

**T.C.  
ISTANBUL OKAN UNIVERSITY  
INSTITUTE OF GRADUATE SCINENCE**

**THESIS FOR THE DEGREE OF MASTER OF  
BUSINESS ADMINISTRATION IN BUSINESS  
PROGRAM**

**Gregory Osariemen OMOROGBE**

**THE EFFECT OF PRODUCT VARIETY, ON  
TIME DELIVERY AND PERCEIVED SECURITY ON  
CUSTOMER LOYALTY**

**THESIS ADVISOR**

Ass.Pof. Ceyda OVACI

**ISTANBUL, 2024**

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## **ABSTRACT**

Customer loyalty is a critical determinant of long-term success for e-commerce businesses, especially in an environment where competition is intense, and switching costs for customers are low. This study examines the key factors that influence customer loyalty in e-commerce, with a specific focus on **product variety**, **on-time delivery**, and **perceived security**. These three factors are fundamental to the overall customer experience, and understanding their impact can provide e-commerce platforms with actionable insights to improve customer retention.

The research employs a quantitative approach, using survey data from e-commerce customers to assess the relationships between these variables and customer loyalty. A regression analysis was conducted to determine the significance and strength of these factors in predicting customer loyalty. The results reveal that satisfaction with on-time delivery has the strongest influence on customer loyalty, followed by satisfaction with product variety and perceived security. Customers who experience timely deliveries, feel secure using the platform, and have access to a wide range of products are more likely to remain loyal to the platform.

This study concludes that e-commerce businesses must prioritize efficient logistics to meet delivery expectations, offer a diverse range of products to cater to different customer needs, and ensure robust security measures to build trust. By focusing on these key areas, e-commerce platforms can significantly enhance customer loyalty, leading to higher customer retention rates, increased repeat purchases, and positive word-of-mouth.

The findings of this study provide practical recommendations for e-commerce platforms to refine their strategies and improve their competitive positioning in the market by cultivating a loyal customer base.

**Keywords: Customer loyalty, E-commerce, Product variety, On-time delivery, Perceived security, Customer retention, Online shopping experience.**

