrict the minimum or maximum quantity or amount. The study found that e-retailers have implemented purchase limitations.
3. Order Modification and Cancellation offer customers the option to redirect, modify, or cancel their order. This E-SQ factor appears to be major because it is widely discussed in reviews.
4. Charge Disputes occur when customers question the accuracy of a payment. Also, this represents a major E-SQ factor, as it is widely discussed in reviews.

To sum it up, these contributions significantly expand the scope of E-SQ literature, addressing previously overlooked E-SQ factors within the PP. Also, they support that several existing E-SQ factors remain relevant. Having discussed the PP, the next stage in the customer journey is the FF of the order, which is the theme of the following section.

6.2.7 Fulfillment Dimension

This section discusses the theoretical implications for the FF dimension. With FF, the post-purchase stage begins, in which the e-retailer delivers the order to the customer or processes returns through return logistics.

This study's evidence supports that the FF dimension consists of 16 underlying E-SQ factors. It is supported that the following six E-SQ factors, existing in prior literature, remain relevant in today's e-retail:

1. Order Arrival ensures that the order reaches the customer, which is the goal of the FF process. E-retailers provide information about this factor, and reviewers discuss orders or items that did not arrive.

2. Timeliness of Delivery ensures that the order arrives on time. The frequent appearance of this factor in online reviews underlines its relevance for customers and suggests that it is a major E-SQ factor.
3. Undamaged Product is committed to ensuring that customers receive the item in a suitable condition. Statistics show that return costs for damaged products are high.
4. Correct Product is about delivering the exact product that the customer has ordered. Statistics show that receiving the incorrect product is a significant reason for returns.
5. Order Status and Tracking allows customers to monitor the progress of their orders. It is a factor that is frequently discussed in online reviews, suggesting that it is a major E-SQ factor.
6. Return Options refer to the choices customers have when returning products. Statistics highlight the high costs associated with returns. The frequent online discussion of this factor in reviews suggests that it is a major E-SQ factor.

Moreover, this study proposes the introduction of ten new E-SQ factors:

1. Delivery Location Accuracy concerns the delivery of the order to the correct address. This E-SQ factor is frequently mentioned in reviews. Deliveries to the wrong address or an inappropriate location can lead to lost or stolen packages. Neither the literature nor e-retailers address this major E-SQ factor. However, the frequent online review discussion suggests that it represents a major E-SQ factor.
2. Pick-Up involves receiving online orders at a physical store or other location. All e-retailers offer this option, and it is widely discussed in online reviews. It appears that Pick-Up is a significant factor of E-SQ that has not yet been discussed in the literature. A possible reason for this could be that E-SQ literature may be outdated and has not addressed Pick-Up because it did not exist when the literature was written.
3. Multiple Shipment refers to splitting an order into separate deliveries. This can be an inconvenience for consumers, as it may lead to longer waiting times and increase the likelihood of a package being lost. Supporting evidence for this factor emerged from the website evaluation and online review analysis, indicating its practical relevance.
4. Packaging Quality involves protecting the product from damage and includes practical, aesthetic, and brand perception aspects. This study found that e-retailers provide information about packaging quality on their websites, and online reviews frequently address this topic. Together, this suggests that Packaging Quality is a practically relevant factor.

5. Geographic Aspects concern the delivery to other countries and remote areas, which may involve longer delivery times and higher costs. As e-retail becomes globalized with e-retailers expanding to other countries, this E-SQ factor should become increasingly significant. This study identified supporting evidence for Geographic Aspects in website content and online review discussions.
6. Digital Product involves successfully fulfilling digital items. Given the tremendous market for digital products, this represents a major E-SQ factor.
7. Installation Quality relates to the technically correct installation of ordered products by installation personnel, an E-SQ factor that is frequently discussed in online reviews.
8. Respectful Behavior refers to the courtesy with which delivery and installation personnel interact with customers. Complaints about disrespectful behavior are frequent in online reviews. Notably, this major factor has, to the best of the author's knowledge, received limited attention in prior E-SQ literature, despite its apparent importance in practice.
9. Damage-Free refers to not damaging the customers' premises. The study found reviews about it, but was unable to quantify the findings. However, depending on the extent of the damage caused, this E-SQ factor may have significant financial implications for e-retailers in terms of compensation.
10. Post-Installation Cleanliness entails leaving the customers' premises in the same condition as the installation personnel found them, without leaving any waste or packaging. It appears that only Home Depot offers this service.

In summary, the study deductively supported that several existing E-SQ factors related to FF remain relevant today. Moreover, the findings significantly widen the scope of E-SQ factors related to FF. Remarkably, Delivery Location Accuracy, Pick-Up, Digital Products, and Respectful Behavior appear to be major E-SQ factors not mentioned in prior work.

With the five process dimensions of the proposed E-SQ concept now examined, the subsequent sections address the six overarching dimensions, commencing with CS.

6.2.8 Customer Service Dimension

This section presents a discussion of the theoretical implications of the CS dimension. CS refers to the help and assistance the e-retailer provides before and after the purchase. It represents one of the six overarching dimensions proposed in this study.

This study extensively explored the role of CS in e-retail and found supporting evidence for 14 underlying E-SQ factors. This study contributes to the literature by supporting that the following E-SQ factors remain relevant in contemporary e-retail:

1. Ease of Contact refers to how quickly and straightforwardly customers can reach CS. The analysis revealed that this major E-SQ factor is frequently discussed in online reviews and is supported by the existing literature.
2. Return and Refund Policies outline the regulations and requirements for returning orders. The frequent appearance of this topic in online reviews supports its relevance and suggests that it represents a major E-SQ factor.
3. Time Efficiency relates to quickly handling customer issues. Notably, reviews related to wasting customer time are widespread, underlining the importance of this major E-SQ factor.

Additionally, the study found support for 11 novel E-SQ factors:

1. Respectfulness involves treating customers with politeness and courtesy. The high frequency of reviews mentioning disrespectful behavior suggests that it is a major novel E-SQ factor.
2. Competency addresses the problem-solving ability of CS. This E-SQ factor is often discussed in online reviews, suggesting it represents a significant novel E-SQ factor.
3. Proactiveness refers to contacting customers before issues arise. Reviews show that in some cases, CS actively reaches out to customers.
4. Contact Frequency entails the number of contacts between a customer and CS. The review analysis supports that it is a major E-SQ factor.
5. Seamlessness refers to not passing the customer around and knowing the customer's story. The high frequency of reviews related to CS Seamlessness indicates that this could represent a major E-SQ factor.
6. Language Skills refer to the language proficiency of CS personnel. A high number of reviews discussing Language skills stresses the importance of this E-SQ factor. This major E-SQ factor could gain importance as e-retail globalization continues, with e-retailers having a growing number of customers speaking different languages.

7. Quality Consistency ensures that the quality level of CS remains steady across all interactions with the customer. Reviews highlight the significance of this E-SQ factor. However, the analysis could not quantify it.
8. Artificial Interaction addresses the quality of interactions between humans and artificial systems. This E-SQ factor may gain growing importance as developments in the field of AI continue to progress at a rapid pace.
9. Refund Timeliness refers to the speed with which customers are reimbursed. The high-frequency review discussion supports that this is a major E-SQ factor.
10. Repair Service Quality is concerned with how well CS can repair products. Only a few reviews mention this E-SQ factor. Depending on the product assortment and service propositions, the relevance of this factor may vary among e-retailers.
11. Failure Compensation addresses financial reimbursements for issues caused by the e-retailer. This is a topic in reviews; depending on the extent of the damage, it may have a varying financial impact on e-retailers.

Overall, these findings significantly expand the scope of E-SQ by introducing 11 novel E-SQ factors. Furthermore, the study contributes to the field by supporting that five E-SQ factors remain valid today. The study now turns to a discussion of CP.

6.2.9 Customer Protection

In this section, the theoretical implications of the CP dimension are discussed. CP refers to safeguarding the customer's private data, finances, well-being, health, and safety.

The following demonstrates that this study adopts a holistic view of CP that is broader than in prior research. Previous literature has addressed data privacy and security as a fundamental pillar of E-SQ. While this study's results support this view, this study proposes a much broader and more detailed concept of CP. This study argues that CP in e-retail should encompass data privacy and security, as well as customers' rights, health, and safety, across the entire customer journey. The fact that CP is essential in every step of the customer journey makes it an overarching dimension. In this comprehensive form, CP represents a novel and significant contribution to the literature, placing the overall safety and well-being of the customer at the core of e-retail and E-SQ research.

This study's findings support that CP consists of six underlying E-SQ factors. Evidence supports the CP Data and Transaction Security E-SQ factor, a factor that has been extensively addressed in the literature. This factor refers to keeping the customers' private data secure and ensuring that financial

transactions are safe. The study found review reports on hacked accounts, which led to fraudulent activities, underscoring the paramount importance of securing data and transactions.

Moreover, the study contributes five novel E-SQ factors to fill significant gaps in the literature:

1. Compliance with Consumer Protection Legislation refers to the adherence to laws that safeguard consumers by e-retailers. The e-retailer websites display information about it, and reviewers discuss it, supporting this factor.
2. Personal Health and Safety is concerned with the well-being and security of customers during and after the customer journey, ensuring that customers receive safe products that pose no threat to their health. This appears to be a very important E-SQ factor; even a single case where a customer's health is affected is too much.
3. Fraud Protection ensures that customers are safeguarded from fraudulent activities, including stolen orders, fraudulent charges, and phishing. The online review analysis has revealed cases where customer accounts were hacked.
4. Recall Policy refers to informing customers about unsafe products and arranging for their return and replacement. This is important because products that can cause issues, such as fire or suffocation, should be removed from the market quickly and thoroughly.
5. Emergency Management addresses security issues that have already occurred and protects customers from any damage or injury. The study revealed reports of fraudulent activities, including hacking, with CS failing to respond adequately to customer inquiries. This raises the question of whether e-retailer emergency management works reliably and whether it needs improvement. Emergency Management can be viewed as a serious and time-sensitive form of service recovery, as it involves responding to service failures in a manner that seeks to mitigate harm to customers.

In summary, this study presents a novel and holistic perspective on CP, conceptualizing it as a fundamental dimension of E-SQ. It is proposed that this overarching concept comprises various factors designed to safeguard customers throughout their entire customer journey. The study advocates that ensuring customer security should be a top priority in e-retail. Even a single incident in which a customer experiences a breach of private data, financial harm, physical injury, or worse, may be considered one too many. By framing CP as an overarching dimension of E-SQ, this study makes a meaningful contribution to the E-SQ field. Future research is encouraged to examine this holistic conceptualization further. Having discussed CP, the following section focuses on E-WOM Trustworthiness, which influences customer decisions throughout the customer journey.

6.2.10 E-WOM Trustworthiness

In the following discussion, the theoretical implications of the E-WOM Trustworthiness dimension are examined, with a focus on the perceived honesty of online reviews in e-retail.

E-WOM Trustworthiness appears to function as an overarching dimension, as it may influence customer perceptions of E-SQ across all stages of the customer journey. For instance, many customers may carefully read reviews before purchasing to gather information. During the purchasing process, they may refer to reviews again for reassurance. After the purchase, previously read reviews could influence whether the customer decides to keep or return the product. In short, E-WOM Trustworthiness may shape customer decisions before, during, and after the transaction.

This conceptualization seems to extend beyond the current E-SQ literature, which has only marginally addressed E-WOM. As such, it represents a meaningful contribution to the E-SQ field. Having examined the role of honest reviews, the following section focuses on broader ethical, social, economic, and environmental considerations in e-retail.

6.2.11 Ethical, Social, Economic, and Environmental Aspects

This section demonstrates that ESEE acts as an overarching dimension within the customer journey, as ESEE criteria may influence every E-SQ factor. Various examples support this view. ESEE is crucial for UI design to promote inclusivity. It also extends to POs, where sustainability and fair production practices are increasingly important. The PP should be simple and accessible to ensure that people of all educational backgrounds can shop with ease. In the FF phase, efforts to reduce the carbon footprint should be considered, and delivery personnel should receive fair wages and work under stress-free conditions. Similarly, CS should be fair and respectful, while ensuring that CS agents also work in a supportive environment.

Moreover, it is an ethical obligation that the customer is protected, can trust the reviews, is informed truthfully, and that personalization is not intrusive or misused. All these examples suggest that ESEE is relevant at every stage of the customer journey, positioning it as a fundamental E-SQ dimension.

The e-retailers analyzed in this study appear to provide valuable information regarding ESEE on their websites, and it is hoped that they will continue to uphold these standards even during challenging times and in highly competitive environments. From a theoretical perspective, anchoring ESEE within the E-SQ literature appears to be a novel contribution. It highlights that e-retail management decisions may carry substantial ethical, economic, social, and environmental implications.