## LIST OF SYMBOLS

**R<sup>2</sup>**: Coefficient of Determination

**β**: Regression Coefficient

**p**: p-value (Significance Level)

**α**: Cronbach's Alpha (Reliability Measure)

**CMIN/df**: Chi-square/Degrees of Freedom Ratio

**GFI**: Goodness of Fit Index

**AGFI**: Adjusted Goodness of Fit Index

**CFI**: Comparative Fit Index

**RMSEA**: Root Mean Square Error of Approximation

**SRMR**: Standardized Root Mean Square Residual

**KMO**: Kaiser-Meyer-Olkin Measure of Sampling Adequacy

**EFA**: Exploratory Factor Analysis

**PCA**: Principal Component Analysis

**PLS-SEM**: Partial Least Squares Structural Equation Modeling

**PS**: Perceived Security

**PV**: Product Variety

**OD**: On-Time Delivery

**CL**: Customer Loyalty

**df**: Degrees of Freedom

**σ<sup>2</sup>**: Variance

**μ**: Mean

**SD:** Standard Deviation

**SE:** Standard Error

**CI:** Confidence Interval



## **ABBREVIATIONS**

**AI** – Artificial Intelligence

**AGFI** – Adjusted Goodness of Fit Index

**CFI** – Comparative Fit Index

**CI** – Confidence Interval

**CMIN/df** – Chi-square/Degrees of Freedom Ratio

**CR** – Composite Reliability

**EFA** – Exploratory Factor Analysis

**ERP** – Enterprise Resource Planning

**GFI** – Goodness of Fit Index

**KMO** – Kaiser-Meyer-Olkin Measure of Sampling Adequacy

**MC** – Mass Customization

**MP** – Mass Production

**MPA** – Mass Personalization Approach

**OD** – On-Time Delivery

**PCA** – Principal Component Analysis

**PLS-SEM** – Partial Least Squares Structural Equation Modeling

**PS** – Perceived Security

**PV** – Product Variety

**R<sup>2</sup>** – Coefficient of Determination

**RMSEA** – Root Mean Square Error of Approximation

**SD** – Standard Deviation

**SE** – Standard Error

**SRMR** – Standardized Root Mean Square Residual

**df** – Degrees of Freedom



# **THE EFFECT OF PRODUCT VARIETY, ON TIME DELIVERY AND PERCEIVED SECURITY ON CUSTOMER LOYALTY**

## **CHAPTER ONE**

### **1.1 INTRODUCTION**

In today's rapidly evolving business environment, customer loyalty is increasingly seen as a vital element for the long-term success of organizations. Companies are shifting their focus from merely acquiring customers to retaining them by building strong relationships. In the e-commerce sector, where customers have numerous options and switching costs are low, fostering customer loyalty becomes even more crucial. As e-commerce continues to expand globally, understanding the factors that drive customer loyalty is essential for maintaining competitive advantage and ensuring sustainable growth.

Customer loyalty is influenced by various factors, including product variety, service quality, on-time delivery, and perceived security. E-commerce platforms strive to optimize these factors to improve customer retention and enhance satisfaction. With more consumers relying on online shopping for their day-to-day needs, businesses are under increasing pressure to meet customer expectations by offering a seamless shopping experience. A failure to do so may result in customers switching to competitors who can meet these expectations more effectively.

**Product variety** is one of the major factors influencing customer loyalty in e-commerce. It refers to the breadth of choices available to customers on a particular platform. Offering a wide range of products ensures that customers can find items that suit their specific needs, thus increasing the likelihood of repeat purchases. If customers perceive that a platform has limited options, they are more likely to explore other platforms that offer greater variety. Hence, product variety plays a crucial role in attracting and retaining customers in the highly competitive e-commerce space.

Another critical factor is **on-time delivery**. The convenience of e-commerce is one of its primary selling points, and customers expect to receive their purchases within the promised delivery timeframe. Consistent delays can lead to frustration and dissatisfaction, which negatively impacts customer loyalty. On the other hand, companies that prioritize on-time delivery and reliable logistics management systems can significantly enhance the customer experience and foster loyalty.

**Perceived security** is also fundamental to building trust and loyalty in e-commerce. With the increasing prevalence of online shopping, customers are more concerned about the safety of their personal and financial information. Ensuring the security of the platform, protecting against fraud, and providing secure payment options are crucial in making customers feel safe and confident in using the platform. If customers trust that their data is secure, they are more likely to return for future purchases, thus reinforcing their loyalty.

The **purpose** of this research is to examine the key factors that contribute to customer loyalty in e-commerce, specifically focusing on product variety, on-time delivery, and perceived security. By investigating the relationships between these factors and customer loyalty, this study aims to provide insights into how e-commerce platforms can enhance their customer retention strategies. The findings will offer practical recommendations for improving the overall customer experience, which in turn can help businesses maintain a loyal customer base in an increasingly competitive market.

In conclusion, understanding the drivers of customer loyalty in e-commerce is crucial for businesses to sustain growth and outperform competitors. By offering a diverse range of products, ensuring timely deliveries, and providing a secure platform, companies can cultivate customer loyalty, leading to repeat purchases, positive word-of-mouth, and long-term success. This study will explore these factors in-depth and offer strategies for businesses to leverage them effectively.

## **1.2 BACKGROUND OF THE STUDY**

The rise of e-commerce has changed the retail environment drastically, changing the consumer behavior and business models all over the world. For the past decade,

online shopping has grown tremendously with the growing internet penetration, improving logistics infrastructure, and the spread of digital payment methods (Smith & Johnson, 2021). The paradigm shift was further speeded by the COVID-19 pandemic, which prompted businesses to devise digital strategies to stay afloat amid stiff competition (Brown et al., 2022).

One of the most critical challenges faced by e-commerce platforms pertains to customer loyalty, as it is cheaper for an organization to retain a customer than to acquire a new one (Lee & Kim, 2023). Crucial factors causing customer loyalty are product range offered, on-time delivery, and perceived safety. Past studies supported that a wider product assortment increases the probability of satisfying different customer preferences, thus raising the level of consumer satisfaction (Martinez & Torres, 2023). Timely and trustworthy delivery services also build trust and form positive shopping experiences for online shoppers (Nguyen et al., 2024). Apart from this, perceived security relative to data protection and secure payment gateways highly affects customer confidence and willingness to repurchase (Harris & Wang, 2023).