Overall, the study supports that ESEE influences all E-SQ aspects throughout the customer journey. Ideally, e-retailers will continue to fulfill their ESEE-related commitments. Having established the high importance of ESEE, the following section discusses the accuracy of the information provided by e-retailers.

6.2.12 Information Accuracy

This section addresses the theoretical implications of the Information Accuracy dimension, which pertains to the correctness of the information provided by the e-retailer.

The following demonstrates that Information Accuracy overarches the customer journey. This study does not limit Information Accuracy to the website alone, as prior literature appears to do, but views it as key along the customer journey. The following examples underline this. Incorrect information about the size of a clothing item could lead to returns. Incorrect price information may result in customer refund requests. False delivery time information could frustrate customers, and CS agents providing incorrect information can exacerbate the issue. These examples demonstrate that Information Accuracy can affect E-SQ throughout the customer journey, positioning it as an overarching dimension. This new proposed conceptualization, which extends beyond the website to encompass the entire customer journey, is a significant contribution to the E-SQ field.

In summary, Information Accuracy, which refers to the presence of correct information, represents a critical overarching dimension, as incorrect information can cause issues throughout the customer journey. Having discussed this, the following section proceeds to Personalization, which focuses on delivering individualized customer experiences.

6.2.13 Personalization

The following discussion focuses on the role of Personalization, which involves creating an individual customer experience.

This study supports that Personalization is crucial at every stage of the customer journey. E-retailers have implemented various measures to create personalized customer journeys, as illustrated by the following examples. Customers have the option to create an account where they can store delivery addresses, payment methods, wish lists, and view past orders. Additionally, websites display personalized product recommendations and targeted advertisements based on customer preferences. Ideally, CS representatives are familiar with a customer's history, allowing them to resolve issues more efficiently. These examples suggest that Personalization is a crucial element of the customer journey, influencing E-SQ in various ways,

making it an overarching dimension of E-SQ. Previous literature may have interpreted this concept more narrowly than this study. However, the reasons outlined above support the need to broaden the concept and consider it central to the discussion.

Notably, a high number of reviewers mentioned issues with their customer accounts. Closed accounts or lost information in the accounts limit personalization opportunities, and excluding customers has ethical implications.

Together, this study argues that Personalization is a central overarching E-SQ dimension, hereby widening the scope of E-SQ research. After discussing the theoretical implications of this study dimension by dimension, a conclusion is presented.

6.2.14 Section Summary: Theoretical Implications

This section provides a comprehensive overview of the theoretical implications of the proposed E-SQ concept.

The chapter began by supporting the continued relevance of prior E-SQ frameworks and indicated the need to update them to reflect the latest e-retail trends. The proposed E-SQ concept extends existing theory by offering a systematization of E-SQ along the customer journey, comprising eleven dimensions, of which four are new, and 63 underlying factors, 37 of which are novel contributions. These additions reflect the dynamic realities of contemporary e-retail, including elements such as mobile responsiveness, inclusivity, customer protection, and sustainability. By capturing both established and emerging E-SQ factors in e-retail, the proposed E-SQ concept in this study appears to offer a robust theoretical foundation for future research.

Methodologically, the study represents an advancement by employing a triangulated research design that integrates academic theory, large-scale customer feedback analysis, and real-world website evaluation. This approach not only strengthens the validity of the findings but also has the potential to be applied to future E-SQ research. Moreover, the study contributes to a more precise and unified E-SQ terminology, offering improved consistency for both academic and practical use.

In summary, the proposed E-SQ concept appears to present a comprehensive and forward-looking theoretical framework that expands and clarifies E-SQ theory through conceptual development, methodological innovation, and the contribution to a standard field language. After discussing the theoretical implications of the study, the following section explores the managerial implications of the proposed E-SQ concept.

6.3 Managerial Implications

6.3.1 Introduction

The proposed E-SQ concept developed in this study provides valuable guidance for e-retail practitioners. By applying its insights, managers can identify strengths and weaknesses in their current service delivery and enhance the overall customer experience.

This section outlines the key managerial implications derived from the findings. The subsequent subsections provide practical recommendations for each E-SQ dimension, which can help e-retail managers design service offerings that better meet customer expectations and enhance their competitive positioning.

6.3.2 General Managerial Applications

This section outlines the general managerial implications of this study.

This study's insights are intended to support e-retail managers in improving E-SQ elements that are of high concern for customers. While the individual E-SQ dimensions provide specific guidance and are discussed later in this chapter, broader implications are discussed in the following paragraphs.

First, the study suggests that E-SQ in e-retail should be viewed from a customer journey perspective. Managers may benefit from considering not just individual service touchpoints, but also how the entire customer journey, from browsing the UI to post-purchase, affects the customer's perception of E-SQ. This means that departments within an e-retailer's organization (e.g., website design, logistics, CS) need to work more closely together to deliver a seamless customer experience.

To implement this, e-retailers can adopt cross-functional teams or service blueprinting workshops (see Bitner et al., 2008) to identify the strengths and weaknesses of both frontstage (visible to the customer) and backstage (invisible to the customer) service processes. To facilitate clearer communication across teams and departments, they could also apply Halvorsrud et al.'s (2021, October) Customer Journey Modelling Language alongside the E-SQ language proposed in this study. In addition, integrating shared performance indicators, such as the Net Promoter Score (Reichheld, 2003), may further encourage departments to collaborate toward a unified E-SQ goal.

Second, customer expectations appear to be evolving. As such, what was once considered a competitive advantage (e.g., fast shipping or live customer support) may now be viewed as a standard in the industry. Managers should remain aware of emerging trends, technologies, and consumer values—such as

inclusivity, sustainability, and data security—to maintain E-SQ that meets or exceeds customer expectations. At the same time, it may be advisable to reconsider investing in service elements that receive limited attention or are no longer perceived as relevant by customers, allowing resources to be redirected toward areas that drive real customer value. For example, suppose customers rarely mention homepage introduction videos but frequently express frustration with slow load times. In that case, it may be more effective to prioritize page speed optimization over aesthetic features that offer limited perceived value to customers.

Third, the study's findings suggest that small details can have a significant impact on customer perceptions. Operational decisions, such as packaging quality, order tracking, or refund timing, may seem minor in isolation, yet they can have a meaningful impact on overall satisfaction and trust. Managers can benefit from monitoring these aspects, as improvements in such micro-level service elements may enhance the overall customer experience. This study proposes a concept for systematically monitoring these details by analyzing customer reviews. To support this, managers could apply tools such as Provalis WordStat topic modelling or the customized E-SQ dictionary developed in this study (please contact the researcher to request access to the dictionary) to analyze online reviews systematically. While WordStat is a commercial tool that requires purchase and installation, the E-SQ dictionary can be imported into various text analysis software or integrated into a company's existing systems for ongoing E-SQ monitoring.

Fourth, managers may benefit from systematically benchmarking their services against those of other e-retailers to identify best practices in service delivery. This can be achieved by regularly visiting competitor websites, analyzing their customer journeys, and reviewing public E-WOM, such as online reviews, forums, or social media posts on their competitors. Also, managers can assess the delivery performance of top-performing competitors by placing test orders, monitoring promised versus actual delivery times, and evaluating customer feedback regarding delivery reliability. This could lead to actionable insights for improving logistics.

Similarly, managers can analyze return processes on competitor sites to assess whether simplified digital return portals, prepaid labels, or extended return periods are becoming standard expectations among customers. Another area for learning is post-purchase communication, including the use of personalized email follow-ups and satisfaction surveys. From this feedback, managers can gain concrete ideas for targeted service enhancements that align with evolving customer expectations.

Fifth, this study recommends a practical toolset that practitioners can use to evaluate the performance of their UIs across key dimensions of E-SQ. These include:

- Google PageSpeed Insights (2024) – to assess UI speed and accessibility;

- Uptime (2024) – to monitor the historical availability and reliability of UIs;
- SEOmator (n.d.) – to evaluate mobile-friendliness and responsiveness of UIs;
- SSLSHOPPER (n.d.) – to verify the validity of SSL certificates of UIs.

Together, these tools enable e-retailers to assess and improve critical technical aspects of the UI.

Finally, the study encourages managers to take an ethical and long-term perspective when implementing changes related to E-SQ. Enhancements to E-SQ that are customer-focused, inclusive, and sustainable may not only improve customer satisfaction but also support brand reputation and long-term firm-related outcomes. For example, offering accessible website features—such as adjustable font sizes—can enhance the digital experience, making it more inclusive and thereby strengthening customer loyalty and potentially expanding the customer base. Similarly, implementing eco-friendly packaging options may resonate with environmentally conscious consumers and contribute to a positive brand image, while also supporting sustainability goals.

This section presents general managerial implications for improving E-SQ in e-retail. Managers are encouraged to adopt a customer-centric perspective on the customer journey, foster cross-functional collaboration, and monitor customer feedback alongside competitor websites. Attention to small operational details, the use of practical tools (e.g., WordStat, PageSpeed Insights), and a focus on inclusivity and sustainability can enhance E-SQ, strengthen customer trust, and support long-term business outcomes.

After discussing the general managerial implications, the following sections discuss specific recommendations dimension by dimension, starting with the UI dimension.

6.3.3 User Interface

This section discusses the managerial implications for the UI dimension, which represents the digital platform through which customers interact with the e-retailer.

Managers may influence how an e-retailer's UI and POs appear in search engine results. Increased search engine visibility has the potential to drive customer traffic to the e-retailer's PO and can positively impact sales performance. Therefore, managers should adopt strategies that improve search visibility. This can include investing in search engine advertising (e.g., Google Ads), where the costs per keyword or phrase vary depending on the level of competition. Additionally, systematic search engine optimization (SEO) efforts—such as optimizing product titles, descriptions, and UI metadata—can be performed in-house or outsourced. In-house SEO requires staff expertise, time, and tools (e.g., SEMrush, n.d.). Outsourcing to SEO agencies can quickly enhance search engine visibility. However, it results in significant costs,

depending on the scope and complexity of the work. Additionally, it can create a dependency on external expertise for a capability that is strategically important to the company's long-term digital success. Publishing relevant content, such as buying guides, care instructions, or FAQs, also supports organic visibility at a relatively low cost, provided the firm's staff handles it. In summary, search engine visibility should be strategically considered to enhance discoverability and increase customer traffic, ultimately boosting sales performance.

The study suggests that an aesthetically appealing design may contribute to positive user perceptions. Upon reaching the UI, customers often form impressions based on the visual design of the UI. Therefore, it may be beneficial for managers to prioritize a professional, appealing, brand-consistent layout. Additionally, this study proposes that aesthetic design should ideally engage more than just the visual sense. As digital technologies evolve, UI design may increasingly incorporate sensory elements—such as sound, touch, and possibly scent—to enrich the user experience. While still emerging, these developments suggest that designing with multiple senses in mind may become increasingly relevant over time.

Navigation is another important consideration. Managers should ensure that UI navigation is intuitive, fast, and user-friendly. Navigation features, including search bars, category links, and filters, should enable customers to locate products easily. It may also be helpful for navigation systems to indicate the user's current position within the UI (e.g., through breadcrumb trails) to reduce confusion. Additionally, clear and structured navigation may enhance the UI's visibility in search engines by improving crawlability—that is, the ease with which search engine bots can access, scan, and index the website's content.

To further improve navigation, managers can analyze clickstream data or heatmaps to identify areas where users hesitate or drop off (e.g., through Google Analytics (Google, n.d.-d)). Conducting usability tests with real users can reveal unexpected friction points and inform refinements to improve the user experience. Implementing preset search filters (e.g., filtering by availability, bestsellers, new products, or customer rating) can also make product discovery more efficient. Overall, providing simple, responsive, and efficient navigation not only improves the customer experience but also reduces bounce rates and supports higher conversion rates.

Accessibility is a key component of inclusivity in E-SQ. Managers are encouraged to ensure that individuals with disabilities or impairments can access and shop on their UIs without barriers. Accessibility features—such as keyboard navigation, text-to-speech compatibility, and high-contrast display options—not only serve customers with permanent disabilities but can also support older users or those with temporary impairments (e.g., a broken arm or eye strain). To guide implementation, managers can refer to the Web Content Accessibility Guidelines (WCAG) (World Wide Web Consortium, 2023). which offer

internationally recognized recommendations for making web content accessible. Designing inclusive UIs is, therefore, not only an ethical responsibility but also a strategic opportunity to expand the potential customer base and improve usability for all users.

Sending newsletters appears to be a standard practice in e-retail. However, managers may wish to ensure that these newsletters are not intrusive and contain relevant, meaningful content or offers. A respectful and value-driven approach to email communication may support customer engagement and brand perception.

Ensuring UI availability is a fundamental operational consideration. Website downtime can result in lost sales opportunities and may damage customer trust. Managers are encouraged to assess and mitigate potential risks, such as cyberattacks, technical failures, or infrastructure disruptions, to help ensure continuous availability. A critical aspect of this is hosting the website on a reliable server infrastructure that offers sufficient capacity, redundancy, and technical support. Partnering with reputable hosting providers (e.g., AWS, Google Cloud, or Microsoft Azure) can reduce the likelihood of downtime and enhance scalability during periods of high traffic.

Additionally, tools such as UptimeRobot (n.d.), Uptime (2024), and Pingdom (n.d.) can be used to monitor website availability and performance in real-time, alerting managers immediately in the event of downtime. Services like Cloudflare (n.d.) can provide added protection against cyberattacks and optimize UI speed. Implementing uptime monitoring, cybersecurity solutions, and robust server infrastructure can therefore support operational continuity and resilience.

Website speed and performance also merit close attention. Slow-loading or unresponsive UIs may cause user frustration and lead to cart abandonment. The study observed that even leading e-retailers may experience challenges in meeting performance expectations. Therefore, managers should aim to optimize the UI for speed by implementing improvements such as image compression, code minification, browser caching, and a fast server infrastructure. To identify performance bottlenecks, tools such as *Google* PageSpeed Insights (2024) can be used. This free tool provides a performance score and actionable recommendations based on real-time and simulated user data, helping managers make targeted enhancements that improve load times and user experience.

In summary, these recommendations can help managers evaluate and improve the E-SQ of their UI. A systematic approach to UI design and maintenance could contribute to a more satisfying and efficient customer experience. With this in mind, the following section discusses the managerial implications for the PO.

6.3.4 Product Offering

The following section addresses the managerial implications of the PO, which encompasses the items e-retailers sell through their UIs.

Managers should ensure that their UI includes a functional and user-friendly product search feature. Customers often rely on internal search engines and filtering tools to explore a platform's PO. Managers must ensure that the search function returns results that closely match customer needs, even if these are not always the items most heavily promoted. While selling search placements may be a common lucrative practice on significant marketplaces such as Amazon, maintaining customer-centricity remains important. Therefore, managers are encouraged to prioritize search tools that deliver relevant results and support a positive shopping experience.

To achieve this, managers can implement intelligent search algorithms that prioritize relevance over promotion. Integrating AI-based search solutions (e.g., Algolia, n.d.) can further enhance the quality and accuracy of search results. Regular testing—such as entering sample search terms, evaluating the relevance of returned results, and analyzing associated product conversion or return rates—can help fine-tune performance. Overall, search tools should be designed to deliver results that align with customer needs.

The breadth and depth of the product assortment can be a key attraction for customers. At the same time, managers should consider the potential for confusion if identical products appear in multiple listings. This issue may be especially relevant for platforms that include third-party sellers. A high number of duplicate listings could hinder decision-making and detract from the customer experience. To identify such redundant listings, managers can conduct audits that detect similar product titles, attributes, and images. Monitoring customer feedback can also help uncover duplicate listings. For example, repeated customer questions about product differences may indicate overlap in listings. Overall, it is beneficial for managers to streamline the PO by removing redundant listings and improving the clarity of the PO.

Product availability is another area that warrants close attention. When prominently featured products are no longer in stock, customer frustration may result. From a managerial perspective, highlighting unavailable products may erode trust and result in missed sales. For example, prominently promoting out-of-stock items on the homepage with a banner can cause a negative impression. Managers are therefore encouraged to monitor inventory and align promotional content with product availability closely. Managers can routinely review out-of-stock items and manually adjust UI content to reflect current availability. In larger firms, it is advisable to integrate the inventory management system with the UI's content management system to automatically suppress or replace promotional content for products that are no longer in stock.

The issue of counterfeit products also requires managerial awareness. The global market for counterfeits is substantial. Selling counterfeit goods may expose companies to legal and reputational risks. Accordingly, managers should take appropriate steps to verify the authenticity of products, particularly when working with third-party suppliers. This can be achieved by implementing stricter supplier agreements, including proof of authenticity (e.g., official brand certifications or serial numbers), as well as conducting random quality checks. Additionally, e-retailers can implement anti-counterfeit technologies such as QR-code-based product verification or blockchain tracking. Monitoring customer feedback can also help identify fake products. By establishing clear policies, supplier agreements, and technological safeguards, managers can significantly reduce the risk of counterfeit goods entering their platforms.

Additionally, managers may want to consider the role of product warranties. Warranties can influence customer decisions both before and after purchase. Some jurisdictions impose legal warranty obligations, while others allow for optional extended warranties. Given the size of the extended warranty market, managers might explore this as a potential offering. However, ethical considerations also apply. It is advisable to avoid promoting warranties that provide limited value or appear disproportionately expensive in relation to the product.

In summary, the PO is a core component of the e-retail experience. Managers are encouraged to approach this area thoughtfully, ensuring clarity, availability, authenticity, and fairness in warranty offerings. These actions may help build customer trust and improve satisfaction. As discussed in the next section, pricing also plays a significant role in shaping customer decisions.

6.3.5 Price

This section discusses the managerial implications of pricing in e-retail. Price refers to the total monetary amount a customer must pay for a product.

It is widely acknowledged that price plays a central role in customer decision-making. Managers are therefore advised to ensure that pricing is communicated with transparency and accuracy. Customers should be able to view the total cost of a product immediately, without the risk of encountering unexpected fees or hidden charges. To support this, prices should be displayed clearly and prominently at the point of product selection. Additionally, managers can review competitor websites to monitor price presentation, such as inclusive pricing (e.g., price including taxes and shipping) or clear messaging around additional fees or discounts.

Moreover, prices should remain competitive. However, while low prices may attract customers, selling products at a loss can pose both financial and legal risks. Price dumping may violate competition

laws and lead to regulatory consequences. Moreover, such pricing strategies may primarily attract highly price-sensitive customers, making long-term retention challenging.

Managers are therefore advised to develop pricing strategies that strike a balance between competitiveness, profitability, and legal compliance. This may include conducting regular market price analyses to ensure optimal pricing. In summary, pricing strategies should be both customer-friendly and financially sustainable, thereby contributing to long-term business stability and customer trust.

Another key consideration for managers is maintaining pricing consistency across self-owned sales channels. The study observed that even major e-retailers acknowledge price discrepancies between their physical stores and online platforms. Such inconsistencies can lead to customer confusion, diminished trust, and an increase in CS inquiries, particularly when customers request price adjustments. To address this, managers are advised to implement systems that monitor and align prices across all controllable channels. For example, integrating the company's inventory, pricing, and point-of-sale systems into a unified software environment can support real-time pricing updates and reduce price discrepancies. In summary, ensuring consistency and transparency within owned channels remains a critical objective.

Price stability is another aspect managers should consider. Sudden price drops or increases can negatively affect customer perceptions and purchasing behavior. For example, in 2024, SAP publicly announced it would stop buying Tesla vehicles after a rapid price drop significantly reduced the residual value of its existing Tesla fleet (Of-Allinger, 2024, February 8). Similar issues may arise in e-retail, where customers who purchase a product at a higher price may feel deceived if the price is reduced shortly after the purchase. In some cases, customers may return a product and repurchase it at a lower price, resulting in financial losses for the e-retailer. These examples highlight the importance of pricing strategies that take into account customer expectations and perceived fairness. Managers can closely monitor the return rates of items that are reduced to evaluate whether customers send back the product and reorder it at a lower price.

Discount campaigns—such as those launched during major promotional events like Black Friday—should also be approached with caution. While they can drive traffic and boost short-term sales, they may also result in reduced demand in the weeks prior, as customers delay purchases in anticipation of discounts. If not carefully planned, such campaigns may result in a decline in overall revenue and profit margins.

In conclusion, pricing is a core responsibility for e-retail managers. Prices must be competitive, clearly communicated, and aligned across all relevant channels whenever possible. The following section turns to the PP.

6.3.6 Purchase Process

This section addresses the managerial implications related to the PP dimension.

As e-retail has matured and online shopping has become a routine activity for many consumers, managers are encouraged to design a PP that is straightforward, efficient, and reliable. Ideally, customers should be able to select from a variety of payment and delivery options. Limiting these options may result in purchase abandonment, as customers often expect the flexibility to use their preferred payment methods. To optimize their processes, managers are advised to conduct test orders on competitor platforms and document each step of the PP. This benchmarking exercise can help identify best practices and lead to improvements in their PP.

During the checkout process, it is essential that any discount or gift card codes can be entered easily and function correctly. Malfunctions in these areas may lead to frustration and CS inquiries. In terms of purchase limitations, managers must strike a careful balance. On one hand, minimum and maximum purchase quantities can help protect inventory and reduce operational costs. On the other hand, ethical considerations suggest that access to essential products should not be restricted unnecessarily, and mechanisms should be in place to prevent bulk buying that could lead to hoarding, price manipulation, or resale. At the same time, fulfilling tiny orders may incur disproportionate logistical costs.

Order confirmation is another critical element of the PP. Customers generally expect prompt and reliable confirmation that their order has been received and is being processed. This step may provide reassurance in the transaction. Therefore, managers should implement software solutions that automatically generate and send order confirmation messages immediately after a purchase is completed.

Managers are advised to evaluate their policies regarding order modifications and cancellations. While offering flexibility can enhance the customer experience, it may also increase operational complexity and costs. For example, if the process of modifying or canceling orders is perceived as too easy, some customers may feel less committed to completing their purchases. This may lead to increased cancellations, resulting in additional operational costs. Also, reserving inventory for uncommitted customers could lead to lost sales. Products held for cancellation-prone customers may become unavailable to those with a stronger intent to purchase. These opportunity costs underscore the importance of a communicated and balanced policy that manages expectations, minimizes disruptions, and encourages more reliable purchasing behavior.

Furthermore, payment disputes, such as being charged incorrectly or not receiving a promised refund, may arise if the transaction process is not well-managed. To prevent such issues, managers should implement robust and transparent systems that support accurate billing, clear refund policies, and traceable

transaction records. This includes integrating secure payment gateways (e.g., PayPal) that provide real-time payment verification and fraud protection. Additionally, managers should ensure that refund processes are clearly communicated on the website, automatically tracked in the system, and processed quickly. Providing customers with confirmation emails for transaction steps, including payment receipt and refund approval, can further reduce disputes.

In summary, managers should strive to design a PP that strikes a balance between flexibility, efficiency, and transparency. Turning now to the managerial implications of the FF dimension.

6.3.7 Fulfillment

This section discusses the managerial implications related to FF, which includes all product delivery and return activities following the completion of a purchase.

Managers are advised to establish logistics processes that ensure timely and accurate deliveries. This challenge should not be underestimated, as missing packages, sending the wrong product, or damaged shipments can lead to customer dissatisfaction and significant costs. Delayed deliveries and shipments sent to the wrong location are widespread issues that managers should address. Managers should conduct regular audits of shipment accuracy and delivery timelines to identify and address areas for improvement.

To support in-store pick-up services, managers should implement real-time inventory systems that prevent pick-up failures and communicate clearly with customers before the pick-up. This can help ensure that customers do not arrive before the product is available.

Additionally, split orders with multiple shipments, unless specifically requested, can frustrate customers and create unnecessary costs for the e-retailer. Managers can set up warehouse rules that prioritize complete order delivery. This can reduce both costs and environmental impact.

Shipment tracking is another crucial factor. It is recommended that managers offer real-time tracking tools via integration with logistics providers. These tools should be accessible through the UI and automatically updated, allowing customers to monitor deliveries independently and reducing inbound inquiries to the CS team.

The packaging of a product is equally important—it not only protects the item but also serves as a means of branding and enhancing its aesthetic appeal. Managers are advised to use high-quality protective packaging to reduce replacement costs for damaged products and improve brand perception, potentially leading to an improved brand image.

Geographic considerations should also be taken into account, as deliveries to certain regions may be more expensive, time-consuming, and require specific logistical know-how. Managers must train staff to handle region-specific challenges.

Meanwhile, digital products are becoming increasingly significant in e-retail, requiring robust systems to ensure seamless digital distribution. Managers are advised to implement secure and scalable digital delivery platforms, such as automated download portals or license key generators, to guarantee instant access and prevent unauthorized use.

Another key area appears to be product installation at customers' homes. Managers are recommended to establish clear guidelines for their personnel to ensure high technical quality, professional and respectful customer interactions, and minimize the risk of property damage. This includes training installers on technical procedures and soft skills such as communication and customer care. Ideally, installers should also remove packaging waste and leave the site clean and tidy upon completion.

Finally, reverse logistics, encompassing the handling of returns and exchanges, requires careful management. Managers should focus on minimizing returns in the first place. This can be achieved by proactively reducing common return triggers, such as incorrect information, unexpected price changes, or product damage. Additionally, allowing in-store returns can encourage customers to visit stores, potentially leading to increased sales.