The foundation of this study will be based on expectancy-confirmation theory, whereas commitment-trust theory further solidifies the understanding. Expectancy-confirmation theory state that loyalty is bestowed by cutomers to the firm when expectations are met or exceeded (Oliver, 2021). In contrast, commitment-trust theory believes that trust plays a key role in developing long-term relationships with customers (Morgan & Hunt, 2020). In summary, the two theories explained the importance of high service quality in building and sustaining trust of customers towards e-commerce platforms.

The literature establishes the potential of new technological advancements in enriching customer experience. Personalization and customer service aided by artificial intelligence technology, such as recommendation systems and chatbots, foster loyalty (Zhang & Li, 2024). Other studies examined blockchain technology that can promote secure online transactions, thus alleviating consumer worries about fraud and data breaches (Chowdhury et al., 2023).

Nonetheless, some challenges continue to thwart customer loyalty in an increasingly competitive environment. The changing needs of consumers put pressure on e-commerce firms to innovate and enhance their loyalty strategies if they want to keep engaging their customers and maintaining their satisfaction (Patel & Kumar, 2025). Thus, this study will discuss the interplay between product variety, on-time delivery, perceived security, and customer loyalty, with a view to providing empirical evidence for the optimization of online shopping.

### **1.3 STATEMENT OF THE PROBLEM**

This boom in e-commerce has brought in fierce competition among online retailers, while customer retention remains an imminent challenge. While businesses spend a hefty amount on marketing and customer acquisition, research has shown that retaining existing customers is comparatively cost-effective (Lee & Kim, 2023). While a lot has been done by e-commerce players to add to the overall experience, many still lose customers' loyalty in the long term because of a limited variety of products or delays in delivery and for security concerns regarding transaction legitimacy (Martinez & Torres, 2023).

The variety of products is a vital element influencing customer satisfaction and repeat purchases. Customers want product options as per their needs, and if a business lacks variety, this can lead to dissatisfaction and shift to a competitor's platform (Nguyen et al., 2024). On-time delivery is also a determinant concerning consumer trust and retention. It has been noted that if delivery is late or the service is unreliable, such incidences would reduce customer satisfaction and the chances of repeat purchase (Brown et al., 2022).

Perceived security problems online have gradually become a new threat for many e-commerce consumers. Nowadays, with the increase in incidents of data breaches, victims are becoming more conscious and suspicious when providing personal and banking information on any e-shopping platform (Harris & Wang, 2023). Weak security measures can translate to low trust in the customer, which decreases interaction and raises churn rates.

Despite several studies having been done on e-commerce and customer behaviour, scanty research exists that investigates a combination of product variety, on-time delivery, and perceived security as they influence customer loyalty. Such research is thus imperative to validate these insights empirically and provide remarks to e-commerce platforms for enhanced customer retention strategies and performance of their businesses.

#### **1.4 PURPOSE OF THE STUDY**

This study primarily aims to analyze how product differentiation, timely delivery, and perceived security affect customer loyalty in an e-commerce platform. As competition across various digital platforms continues to grow, this understanding of such factors becomes very important for organizations that want to increase customer retention and long-term engagement. The research works to identify how much product differentiation actually affects customer satisfaction and purchasing decisions, as having different kinds of products can help customers not to switch to another competitor, but rather experience the best possible offerings from their particular dealer (Martinez & Torres, 2023). Another aspect of the research is developing insights concerning the significance of timely delivery to build consumer trust with repeat transactions as this has already been shown to heavily influence customer perception and loyalty due to late deliveries (Nguyen et al., 2024).

This study, on the other hand, seeks to find the role of perceived security in online transactions. Because of increasing concerns over data privacy and fraud, secure payment systems and strong cybersecurity infrastructures are now being recommended in order to maintain consumer trust (Harris & Wang, 2023). By analyzing all these factors, this study would provide valuable insight on what strategies to adopt for these e-commerce businesses when it comes to increasing customer loyalty while maintaining the competitive edge in the market.

This research helps academic audiences, but it is also helpful in applying real-life scenarios because it creates evidence-based recommendations for improving actual customer experience and retention strategies in e-commerce.