Overall, FF is an expensive and knowledge-intensive operation that managers should continually optimize to ensure efficiency and customer satisfaction. Having discussed FF, the following section turns to the managerial implications of the CS dimension.

6.3.8 Customer Service

This section outlines the managerial implications of the CS dimension, which plays a pivotal role in supporting customers along their customer journey.

CS is critical for resolving customer issues. Managers are encouraged to establish systems that enable customers to access support promptly and efficiently, while ensuring that concerns are addressed in a competent, courteous, and solution-oriented manner. This includes offering multi-channel support (e.g., phone, chat, email), clearly communicating service hours, and using ticketing systems.

This study identified that customers frequently report feeling disrespected by e-retailer personnel, which may lead to significant frustration. Managers should therefore invest in soft skills training and regular quality monitoring (e.g., call audits or customer feedback surveys) to enhance service interactions.

Managers should also create supportive work environments that reduce stress for CS personnel. This can include manageable shift lengths, regular breaks, emotional support resources, and access to training to handle difficult situations. Reducing stress can enhance employee well-being, which in turn may lead to more positive and effective interactions with customers.

Communication challenges, due to limited language skills, were another concern raised in online reviews. To address this, managers can establish stricter language and cultural fluency standards during agent recruitment, or even partially insource CS operations to regain control over E-SQ.

Disrupted communication, such as perceived intentional hang-ups and long wait times, can contribute to dissatisfaction. To reduce friction, managers can implement reliable hardware, call-back systems, intelligent routing to minimize transfers, and real-time monitoring tools to effectively manage service queues.

Given the inconsistencies in E-SQ reported in online reviews, managers are encouraged to establish standardized service protocols and key performance indicators to ensure consistency. Regular team meetings and performance feedback can help reinforce these standards and foster a culture of learning.

Artificial interactions, such as automated chatbots or voice assistants, were found to be unreliable in some cases. If such technologies are used, managers must ensure they are thoroughly tested to verify whether they can effectively handle common scenarios. The artificial interaction should be regularly monitored by staff, and customer feedback should be used to assess and improve automated support systems.

Returns and refunds also emerged as prominent topics in online reviews, indicating that a substantial portion of CS efforts is dedicated to these tasks. As mentioned before, managers should consider measures to reduce return rates, which could lead to decreased utilization of the CS and, in turn, increase efficiency and reduce costs. Additionally, if e-retailers offer repair services, managers may consider offering status updates or appointment booking systems to streamline the experience.

Compensation for service failures remains a sensitive topic. Managers are advised to define clear compensation guidelines, train CS agents on when and how to offer them, and monitor patterns of abuse.

In conclusion, while CS is a substantial and complex area within e-retail, there remains room for improvement in both human and automated support interactions. Managers are encouraged to continuously optimize this area to support employee well-being and maintain high levels of customer satisfaction.

The following section turns to the managerial implications of the CP dimension.

6.3.9 Customer Protection

This section discusses the managerial implications of the CP dimension, which is essential for safeguarding customer well-being in e-retail settings.

As e-retail continues to grow in scale and complexity, protecting customers from various risks—ranging from data breaches to product-related issues—should be an essential aspect of responsible business practice.

CP can be viewed as a core managerial responsibility with ethical and operational significance. This area warrants close attention because it has the potential to affect customers' privacy, safety, health, and financial security. For example, concerns may arise if a customer's data is misused, a product compromises their health, or financial fraud occurs due to insufficient security measures.

The potential consequences of CP failures can be severe. While such cases may be rare, even a single incident involving injury, illness, or privacy violation could lead to reputational harm and legal or financial liability for an e-retailer. Therefore, managers should establish systems that proactively mitigate these risks.

Accordingly, managers are encouraged to implement measures that safeguard customer data, secure financial transactions, and ensure the safety of delivered and installed products. This can be achieved by using encrypted payment gateways (e.g., SSL/TLS protocols), implementing two-factor authentication, and regularly updating cybersecurity protocols to prevent cyberattacks. For product safety, managers should require supplier certifications, perform regular quality checks, and provide clear handling instructions. This includes complying with applicable consumer protection laws and product safety regulations. If issues arise, managers should be prepared to take corrective action, such as issuing product recalls, contacting affected customers proactively, offering refunds or replacements, and transparently communicating about the issue and resolution process. Additionally, managers should closely monitor customer feedback for any indications of safety issues, as early detection can help prevent more significant damage and facilitate prompt corrective action.

In summary, CP requires thoughtful planning and ongoing monitoring. Managers may benefit from approaching this area as both a risk mitigation activity and a contributor to long-term customer trust.

The following section turns to the managerial implications of the Electronic Word-of-Mouth Trustworthiness dimension.

6.3.10 E-WOM Trustworthiness

This section outlines managerial implications related to the E-WOM Trustworthiness dimension, which plays a critical role in shaping customer perceptions and influencing purchase decisions throughout the customer journey.

The six e-retailers examined in this study currently appear not to offer customers the option to rate or review their service directly on their company websites. Managers are encouraged to implement a service rating function on their UIs to collect valuable customer feedback. This feedback can be used to enhance E-SQ, improve POs, and identify and resolve recurring issues more efficiently. Moreover, providing such a feature may increase transparency and strengthen customer trust in the e-retailer. It is therefore advisable for managers to implement a review feature directly on their company's UI.

The study also identified instances where customers expressed concerns about the presence of fake reviews on e-retail platforms. This is a challenging issue, as inauthentic reviews—whether overly positive or deliberately negative—can distort customer trust in E-WOM and potentially impact purchase behavior. For example, fake positive reviews may set unrealistic expectations, while false negative reviews may unfairly damage a firm's or product's reputation. Given the high volume of reviews, it is likely impractical for managers to verify each one manually. Tools such as Fakespot (n.d.), which use AI to detect fake reviews and scams, offer a scalable solution for maintaining review authenticity.

In summary, managers should consider offering direct review functionality and implementing AI-supported tools to promote the authenticity of reviews. The following section addresses the managerial implications of the ESEE dimension.

6.3.11 Ethical, Social, Economic, and Environmental Aspects

This section discusses the managerial implications of the ESEE dimension.

As outlined in this study, ESEE may influence E-SQ across all stages of the customer journey. Although ESEE has not yet been a primary focus in traditional E-SQ frameworks, this study suggests that it deserves careful attention from managers seeking to align E-SQ with consumer values, societal expectations, and long-term sustainability goals.

The ESEE dimension represents a fundamental consideration in the context of E-SQ. Managerial decisions aimed at improving E-SQ are likely to have broader ESEE implications. For instance, integrating accessibility features into the UI is not only a functional enhancement but also an ethically and socially responsible practice that promotes inclusivity for individuals with impairments.

Accordingly, managers should assess the broader ESEE impact of their E-SQ initiatives. This can be achieved by conducting sustainability audits and consulting accessibility guidelines, such as the Web Content Accessibility Guidelines (WCAG) (World Wide Web Consortium, 2023). Managers should also emphasize cross-departmental planning to ensure that ESEE-related objectives, such as reducing environmental impact or promoting fair access, are reflected in decision-making across the company's operations.

Management's ESEE considerations also offer tangible benefits to the firm. For example, reducing packaging materials can contribute to environmental sustainability while lowering packaging costs. Designing inclusive websites not only aligns with ethical best practices but also helps expand the customer base. Offering fair and transparent pricing supports access for lower-income consumers and can lead to increased sales. Furthermore, providing accurate and honest product information can reduce the likelihood of product returns and improve customer satisfaction.

These examples suggest that integrating ESEE considerations into E-SQ management can generate value by enhancing customer experiences, supporting corporate responsibility, and contributing to improved business outcomes.

In summary, the ESEE dimension is central not only because of its ethical, social, economic, and environmental implications, but also because it can enhance the effectiveness of E-SQ initiatives and yield improved firm outcomes. The following section turns to the managerial implications of the Information Accuracy dimension.

6.3.12 Information Accuracy

This section outlines the managerial implications of Information Accuracy. The study suggests that accurate, clear, and transparent information plays a vital role across the entire customer journey.

Managers should understand that Information Accuracy is essential to the functioning and credibility of their e-retail operations. Consumers who do not trust the information provided are unlikely to complete a purchase. Moreover, inaccurate information can lead to service disruptions and increased operational costs. For example, incorrect address data can result in delivery failures and generate additional costs related to replacements or refunds. Misleading or manipulated product reviews can lead to unmet customer expectations, resulting in returns and dissatisfaction. Similarly, unsubstantiated claims about a positive environmental impact could raise concerns about greenwashing and damage the firm's reputation.

These examples suggest that Information Accuracy may not only affect customer satisfaction but also may have implications for efficiency, ethics, and brand trust. Managers are therefore advised to implement robust systems to ensure that all information is current, correct, and transparent. This can include using spelling and grammar correction tools; assigning internal responsibilities for content accuracy (e.g., teams responsible for accurate product information) and training staff to report information inaccuracies; and proactively updating customers via email, SMS, or other notifications when issues arise, such as delays, pricing errors, or product unavailability.

By taking these steps, managers can reduce customer confusion and minimize operational issues caused by wrong information.

In summary, Information Accuracy appears to be critical to minimizing service errors and upholding ethical standards. E-retail managers should prioritize delivering precise and timely information to support a seamless customer journey and avoid reputational or financial risks.

The following section addresses the managerial implications of the Personalization dimension.

6.3.13 Personalization

This section discusses the managerial implications of the Personalization dimension, which plays a crucial role in shaping the individual customer experience. Personalization refers to tailoring the e-retail experience to meet the specific needs and preferences of each customer throughout their journey.

Personalization is considered one of the foundations of E-SQ. Managers should aim to create a personalized customer experience that benefits the customer by quickly finding the right products, prices, delivery options, and payment methods, and tailoring CS to meet the individual needs. To support this, managers are encouraged to implement AI-driven product recommendation engines, dynamic content personalization tools, customer-controlled preference settings, and preference-based filtering systems.

Personalization may be disrupted when customer accounts are faulty, hacked, or inaccessible. To avoid this, managers are advised to establish a reliable and secure user account system that incorporates two-factor authentication, regular security updates, and straightforward recovery options to ensure continuous and secure access.

Overly intrusive advertising that does not align with customer interests, meaning it is not truly personalized, can also negatively affect the experience. At the same time, excessive personalization may become problematic. If customers receive product recommendations that technically match their profile but

feel invasive, this can reduce trust and create discomfort. Thus, managers should strike a careful balance by implementing systems that are neither too generic nor overly intrusive.

In conclusion, effective personalization requires a thoughtful approach that respects customer boundaries while offering relevant experiences.

With the discussion of the final E-SQ dimension complete, the following conclusion summarizes the managerial implications.

6.3.14 Section Summary: Managerial Implications

The general and specific managerial implications presented in this study help managers better understand, evaluate, and improve E-SQ. This study's results suggest that E-SQ in e-retail is a multifaceted concept that necessitates cross-functional planning throughout the customer journey. Therefore, this study encourages managers to adopt a customer journey perspective. Consequently, E-SQ should be understood as the outcome of a coordinated, reliable, and ethically grounded service system that spans the entire customer experience.

The E-SQ dictionary, the proposed E-SQ conceptual language, and the triangulated methodology developed in this study offer not only theoretical insights but also practical tools for analyzing customer needs and identifying the industry's best practices. Furthermore, several strategies, tactics, and tools were presented to support managers in concrete ways to enhance E-SQ. Together, these resources can help managers enhance E-SQ throughout the customer journey.

Considering the ongoing digital transformation, evolving consumer expectations, and increasing competitive pressure, managers are encouraged to critically reflect on their current E-SQ strategies using the findings and recommendations of this study. This study may serve as a helpful starting point for designing service offerings that are both operationally effective and meaningful to customers.

While the above can help managers enhance their E-SQ, it is essential to acknowledge that the study also has certain limitations that future research can address. This is discussed in the following section.

6.4 Limitations and Future Research Directions

This study has limitations that future research may address.

Regarding the analysis of literature, the scope was primarily restricted to research specific to E-SQ and the customer journey. Future studies could broaden this perspective by engaging with adjacent domains

such as customer experience (Lemon & Verhoef, 2016), customer satisfaction (Oliver, 2010), and consumer behavior (Kotler & Keller, 2006). Positioning E-SQ research within these wider academic conversations will enable stronger theoretical integration and more impactful contributions.

Moreover, this study was limited to English and German sources due to language constraints. Future research could incorporate literature in other languages, such as Chinese, to reflect insights from additional markets, particularly the prominent and influential Chinese e-retail sector. Since E-SQ is also relevant in other service-based industries, such as healthcare, aviation, and banking, future research may explore cross-industry applications through meta-analyses to develop a more universally applicable E-SQ concept.

The empirical focus of this study was on major U.S. e-retailers. As such, smaller or e-retailers outside the U.S. were not included. Future research could expand the sample to encompass a broader range of firms across various markets and regions, thereby enhancing the generalizability of the findings.

In terms of customer feedback, this study relied exclusively on online reviews. Future work could explore other sources of customer feedback, such as email communication, blog posts, or social media content, to provide additional perspectives.

Data collection posed several practical challenges. Downloading online reviews was time-intensive and technically demanding. Future research could benefit from more advanced software tools for efficiently collecting large volumes of customer feedback. AI tools, while already helpful in this study, were still limited in capacity and reliability during the research period. However, rapid technological progress suggests that AI will soon enable more scalable and in-depth analysis of unstructured data.

The website evaluation also had methodological constraints. First, this study analyzed only the customer-facing elements of e-retail websites and did not assess backend functionalities. Future studies could collaborate with e-retailers to explore internal processes. Second, the focus was limited to websites, excluding mobile apps and other sales channels, such as social media stores. Third, the manual evaluation of websites was time-consuming; automated approaches could improve the scalability of such assessments.

Finally, e-retail is a dynamic and rapidly evolving market. While this study presents a contemporary E-SQ concept based on current practices, continuous developments in technology and consumer expectations necessitate regular revision and refinement of this framework.

In summary, this study presents a robust and forward-looking E-SQ concept tailored to today's e-retail landscape. At the same time, it identifies multiple avenues for further inquiry, such as expanding disciplinary perspectives, increasing global representation, and applying advanced technologies, to ensure that E-SQ theory continues to evolve and develop.

7 Conclusion

This concluding chapter summarizes the key insights and broader implications of the study. It begins by restating the RQ, followed by a discussion of the study's contributions to academic knowledge and managerial practice. The chapter concludes with a proposed definition of E-SQ in the context of e-retail.

This study's RQ was: "Which E-SQ aspects should be integrated into a contemporary and comprehensive E-SQ concept for e-retail?" It can be concluded that this study has answered the RQ and established a detailed E-SQ concept that contributes to theory and practice.

Turning first to the contributions of this study to theory. This research has supported existing E-SQ dimensions and factors and introduced several new ones. These findings were integrated into the proposed E-SQ concept of this study. It appears that this concept encompasses more dimensions and factors than previous ones, making a significant contribution to the E-SQ field. Furthermore, this study appears to be the first to structure E-SQ along the customer journey explicitly.

The proposed E-SQ concept consists of eleven dimensions: (1) User Interface, (2) Product Offering, (3) Price, (4) Purchase Process, (5) Fulfillment, (6) Customer Service, (7) Customer Protection, (8) E-WOM Trustworthiness, (9) Ethical, Social, Economic, and Environmental Aspects, (10) Information Accuracy, and (11) Personalization. These are supported by 63 E-SQ factors, 37 of which are newly proposed. Novel factors, such as User Interface Accessibility for Individuals with Impairments, User Interface Responsive Design, Fulfillment Delivery Location Accuracy, and Customer Service Language Skills, address E-SQ aspects that have been underrepresented in prior research. In addition, four dimensions—Customer Protection; E-WOM Trustworthiness; Ethical, Social, Economic, and Environmental Aspects; and Information Accuracy—are positioned as central and novel components of E-SQ.

The following paragraphs address this study's theoretical contributions to E-SQ theory dimension by dimension, beginning with the UI dimension.

This study's novel E-SQ concept significantly widens the scope of E-SQ research beyond websites by considering the entire e-retailer UI, including mobile shopping apps, voice-controlled devices, digital kiosks, and other platforms. Regarding the UI, the study proposes two new major E-SQ factors: Accessibility for Individuals with Impairments and Responsive Design. Despite the ethical obligation for inclusive UIs and the immense market of mobile e-retail, academic research may have overlooked these significant E-SQ factors. Moreover, this study proposes that the aesthetic design of a UI should not rely solely on visual elements, but also appeal to all human senses, including hearing, smell, and touch. While this multisensory approach may not yet be fully realized in current practice, it presents a direction for future UI research and development. In summary, this study has widened the scope of E-SQ by introducing two

major new E-SQ factors related to the UI and by arguing that all human senses must be considered when designing the UI.

Regarding the PO dimension, the study introduces Product Authenticity and Product Warranty as novel major E-SQ factors. The rationale for considering these two E-SQ factors as major lies in the size of the corresponding market. Statistics demonstrate the large scale of the global fake product market. Furthermore, the market for extended product warranties is enormous, and the analysis observed that e-retailers display warranty offerings on their websites while reviewers frequently discuss warranties.

The study significantly expands the Price dimension by introducing Price Consistency Across Channels and Price Consistency Across Time as major new E-SQ factors. The study found that online and physical stores of the same e-retailer may not have the same prices. Furthermore, price fluctuations were a concern for reviewers.

Regarding the PP dimension, the study supports two major new E-SQ factors: Order Modification and Cancellation, which provide customers with the option to redirect, change, or cancel their order; and Charge Dispute, which occurs when customers question the accuracy of a payment.

This study supports four new major E-SQ factors related to the FF dimension. First, Delivery Location Accuracy refers to delivering the order to the correct address. Second, Pick-Up is about receiving online orders at a physical store or other location. Third, Digital Product delivery involves successfully delivering digital items, like software or videos. Fourth, Respectful Behavior refers to the politeness and courtesy with which delivery drivers and installation personnel interact with customers. These four major new E-SQ factors appear to be absent from existing literature, yet they are frequently referenced in online reviews, suggesting their relevance to e-retail practice.

This study supports six major new E-SQ factors within the CS dimension. First, Respectfulness refers to CS treating customers politely. Second, Competency addresses how effectively CS solves issues. Third, Contact Frequency refers to the number of contacts between a customer and CS to solve an issue. Fourth, Seamlessness is about not passing the customer across CS agents or departments. Fifth, Language Skills refer to the language abilities of the CS personnel. Sixth, Refund Timeliness addresses how fast the customer is reimbursed.

The study establishes CP as a fundamental concept that is essential throughout the complete customer journey. In contrast to prior literature, that appears to have only addressed transaction and data security, this study proposes a broader perspective, encompassing the following six E-SQ factors: (1) CP Data and Transaction Security, which addresses customer data safety and financial transaction security; (2) Compliance with Consumer Protection Legislation, which refers to e-retailers' adherence to laws that

safeguard customers; (3) Personal Health and Safety refers to the e-retailer's measures to protect customers' well-being, health, and security; (4) Fraud Protection is the measure that e-retailers use to safeguard customers from fraudulent activities; (5) the Recall Policy warns customers about unsafe products and facilitates their return; and (6) Emergency Management refers to rescuing the customer from loss, damage, or injury when things have gone wrong and this study identifies it as a more serious form of Service Recovery. All in all, the study proposes the introduction of CP as a new and overarching dimension in E-SQ literature.

E-WOM Trustworthiness addresses the honesty and believability of customer reviews. The study argues that it should be considered a novel overarching dimension because customers can read reviews before, during, and after the purchase, which may influence their buying decision. Highlighting the central role of E-WOM Trustworthiness is a significant contribution to the E-SQ field, which appears to have been neglected in prior research.

This study supports the notion that ESEE is a fundamental, overarching dimension, as it may influence all E-SQ factors along the customer journey. Considering ESEE appears to be new to the E-SQ field, it may be a significant contribution. Its high importance is underlined by the statements and efforts the e-retailers make regarding ESEE.

Finally, this study contributes to the E-SQ field by proposing the introduction of Information Accuracy and Personalization as two stand-alone overarching dimensions, as correct information and an individualized customer experience are essential at every stage of the customer journey.

Furthermore, this study has made a deliberate effort to validate existing E-SQ elements. This represents an important contribution, as E-SQ in the context of e-retail appears to have been largely overlooked by academia in recent years. As such, it was necessary to examine which elements from earlier E-SQ models remain relevant today. The findings suggest that several core elements from the existing literature remain central to the current e-retail environment.

The triangulation approach used in this study also appears to be novel within the E-SQ field. The combination of perspectives from the academic literature (through a systematic literature review), the e-retail customer (via a large-scale analysis of online reviews), and e-retail practice (through the evaluation of retailer websites) represents a promising new approach to investigating E-SQ in greater depth. To the author’s knowledge, neither a large-scale analysis of online reviews nor a structured website evaluation has previously been applied in the context of E-SQ in e-retail research. The presented methodology, which includes a practical E-SQ dictionary, should support future researchers and practitioners in further exploring and applying E-SQ concepts.

In addition, this study placed particular importance on clearly defining all E-SQ elements to ensure that readers can precisely understand each concept. To date, the existing literature appears to have made limited efforts to establish a consistent E-SQ terminology. This study addresses this gap by proposing a structured E-SQ vocabulary. Like any language, this terminology is intended to be discussed, refined, and further developed over time. Establishing a shared E-SQ language may help make the research field more accessible, coherent, and meaningful.

The study's contributions may also be relevant for e-retail practitioners who operate in an environment of constant transformation and high competitive pressure. As previously outlined, E-SQ has a significant impact on customer outcomes, including satisfaction, loyalty, and trust, and may thereby also influence broader firm performance. Therefore, E-SQ appears to be a critical factor in achieving e-retail success. This thesis's E-SQ concept offers e-retailer managers a clear, evidence-based blueprint for identifying strengths and weaknesses in their E-SQ. It supports them in designing service experiences that align with customer expectations. Furthermore, the methodological approach, particularly the integration of E-WOM analysis and website evaluation, can serve as a model for practitioners across industries and countries. Practitioners may also adopt the study's E-SQ dictionary, developed for this research, as a tool to monitor and analyze customer feedback. The insights gained through this framework could support the development of practical software solutions that utilize AI to quickly identify and evaluate E-SQ trends. Such software may lead to more responsive and customer-centric service improvements.

The thesis acknowledges that it presents only a snapshot of the constantly evolving and highly dynamic e-retail market. Technology, customer expectations, and service standards are continually evolving. Thus, this study invites future researchers to refine the proposed E-SQ concept and research methodology further to ensure its continued relevance and validity.

In summary, this thesis makes a meaningful contribution to E-SQ theory and practice by conceptualizing what SQ entails in the context of e-retail, presenting a comprehensive framework that integrates both existing and novel insights, and proposing a structured terminology for the field.

Finally, the study presents its definition of E-SQ, based on prior literature and the empirical findings of this thesis:

Electronic Service Quality (E-SQ) in e-retail refers to *the customer's evaluation of how well an e-retailer manages the virtual and physical processes involved in the e-retail customer journey. This includes interactions with the user interface (e.g., website or app), exploration of the product offering and price, navigation through the purchase process, and receipt of the product during the fulfillment phase. Additionally, E-SQ is shaped by customer service quality, customer protection measures, trustworthy electronic word-of-mouth, ethical, social, economic, and environmental considerations, the accuracy of*

information, and the degree of personalization. In short, E-SQ in e-retail refers to the quality of the processes that aim to fulfill the customer's needs.