## **1.5 IMPORTANCE OF THE STUDY**

The study carried out in this regard is highly fruitful because it gives all valuable insight into the factors that influence customer loyalty for the e-commerce sector, particularly those to do with product variety, on-time delivery, and perceived security. Today, with the rapid expansion of digital marketplaces, customer retention has been well increasingly challenging. Hence, making research so important for businesses aiming to emerge as successful competitors (Lee & Kim, 2023).

This study also serves a theoretical purpose since it complements existing literature on the relationships of key determinants with customer retention, as well as one another's collective impact on the sustainability of the business in the long run. Earlier studies explored these variables as isolated investigations, but very few have combined such assessments with respect to e-commerce customer loyalty (Martinez & Torres, 2023).

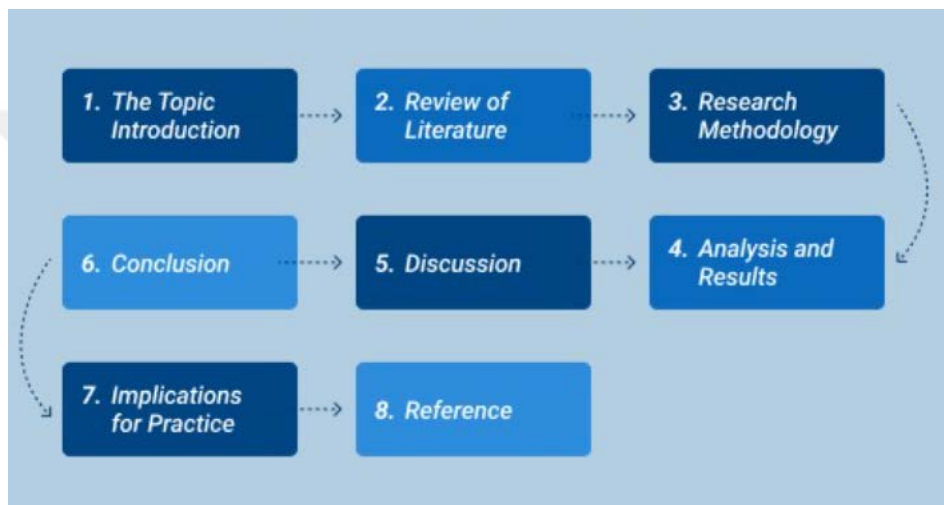
Practically this study will help the e-commerce business in strategizing proper avenues in satisfactory measures for maintaining customers. Thus, such understanding makes the variation in product offering important for businesses in bringing the offerings that meet diverse consumer needs, thus reducing churn rates (Nguyen et al., 2024). These are equally very important avenues of improving trust towards creating repeat purchases and, thus, retention of the customers (Brown et al., 2022), such as in time and reliable delivery services.

There must be security in the transactions that are done online. Consumers are ever cautious with regard to the privacy of their data, so instituting best security measures can build trust and increase the likelihood of using digital platforms for transactions (Harris & Wang, 2023).

The study is thus capable of closing the gap between theoretical and practical aspects, providing direction to the e-commerce enterprises in refinement of customer experience strategies, effectiveness in service delivery and towards long-term customer loyalty goals.

## 1.6 STRUCTURE OF THE DISSERTATION

This dissertation is written following a prominent structure. The introduction is to be given the central part, while the main emphasis of this work goes to the literature review. The next phase is thus to elaborate on the methodology. Then, the results, analysis, and discussion follow suit, and finally, the recommendations and conclusions must be dealt with in this research.



*Figure 1: Structure of Thesis*

## **CHAPTER TWO**

### **2.1. PRODUCT VARIETY**

Henry Ford, the pioneer of mass production, revolutionized the world of production by discovering the assembly line and explained the basic principle of mass production as "The ideal way to produce automobiles is to make similar products". This method, called Fordism, created a revolution in the 20th century, and it was aimed to gain competitive advantage with the expectation of decreasing unit cost with the increase in production, high-scale consumer demand, standard products and skilled labor force (Bekmezci, 2021). Today, mass production has started to be replaced by personalized and customized production due to the approach that "the wants and needs of each individual are different from each other" and the increasing competition (Martinez & Torres, 2022).