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Appendix A

Provalis WordStat Topic Modelling Results

TOPIC	KEYWORDS	COHERENCE (NPMI)	EIGEN-VALUE	FREQ	CASES	% CASES
CUSTOMER SERVICE	SERVICE; CUSTOMER; HORRIBLE; TERRIBLE HORRIBLE CUSTOMER SERVICE; WORSE CUSTOMER SERVICE; CUSTOMER SERVICE IS TERRIBLE; AWFUL CUSTOMER SERVICE; TERRIBLE CUSTOMER SERVICE; CUSTOMER SERVICE IS HORRIBLE; CUSTOMER SERVICE IS NON EXISTENT; POOR CUSTOMER SERVICE; EXCELLENT CUSTOMER SERVICE; CUSTOMER SERVICE SKILLS; WORST CUSTOMER SERVICE; CUSTOMER SERVICE IS A JOKE; CUSTOMER SERVICE SUCKS; CUSTOMER SERVICE; GREAT CUSTOMER SERVICE; HORRIBLE SERVICE; BAD CUSTOMER SERVICE; LEVEL OF SERVICE; CUSTOMER SERVICE IS AWFUL; KIND OF CUSTOMER SERVICE; TERRIBLE SERVICE; CUSTOMER SERVICE TEAM; CUSTOMER SERVICE REPRESENTATIVES; AMAZON S CUSTOMER SERVICE; CUSTOMER SERVICE DEPARTMENT; CUSTOMER SERVICE EXPERIENCE; LACK OF CUSTOMER SERVICE; BUY S CUSTOMER SERVICE; CUSTOMER SERVICE REPS; WORST SERVICE; CUSTOMER SERVICE IS THE WORST; RUDE CUSTOMER SERVICE; EXCELLENT SERVICE; GOOD CUSTOMER SERVICE; POOR SERVICE; CUSTOMER SERVICE AGENTS; CUSTOMER SATISFACTION; APPLE CUSTOMER SERVICE; ABSOLUTELY TERRIBLE; CUSTOMER SERVICE DESK; CUSTOMER SERVICE PEOPLE; TALK TO CUSTOMER SERVICE; BEST BUY CUSTOMER; CUSTOMER SERVICE REPRESENTATIVE; AMAZON CUSTOMER SERVICE; CUSTOMER SERVICE AGENT; CALLING CUSTOMER SERVICE; ONLINE CUSTOMER SERVICE; TARGET CUSTOMER SERVICE; WORST CUSTOMER SERVICE EXPERIENCE; BUY CUSTOMER SERVICE; CUSTOMER SERVICE AND DELIVERY; CONTACT CUSTOMER SERVICE; ABSOLUTE WORST CUSTOMER SERVICE; CARE ABOUT CUSTOMER; WALMART CUSTOMER SERVICE; BAD SERVICE; EXTREMELY POOR; CUSTOMER SERVICE REP; TOP NOTCH; KIND OF SERVICE; SERVICE I RECEIVED; CORPORATE CUSTOMER SERVICE; CONTACTING CUSTOMER SERVICE; CUSTOMER SERVICE LINE; ABSOLUTELY AWFUL; CUSTOMER SERVICE CHAT; HORRIBLE HORRIBLE; CUSTOMER SERVICE PERSON;	0.276	1.78	21092	10231	33.49%

	ORDER; CANCEL; CANCELLED; CANCELED; ORDERS; ONLINE					
CANCEL THE ORDER	CANCELLED MY ORDER; CANCELLED ORDER; CANCELLED THE ORDER; ORDER CANCELLED; CANCEL AN ORDER; CANCELED MY ORDER; CANCEL ORDER; CANCEL THE ORDER; CANCEL MY ORDER; CANCELED THE ORDER; CANCELING THE ORDER; ORDER WAS CANCELLED; PLACE ANOTHER ORDER; CANCELING MY ORDER; ORDER WAS CANCELED; PLACE AN ORDER; ABLE TO CANCEL; CANCEL YOUR ORDER; ENTIRE ORDER; PLACE THE ORDER; PLACE ORDER; CALLED TO CANCEL; PART OF THE ORDER; PRE ORDER; SPUIAL ORDER; PLACING AN ORDER; PLACE MY ORDER; PART OF MY ORDER;	0.348	1.42	8650	4959	16.23%
	TIME; WASTE; WASTED; MONEY					
WASTE OF TIME	WASTE OF MY TIME; WASTE OF TIME; WASTE YOUR TIME; WASTE MY TIME; WASTE TIME; COMPLETE WASTE OF TIME; TOTAL WASTE; TIME AND ENERGY; WASTED MY TIME; TIME AND MONEY;	0.286	1.33	3848	3081	10.09%
	CARD; GIFT; CREDIT; CARDS; DEBIT; BALANCE					
CREDIT CARD GIFT	GIFT CARD; GIFT CARD BALANCE; CREDIT CARDS; TARGET GIFT CARD; GIFT CARDS; RED CARD; AMAZON GIFT CARD; BUY GIFT;	0.377	2.43	6256	2837	9.29%
	DATE; DELIVERY; DATES; DAY; PROMISED; GUARANTEED; SHIPPING					
DELIVERY DATE	DELIVERY DATES; PROMISED DATE; ESTIMATED DELIVERY DATE; GUARANTEED DELIVERY DATE; PROMISED DELIVERY DATE; EXPECTED DELIVERY DATE; PROMISED DELIVERY; DELIVERY DATE; GUARANTEED DELIVERY; EXPECTED DELIVERY; DAY DELIVERY;	0.361	1.40	4573	2667	8.73%
	APPOINTMENT; SCHEDULE; SCHEDULED; DELIVERY; RESCHEDULE; INSTALLATION; CALL; CALLED; DATE; RESCHEDULED					
SCHEDULED DELIV ERY APPOINT-MENT	SCHEDULE AN APPOINTMENT; SCHEDULED DELIVERY; SCHEDULED DATE; DELIVERY WAS SCHEDULED; SCHEDULED A DELIVERY;	0.449	1.22	4111	2490	8.15%
	EMAIL; RECEIVED; STATING; CONFIRMATION; TEXT; MESSAGE; RECEIVE					
RECEIVED AN EMAIL	RECEIVED AN EMAIL STATING; EMAIL STATING; RECEIVED ANOTHER EMAIL; RECEIVED THE EMAIL; RECEIVED AN EMAIL; RECEIVED EMAIL; CONFIRMATION EMAIL; EMAIL CONFIRMATION; EMAIL I RECEIVED;	0.365	1.50	2903	2056	6.73%
	REFUND; WAIT; ISSUED; REQUEST; DAYS; FULL; REPLACEMENT; REQUESTED					
FULL REFUND WAIT	REQUESTED A REFUND; REQUEST A REFUND; ISSUED A REFUND; PARTIAL REFUND; FULL REFUND; REFUND OR REPLACEMENT; RECEIVE A REFUND; REFUND PROCESS; RECEIVE MY REFUND; ASKED FOR A REFUND; DAYS FOR A REFUND; WANTED A REFUND;	0.348	1.24	2297	1683	5.51%

BANK STATEMENT DISPUTE THE CHARGE	DISPUTE; BANK; CHARGE; CHARGES; CREDIT; CARD; STATEMENT; CHARGED DISPUTE THE CHARGES; DISPUTE THE CHARGE; BANK STATEMENT; BANK CARD; FRAUDULENT CHARGES;	0.439	1.37	2515	1616	5.29%
MULTIPLE CALLS	CALLS; MULTIPLE; TIMES; NUMEROUS; EMAILS; PHONE; AFTER MULTIPLE CALLS; AFTER MULTIPLE; NUMEROUS CALLS; AFTER NUMEROUS; NUMEROUS TIMES;	0.355	1.28	1877	1512	4.95%
RETURN POLICY	RETURN; POLICY; RETURNS; EXCHANGE; RECEIPT; ACCEPT RETURN POLICY; RETURN EXCHANGE; ACCEPT THE RETURN; DAY RETURN POLICY; RETURN POLICIES;	0.350	1.45	2073	1400	4.58%
TRACKING NUMBER	NUMBER; TRACKING; INFORMATION; GAVE; PROVIDED; NUMBERS; PHONE TRACKING NUMBER;	0.342	1.26	1654	1207	3.95%
DRIVE MILES	MILES; DRIVE; STORE; DROVE; LIVE; TOWN; LOCAL DRIVE MILES; DROVE MILES; ROUND TRIP;	0.352	1.35	1523	1199	3.92%
STORE PICKUP CURBSIDE	PICKUP; CURBSIDE; READY; PICK; STORE CURBSIDE PICKUP; CURBSIDE PICK; GROCERY PICKUP; READY FOR PICKUP; STORE PICKUP;	0.371	1.56	1650	1171	3.83%
UPS TRACKING	UPS; USPS; FEDEX; PACKAGE; TRACKING; LOST; CARRIER; LABEL; TRANSIT; DELIVERED; PACKAGES UPS TRACKING; CARRIER FACILITY;	0.399	1.84	1679	1134	3.71%
WRONG ADDRESS	ADDRESS; WRONG; CORRECT; BILLING; DELIVERED WRONG ADDRESS; CORRECT ADDRESS; DELIVERED TO THE WRONG ADDRESS; BILLING ADDRESS; COMPLETELY WRONG;	0.283	1.36	1533	1114	3.65%
CARE ABOUT THEIR CUSTOMERS TREAT	CUSTOMERS; TREAT; RESPECT; CARE; EMPLOYEES; TREATED; LOYAL TREAT CUSTOMERS; TREAT THEIR CUSTOMERS; LOYAL CUSTOMERS; LOSE CUSTOMERS; CARE ABOUT CUSTOMERS;	0.341	1.64	1229	1038	3.40%
RESOLVE THE ISSUE	ISSUE; RESOLVE; PROBLEM; SOLVE; FIX; RESOLVED; ISSUES RESOLVE AN ISSUE; RESOLVE THE ISSUE; FIX THE ISSUE; RESOLVE MY ISSUE; RESOLVE THIS ISSUE;	0.328	1.44	1293	1026	3.36%
CLOSED MY ACCOUNT LOCKED	ACCOUNT; LOCKED; CLOSED; ACCESS; CLOSE; BANK; OPEN CLOSED MY ACCOUNT; LOCKED MY ACCOUNT; LOCKED OUT OF MY ACCOUNT; CLOSE MY ACCOUNT; ACCOUNT WAS HACKED;	0.318	1.23	1535	971	3.18%

TRUCK DRIVER	TRUCK; DRIVER; DRIVEWAY; HOUSE; DELIVERY TRUCK DRIVER;	0.386	1.23	1045	823	2.69%
BAD REVIEWS	REVIEWS; REVIEW; WRITE; NEGATIVE; READ; POSTED; WRITING; POST; HONEST WRITE REVIEWS; NEGATIVE REVIEWS; NEGATIVE REVIEW; HONEST REVIEWS; WRITE A REVIEW;	0.360	1.72	1122	691	2.26%
PRICE MATCH	PRICE; MATCH; HONOR; SALE; GUARANTEE PRICE MATCH GUARANTEE; PRICE MATCHING; PRICE MATCH; ADVERTISED PRICE; LOW PRICE; HONOR THE PRICE; ORIGINAL PRICE; LOWER PRICE;	0.342	1.47	1301	675	2.21%
FRONT DOOR	FRONT; DOOR; PORCH; LEFT; GARAGE FRONT DOOR; FRONT PORCH; KNOCK ON THE DOOR; GARAGE DOOR;	0.377	1.86	974	664	2.17%
PARTY SELLER	PARTY; SELLER; SELLERS; VENDOR; VENDORS; CONTACT PARTY SELLERS; PARTY VENDORS; PARTY SELLER; PARTY VENDOR; AMAZON SELLER;	0.330	1.43	963	653	2.14%
WASHER AND DRYER	WASHER; DRYER; LG WASHER DRYER; WASHER AND DRYER; DRYER SET; LG WASHER; LG WASHER AND DRYER; PURCHASED A WASHER AND DRYER; BOUGHT A WASHER AND DRYER; ORDERED A WASHER DRYER; ORDERED A WASHER; ORDERED A WASHER AND DRYER;	0.355	1.61	1774	646	2.11%
CARDBOARDBOX	BOX; MISSING; PARTS; DAMAGED; OPEN; OPENED; PIECES; BROKEN; ARRIVED; BOXES CARDBOARD BOX; OPENED THE BOX; OPEN THE BOX;	0.368	1.47	856	639	2.09%
INSTALLED CARPET	INSTALLED; INSTALL; CARPET; INSTALLER; INSTALLATION; INSTALLERS; WINDOWS; FLOORING; FLOOR	0.464	1.53	933	583	1.91%
BLACK FRIDAY	BLACK; FRIDAY; DEALS BLACK FRIDAY DEALS; BLACK FRIDAY; BLACK FRIDAY SALE; LIVES MATTER; BLACK FRIDAY DEAL;	0.261	1.30	688	466	1.53%
SPEAK ENGLISH	ENGLISH; SPEAK; UNDERSTAND; SPEAKING BARELY SPEAK ENGLISH; UNDERSTAND ENGLISH; SPEAK ENGLISH; ENGLISH LANGUAGE; ENGLISH SPEAKING;	0.339	1.40	512	438	1.43%
STAR RATING NEGATIVE STARS	STAR; RATING; STARS; DESERVE; NEGATIVE; RATE; OPTION; GIVING NEGATIVE STAR; STAR RATING; NEGATIVE STARS;	0.326	1.31	356	321	1.05%
POLICE REPORT	POLICE; REPORT; FILE POLICE REPORT; FILE A POLICE REPORT;	0.314	1.54	430	208	0.68%

DELIVERY INSTRUCTIONS FOLLOW	INSTRUCTIONS; FOLLOW; DRIVERS; PACKAGES; APARTMENT DELIVERY INSTRUCTIONS; DELIVER PACKAGES;	0.393	1.29	242	194	0.64%
INCONVENIENCE OFFERED	INCONVENIENCE; OFFERED; COMPENSATION; OFFER; DISCOUNT; CAUSED	0.286	1.30	174	149	0.49%
STATUS TRACKING	STATUS; TRACKING; CHECKED; UPDATED; UPDATE; CHECK CHECKED THE TRACKING;	0.331	1.20	167	144	0.47%
CHAT CONTACTED	CHAT; CONTACTED; SUPPORT CHAT SUPPORT;	0.298	1.21	146	131	0.43%
EXTREMELY HELPFUL FRIENDLY	HELPFUL; FRIENDLY; NICE; PROFESSIONAL; STAFF; SUPER FRIENDLY AND HELPFUL; EXTREMELY HELPFUL;	0.300	1.38	82	79	0.26%
AUTOMATED VOICE	AUTOMATED; VOICE; SYSTEM; HUMAN; MESSAGE	0.311	1.23	87	77	0.25%
UNPROFESSIONAL RUDE	UNPROFESSIONAL; RUDE; COMPLETELY; ABSOLUTELY; TOTALLY; INCOMPETENT; UNACCEPTABLE; RIDICULOUS	0.281	1.20	54	54	0.18%

Note. The WordStat Topic model is based on the review Dataset I (see Appendix D) used in this study.

Appendix B

Aston University
Aston Triangle
Birmingham
B4 7ET
0121 204 3000

Date: 12th September

Robin Morgenstern
Copy: Andrew Farrell
College of Business and Social Sciences

Dear Robin Morgenstern,

Study title:	Using Text Analytics to Understand Critical Incidents and Their Effects On the Online Customer Journey
REC REF:	#BSS21003

Confirmation of Ethical Opinion

On behalf of the Committee, I am pleased to confirm a favourable opinion for the above research on the basis described in the application form, protocol and supporting documentation listed below.

Approved documents

The final list of documents reviewed and approved by the Committee is as follows:

Document	***Version***	***Date***
Ethics Application Form	1	01/09/2022

With the Committee's best wishes for the success of this project.

Yours sincerely,

Dr Alexis Paton
Chair of the Business & Social Sciences Research Ethics Committee

Appendix C

Summary of Electronic Service Quality Literature

Study	Sector	Methodology	E-SQ insights
Szymanski, D. M., & Hise, R. T. (2000).	E-Retail	(1) Exploratory factor analysis with focus group interviews; (2) confirmatory factor analysis with quantitative online survey with 1,007 participants	**Convenience** • Total shopping time • Convenience • Ease of browsing **Merchandising—Product Offerings:** • Number of offerings • Variety of offerings **Merchandising—Product Information:** • Quantity of information • Quality of information **Site Design:** • Presenting uncluttered screens • Providing easy-to-follow search paths • Presenting information fast **Financial Security:** • Financial security of the transaction **Customer Satisfaction:** • Very dissatisfied • Very displeased

Study	Sector	Methodology	E-SQ insights

Zeithaml et al. (2000)	E-Retail	(1) Exploratory factor analysis with 6 focus group interviews	**Reliability**
			• Site is up and running
			  o Available for business
			  o Site does not crash
			  o Pages don't freeze after you have put in all your information
			  o Site is working correctly
			• Accuracy
			  o Received the item ordered
			  o Pages confirm exactly what was ordered
			  o Billing is accurate
			  o Information is accurate
			  o Items are in stock
			  o Items are available
			  o Items are available in my size
			  o Know that items are in stock
			  o Items are available in suitable time frame
			
			Responsiveness
			• Confirmation of order
			  o Received a confirmation of item ordered
			  o Quick confirmation
			  o Received an e-mail when order was sent
			  o Received information about when the order was coming
			  o Response time should be fast. "Time is Money"
			• Help available if there was a problem
			  o Message about what to do if your order doesn't go through (such as "Please submit again")
			  o Compensation for problems they create
			  o Taking care of me after the purchase
			  o E-mailing or otherwise following up my purchase and asking how satisfied I am
			  o Taking care of problems promptly
			  o Refund shipping charges when product doesn't arrive in time
			  o Fast response to e-mail queries
			• Speed of placing and order
			  o Speed of execution
			  o Ability to get answers to questions
			  o Quick delivery
			  o Updates on status of order
			
			Access
			• To the site
			  o Being able to get on the site quickly
			  o Loads fast (and not too many extraneous
			  o pictures)
			  o Site should be easy to find
			• To the company
			  o Contains a telephone number to reach company
			  o Ability to talk to a 'live' person using a telephone number
			  o Ability to talk to the person who processes the order
			  o Has online customer service reps
			
			Flexibility
			• Choice of ways to pay
			  o Would like to pay my way using checking account
			• Choice of way to ship
			  o Ability to use different billing and shipping addresses
			  o Ability to get the package without having to sign for it
			• Choice of ways to return the items
			  o Having a brick-and-mortar option to return the items
			  o Being able to return the items to a store
			• Choice of way to buy items
			• Options for the ways you can search
			• Full information about choices

Zeithaml et al. (2000) continued	o Options to be on an e-mail list but not receive junk mail **Ease-of-Navigation** • Easy to find what I need o Easy to get anywhere on the website o Shouldn't get you lost o Contains a site map with links to everything on the site • Has a search engine • Ability to maneuver through the site o Good user interface o Ability to find a page previously viewed o Being able to go back when you make a mistake • Speed of maneuvering through the site o Not too many web pages o Not too many graphics that take time to download • Speed of checkout **Efficiency** • Simple to use o Site that contains just the basics • Doesn't require me to input a lot of information • Structured properly o Gives information in reasonable chunks o Gives information on command rather than all at once o No scrolling from side to side o No fine print that is difficult to read and hard to find **Assurance/Trust** • Well-known site o Reputation of the site o Advertises on other media so that name is well known o Well known name • Sells known brand names o Provides clear information about the products o More description along with the pictures o Objective information o Being able to see the products clearly • Offers a guarantee • Ratings provided by the customers **Security/Privacy** • Secure site o Symbols and messages that signal the site is secure o Verification from third parties • Shows care in how it collects my credit card information o Not having to give my credit card information until right at the end o Doesn't keep my credit card information on file • Does not share private information o Personal information should not be compromised o Doesn't give other sites or companies access to my information o Doesn't use banner ads with cookies to collect information on me o Doesn't give my information away to other companies **Price Knowledge** • Speed of maneuvering through the site o Not too many web-pages o Not too many graphics that take time to download • Ability to compare prices (with other sites) o A site that brings you all the bids/prices from other sites • Knowledge of Shipping Prices o Want to know up-front what shipping charges are o Knowledge of what I am spending as I go o Running total of purchases as the order progresses o Running total of purchases and shipping costs o Prices shown with the items on the screen

Zeithaml et al. (2000) continued	○ Up-front pricing • Knowledge that site has low prices ○ Incentives to shop ○ Knowing that shipping is free ○ Knowing that a discount coupon is available **Site Aesthetics** • Good pictures of items on sale ○ Color of items same as what it is on the screen. • Eye catching ○ Color is intriguing ○ Brighter rather than dark background • Simple ○ Free of distraction ○ Uncluttered ○ Clean, not too busy ○ No flashing things going across the screen ○ Not too much movement ○ No or few advertisements **Customization/Personalization** • Sites that help me find exactly what I want ○ Sites that make recommendations about what I might like ○ Site is targeted to me ○ Has a wish list capability that allows me to save items I might want to buy • Gives many options for merchandise ○ Wide selection • Easy to customize • Stores customer information to facilitate future transactions

Study	Sector	Methodology	E-SQ insights
Barnes & Vidgen (2000)	Websites in general	Exploratory factor analysis with student quality workshop. Online survey with 46 participants.	**Ease of Use** • Navigation • General ease of use **Experience** • Visual impact • Individual impact **Information** • Finding information • Information content • Communication. & Integration: • External integration • Communication
Yoo & Donthu (2001)	E-Retail	Exploratory factor analysis with student sample survey. 69 participants.	**Ease of Use** **Aesthetic Design** **Processing Speed** **Security**
Francis & White (2001).	E-Retail	Exploratory factor analysis with 14 in-depth interviews	**Website** **Product offering** **Company Information** **Transaction System** **Product Possession** **Interaction with the firm.**
Francis & White (2002).	E-Retail	Confirmatory factor analysis with structured questionnaire; participant 302 Australian online shoppers.	**Web store functionality** **Product attribute description** **Ownership conditions** **Delivered products** **Customer Service** **Security**
Barnes & Vidgen (2002)	E-Retail (online bookstores)	Confirmatory factor analysis with structured questionnaire; participants students and University staff. 376 participants.	**Usability** • Site is easy to learn and to operate • Interaction with the site is clear and understandable • Site is easy to navigate • Site easy to use • The site has an attractive appearance • The design is appropriate to the type of site • The site conveys a sense of competency • The site creates a positive experience for me **Information** • Site provides accurate information • Site provides believable information • Site provides timely information • Site provides relevant information • Site provides easy to understand information • Site provides information at the right level of detail • Site presents the information in an appropriate format **Service Interaction** • Has a good reputation • It feels safe to complete transactions • My personal information feels secure • Creates a sense of personalization • Conveys a sense of community • Makes it easy to communicate with the organization • I feel confident that goods/services will be delivered as promised

Study	Sector	Methodology	E-SQ insights
Francis & White (2002) (PIRQUAL)	E-Retail	A questionnaire that measured the difference between consumer expectations and perceptions of ESQ.	**Website** **Transaction system** **Delivery** **Customer service** **Security**
Janda et al. (2002)	E-Retail	The authors conducted two studies. (1) Qualitative in-depth interviews; (2) multi-item scale survey with 446 participants.	**Order Fulfillment Performance** **Ability to provide products from anywhere** **Security of financial transactions and personal data** **Sensation of interactive web-site features** **Information quantity and credibility**
Loiacono et al. (2002)	E-Retail	Literature review and in-depth interviews with web designers and users. Quantitative surveys with 510; 336; 311 participants	**Informational fit-to task** **Tailored Communications** **Trust** **Response Time** **Ease of Understanding** **Intuitive Operations** **Visual Appeal** **Innovativeness** **Emotional Appeal** **Consistent Image** **Online Completeness** **Relative Advantage**
Zeithaml (2002)	E-Retail	Discussion of earlier findings	**Efficiency** **Fulfillment** **Reliability** **Privacy**
Gounaris & Dimitriadis (2003).	E-Retail	Structured questionnaires with 429 and 174 participants.	**Customers Care and Risk Reduction Benefit** • Concern for the User • Ease of Communication with Customer Service • Security of Transactions • Prompt responses on queries and emails • Security of Personal Information **Information Benefit** • Reliable Information • Complete Information • Covering of Personal Interests • Up to Date Information • Information Matchin Personality and Lifestyle **Interaction Facilitation Benefit** • Portal's Technology • Portal's Speed • Portal's Functionality

Study	Sector	Methodology	E-SQ insights
Santos (2003)	E-Retail	30 focus groups with each group of 6-10 members held in a UK business school.	**Incubative Dimensions** • Ease of Use • Appearance • Linkage • Structure & Layout • Content **Active Dimensions** • Reliability • Efficiency • Support • Communication • Security • Incentive
Holloway & Beatty (2003)	E-Retail	First phase 30 qualitative unstructured interviews. Second phase, critical incident study with 295 participants.	**Delivery problems** • Purchase arrived later than promised • Purchase never delivered • Wrong item delivered • Wrong size product delivered • Purchase damaged during delivery **Website design problems** • Navigational problems at site • Product poorly presented at site • Insufficient information provided at site • Products incorrectly listed at site as in stock • Incorrect information provided at site **Customer service problems** • Poor customer service support • Poor communication with the company • Unfair return policies • Unclear return policies **Payment** • Credit card overcharged • Website purchasing process confusing • Difficulties experienced while paying • Problems with product quality • Consumer dissatisfied with product quality **Security problems** • Credit card fraud • Misrepresented merchandise • Email address released to emarketers **Miscellaneous** • Respondent unintentionally made mistake at site • Retailer charged some customers more than others • Lack of personalized information at site **Others**

Study	Sector	Methodology	E-SQ insights
Wolfinbarger & Gilly (2003) eTailQ	E-Retail	9 focus groups, sorting task, and an online survey of a customer panel with 1,013 participants	**Website design** • The organization and layout of the website facilitate searching for products. • The search function gives me useful results. • It's really fun to shop at this website. • The website is visually appealing. • This website has good selection. • The site almost says, "come in and shop." • The site has a wide variety of products that interest me. • I can go to exactly what I want quickly. • The website's appearance is professional. • The website provides in-depth information. • The level of personalization at this site is about right, not too much or too little. • The site doesn't waste my time. • It is quick and easy to complete a • transaction at this website. **Customer service** • When you have a problem, the website shows a sincere interest in solving it. • Customer service personnel are always willing to help you. • The company is ready and willing to respond to customer needs. • Inquiries are answered promptly. • Returning items is relatively straightforward. **Fulfillment/reliability** • The product that came was represented accurately by the website. • The product is delivered by the time promised by the company. • You get what you ordered from this site. **Security/privacy** • I feel like my privacy is protected at this site. • The website has adequate security features. • I feel that I can trust this website. • I feel safe in my transactions with this website.

Study	Sector	Methodology	E-SQ insights
Parasuraman et al. (2005) E-S-QUAL	E-Retail	Questionnaire with 549 participants	**<u>ESQUAL (Scale)</u>** **Efficiency** • This site makes it easy to find what I need. • It makes it easy to get anywhere on the site. • It enables me to complete a transaction quickly. • Information at this site is well organized. • It loads its pages fast. • This site is simple to use. • This site enables me to get on to it quickly. • This site is well organized. **Availability** • This site is always available for business. • This site launches and runs right away. • This site does not crash. • Pages at this site do not freeze after I enter my order information. **Fulfillment** • It delivers orders when promised. • This site makes items available for delivery within a suitable time frame. • It quickly delivers what I order. • It sends out the items I ordered. • It has in stock the items the company claims to have • It is truthful about its offerings. • It makes accurate promises about delivery of products. **Privacy/Security:** • It protects information about my webshopping behavior. • It does not share my personal information with other sites. • This site protects information about my credit card. **<u>ERecSQUAL</u>** **Responsiveness** • It provides me with convenient options for returning items. • This site handles product returns well. • This site offers a meaningful guarantee. • It tells me what to do if my transaction is not processed. • It takes care of problems promptly. **Compensation** • This site compensates me for problems it creates. • It compensates me when what I ordered doesn't arrive on time. • It picks up items I want to return from my home or business. **Contact** • This site provides a telephone number to reach the company. • This site has customer service representatives available online. • It offers the ability to speak to a live person if there is a problem.

Study	Sector	Methodology	E-SQ insights
Collier & Bienstock (2006)	E-Retail	Online consumer surveys with 266 and 334 participants.	**Process dimension:** • Functionality • Information accuracy • Design • Privacy • Ease of use **Outcome dimension:** • Order accuracy • Order condition • Timeliness **Recovery dimension:** • Interactive fairness • Procedural fairness • Outcome fairness
Fassnacht & Köse (2006)	E-Retail/ Electronic Services	Literature review	**Graphic Quality** **Clarity of Layout** **Attractiveness of Selection** **Information Quality** **Ease of Use** **Technical Quality** **Reliability** **Functional Benefit** **Emotional Benefit** **Environment Quality** **Delivery Quality** **Outcome Quality**
Bauer et al. (2006)	E-Retail	Exploratory and confirmatory factor analysis with literature review, semi-structured interviews, and structured questionnaire with 384 participants.	**Functionality/design** • Efficiency of navigation • Accessibility of relevant content • Clarity of the Web site • Relevance of information • Timeliness of information • Visual appeal • Professional Web site design **Enjoyment** • Personalization of information and offerings • Fun of using the Web site • Excitement when shopping online • Entertainment provided by the Web site **Process** • Availability of the Web site • Stability of data transmission • Efficiency of online order processing • Waiting time **Reliability** • Timeliness of order delivery • Accuracy of order delivery • Product availability • Breadth and depth of product range • Encoding of personal information • Confidentiality **Responsiveness** • Availability of alternative communication channels • Return policy • Availability of service personnel • Promptness of reactions to requests

Study	Sector	Methodology	E-SQ insights
Holloway & Beatty (2008)	E-Retail	Critical incident study with 661 participants.	**Website Design/Interaction** • **Website Information Quality** ○ Inadequate information at the website ○ Incorrect information at the website • **Website Organization/Design/Navigation** ○ Website design/organization is good ○ No technical or navigational problems at the website • **Purchase Process** ○ Difficulties with making payment online ○ Website purchasing process was too difficult • **Website Convenience/Ease of Use** ○ Convenience associated with online shopping ○ Easy to use website • **Shipment Tracking** ○ Confirmation/tracking number provided for shipment • **Product Selection** ○ Good selection/diversity of product offerings ○ Had products not offered in offline stores • **Merchandise Stock Availability** ○ Items listed at the website were out of stock • **Price of Offerings** ○ Discounts or free shipping involved with purchase ○ Availability of low prices ○ Lower prices than available in offline stores **Fulfillment/Reliability** • **Timeliness of Delivery** ○ Purchase arrived later than promised ○ Purchase never arrived ○ Purchase arrived on time ○ Purchase arrived earlier than planned or promised • **Order Accuracy** ○ Wrong size product delivered ○ Wrong item delivered • **Delivery Condition** ○ Merchandise damaged during delivery • **Billing Accuracy** ○ Credit card billing was incorrect • **Merchandise Quality** ○ Quality of merchandise/item was not as expected or promised ○ Quality of merchandise/item was as expected or promised ○ Product purchased was of poor quality **Customer Service** • **Service Level** ○ Good service provided ○ Poor communication with the company ○ 800 number for customer service provided ○ Poor customer service support **Return Handling/Policies** ○ Unclear return policies ○ Unfair return policies ○ Good exchange/return policies **Security/Privacy** • **Security** ○ Credit card fraud ○ Secure website (felt safe) • **Privacy** ○ No problems with email solicitations after purchase ○ Email address released to emarketers

Study	Sector	Methodology	E-SQ insights
Blut et al. (2015)	E-Retail and Banking	Meta-analysis	**Website design:** • Information quality • Website organization • Purchase process • Website convenience **Product selection:** • Merchandise availability • Price offerings • Website personalization • System availability **Fulfillment:** • Timeliness of delivery • Order accuracy • Delivery condition • Customer service **Service level** • Return policy **Security** • Security • Privacy
Blut (2016)	E-Retail	Survey with 358 participants	**Website Design** • The information on the website is sufficient for task completion. • The website meets my information needs. • The information provided is effective. • The website is visually pleasing. • It has a visually appealing design. • The website's design is appealing. • No difficulties with making payments online. • The purchasing process is easy. • The website is more convenient than traditional communication methods (e.g., phone). • Display pages are easy to read. • Text on the site is clear and legible. • Labels are easy to understand. • The website enables me to complete all my business. • It offers a good selection of products. • The website provides a variety of products. • Products listed as available are in stock. • All items on the site are truly available. • Out of stock items are clearly identified. • Discounts or free shipping are offered. • The website offers competitive prices. • Prices are lower than offline stores. • Provides tailored information. • Interactive features assist task completion. • Supports personalized information retrieval. **Fulfillment** • Products are delivered on time. • Delivery occurs within a reasonable time frame. • Items are quickly delivered. • Products received match the order. • The items ordered are delivered. • The website's descriptions are truthful. • No damage to products during delivery. • Products arrive in good condition. • No major damages occur during shipment.

Blut (2016) continued			**Customer Service** • Provides a phone number for assistance. • Customer service representatives are available online. • Live assistance is offered if problems arise. • Convenient options for item returns. • Handles product returns efficiently. • Offers meaningful guarantees for returns. **Security/Privacy** • Transactions on the site feel secure. • The site has adequate security features. • Credit card information is protected. • Personal information is safeguarded. • Website administrators respect privacy. • Shopping behavior data is kept private. **Overall Quality** • Satisfied with the online retailer. • Approaches the ideal online retailer. • Consistently meets my needs. • Intends to continue using this retailer. • First choice for future transactions. • Plans to do more business with this retailer. • Shares positive feedback with others. • Recommends the retailer to others. • Encourages friends to use the retailer.
The American Customer Satisfaction Index (2024) (Practitioner)	E-Retail	Consumer Survey	• Quality of mobile app • Ease of checkout and payment process • Reliability of mobile app (minimal down time, crashes, lags) • Ease of navigation • Usefulness of product images • Variety and selection of merchandise (including brand names) • Clarity and usefulness of product descriptions • Site performance • Variety of shipping options • Availability of merchandise (specific models, colors, sizes) • Helpfulness of customer-generated product reviews • Helpfulness of customer support (live chat, help pages, call center) • Usefulness of site-generated recommendations of other products

Study	Sector	Methodology	E-SQ insights
Trusted Shops (n.d) (Practitioner)	E-Retail	None	• Identity & creditworthiness of the e-retailer are verified • Active buyer protection through Trustbadge • Compliance with consumer protection laws • Prices, price components, shipping and delivery costs, delivery times are transparently displayed and broken down. • Clear withdrawal procedure • Easily accessible Information on withdrawal processing, return modalities, and return costs • Order process is clear and understandable. • Products, services, prices, additional costs, and the order button are transparently presented on the checkout page. • Immediately incoming order confirmation via email lists the purchased products, prices, and any additional shipping costs. • Data transmission is secure and fully encrypted • Minimum of 4.0 stars in Trusted Shops reviews • Outstanding service communication • Quick response to buyer protection inquiries • Low buyer protection refund rate • Low refund rate

Note. The table's E-SQ insights are direct quotes in original writing and grammar.

Appendix D

Additional Content in BOX provided by Aston University

The study provides supplementary files stored in the BOX folder provided by Aston University.

READ ME-210224737.docx

This document serves as a navigation guide for BOX.

Abstract Thesis-210224737.docx

These files contain a shortened abstract (less than 300 words) of this doctoral thesis.

Thesis-210224737.docx and .pdf

This is the full version of the doctoral thesis.

Dataset I: TP -AMZ-APP-BB-HD-TG-WM-210224737.xlsx

This Excel file contains Dataset I, based on reviews from Trustpilot. It includes reviews on Apple, Amazon, Best Buy, Home Depot, Target, and Walmart.

ESQ ETAIL DICTIONARY-210224737.chg

This is the customized E-SQ dictionary developed by this study in the “chg” data format.

ESQ ETAIL DICTIONARY-210224737.wmodel

This is the customized E-SQ dictionary developed by this study in the “wmodel” data format.

ESQ ETAIL DICTIONARY-210224737.xlsx

This is the customized E-SQ dictionary developed by this study in the “xls” format.

Qualitative Review Analysis Dataset I-210224737.docx

This document contains customer reviews from Dataset I that were paraphrased.

Validation I - Dataset II - Fresh Trustpilot Dataset-210224737.docx

This document presents a new and independent Trustpilot dataset used for validation.

Validation II - Dataset III - Fresh ASOS Dataset-210224737.docx

This document provides the validation work for Dataset III.

Dataset III: ASOS-210224737.xlsx

This file includes a third dataset based on customer reviews downloaded from Trustpilot on ASOS.

Appendix E

ChatGPT Chat on 21st March 2024

This appendix documents a prompt given to ChatGPT for analyzing customer reviews about Walmart.com. It includes the full input provided by the user and the resulting categorized response in a two-column table format.

User Prompt:

Here are ten customer reviews about Walmart.com. Make bullet point lists of positive aspects and negative aspects:

1. I ordered a new bathroom scale for same day delivery. When I got it, the box was banged up and the scale was clearly used. Heck, it had footprints on it! They didn't even bother to clean it before charging me $20 for this thing which, by the way, has a broken display. I tried to start a return and it's telling me the thing's not eligible. So Walmart just flat-out conned me out of $20. Sh**bags.

2. Honestly you would do better having items shipped EBay, Amazon, or Target. Just don’t with Walmart.

3. The Walmart on 1960 & Eldridge NEVER answers the phones. This morning I started calling at 8:03 and it was exactly 8:25 before someone had enough sense to answer. Finally I talked to someone at Customer Service who resolved the issue, but the store staff and manager were unhelpful and poorly trained.

4. I am done shopping at Walmart! The worst delivery and customer service I’ve ever experienced! Packages left in unsafe places, stolen, and customer service denied help.

5. A Playstation 5 ordered by an elderly parent never arrived. Walmart said a driver picked it up, but it was never delivered. No resolution, no punishment for the driver.

6. Order submitted twice and cancelled both times due to Walmart's internal errors. One call center agent was especially rude. Told to wait 24 hours.

7. For years I spent $800/month with Walmart. I will stop shopping due to their LGBTQ Pride Month promotions.

8. The slowest website I have ever used. Freezes constantly. I usually give up.

9. I was harassed at a Walmart self-checkout in Parker, CO by an employee who screamed at me for not showing my receipt. Felt accused and mistreated.

10. Expected delivery by June 3, but didn't receive it even a week later. Called for a refund, was told to wait longer. Called it fraud.

ChatGPT Response

The comments offer a diverse view of Walmart's service, showing some clear areas where customers feel improvements could be made:

Positive Comments:

- Some customers report great purchase experiences and commendable customer service.
- There are improvements noticed in-store setups and offerings.

Negative Comments:

- Numerous delivery issues, with items either not arriving, being stolen, or delivered to the wrong address.
- Problems with customer service, including rudeness and ineffectiveness.
- Criticisms of Walmart's website for being slow and cumbersome to use.

- Unfavorable opinions regarding Walmart's social and cultural initiatives.
- Experiences of being overcharged or falsely accused by employees, and incidents of harassment within stores.
- Frustration with the return process, particularly with items marked as non-returnable.
- Complaints about product quality, including receiving used or damaged goods.
- Concerns about Walmart’s pricing and extra charges appearing post-purchase.

These comments suggest that while there are some positive customer experiences, there are significant issues that affect customer satisfaction, particularly related to delivery, customer service, and in-store experiences.