#### **2.1.1. From Mass Production to Personalized Production**

It has become evident that personalized production will provide a significant competitive advantage over mass production (Pine, 2021). What is expected in mass personalized or customized production is to integrate the customer into the design process and to offer unique products in the desired quantity and quality at an affordable price (Pine, 2023). At this point, the concepts of Mass Personalization (MP) and Mass Customization (MC) have come to the forefront in addition to the Mass Production (MPS) approach, which provides cost savings with large-scale production but has low Product Variety and low flexibility.

Mass Customization (MC) is a system in which innovative products are produced through customer-producer collaboration with an open product architecture in the design process (Nguyen et al., 2024). In mass customization, the increase in options as a result of tailoring the product according to the individual wishes of the customer will lead to an increase in Product Variety.

The Mass Customization (MC) approach can be defined as a strategy for businesses to differentiate in competitive markets by offering customized products and product-related options to customers (Kabasakal et al., 2017). This approach

allows customers to choose the assembly combinations they prefer when creating the basic product architecture. Thanks to flexible and reconfigurable production systems and combinational assembly, high diversity is achieved and thus economies of scope are achieved. Piller (2018) states that mass customization has become a common manufacturing paradigm in recent years, seeking to deliver products that are almost identical to the cost of mass production.

The difference between the PU, CC and PPC approaches is mainly due to the objectives, customer involvement, production system and product structure. Although personalization and customization are assumed to serve the common purpose of the customer, they may differ on the basis of customer needs. Customization is the arrangement of the product according to the needs of the customer, while personalization is the adaptation of the product according to the individual wishes of the customer (Kabasakal et al., 2017).

Mass production and customization are defined as opposite ends. On the other hand, mass customization can be considered to represent a hybrid strategy between mass production and personalization (Götzfried, 2023). In fact, which of the customization strategies is more appropriate is a business-related issue, and mass customization seems to be more advantageous than personalization in dealing with the process complexity in the value chain due to Product Variety (Götzfield, 2023).

### **2.1.2. Rationale and Advantages of Product Variety**

Nowadays, firms have realized the importance of aligning their strategies with market requirements to improve performance (Cohen, et al., 2023). In this context, firms strategically prefer to increase Product Variety, regardless of the additional economic cost, in order to increase the level of competition and as a solution to low growth rates (Suthikarnnarunai, 2021; Vogel and Lasch, 2022). This diversity can be considered as a critical success factor for firms in economic terms (Cooper, 2019). However, the number of different products that companies offer to their customers in order to respond to heterogeneous customer needs in the market also increases their diversity (Fisher, et al., 2023, Ramdas, 2024).

Although diversity seems to be an element that increases complexity and evokes negative connotations in businesses, it is seen that its benefits are quite high in providing competitive advantage to companies today, so it is considered and taken into consideration by companies. Quelch and Kenny (1995), Kirca (2020) stated that diversity has the effect of creating a difference for a firm against competitors and reducing competitive pressure. It is a common view that Product Variety will increase product attractiveness, which will make the company more competitive in the market (Bednar and Modrak, 2017; Fisher et al., 1995, Lyons et al., 2020; Ramdas, 2003; Sanderson and Uzumeri, 1997).

Lyons et al. (2020) stated that the market advantage that diversity will create for the company will bring more benefits than the problems it will create in the processes. Even if product personalization causes an increase in cost, offering the features they want in their purchasing decisions makes products interesting for customers (Lyons et al., 2020). Although personalized products lead to market fragmentation for the company, it may be possible to reach a high number of customers as in economies of scale due to the fact that these products will be treated as special products in the market and the demand they will create (Kirca et al., 2020).

### **2.1.3. Impact of Product Variety on Processes**

A Product Variety is a family of different products to be offered to the market with at least one characteristic that differs from other products (Lechner and Wagenitz, 2021). In addition to the benefits of Product Variety, studies on the problems caused by Product Variety are also quite dense in the literature. In the studies, it has been stated that Product Variety creates high demand uncertainty and therefore causes problems in demand forecasting (Fisher et al. 2023; Kirca et al., 2020; Randall and Ulrich, 2022). The increase in the number of parts caused by Product Variety will require more complex procurement processes and a larger supplier base (Um et al., 2017). Götzfried (2013) stated that even if a company has a low resource utilization ability to create new products and product variants in order to maintain its competitive advantage, the negative burdens of diversity will not provide the right product in terms of quality in product lines to meet customer

requirements as much as in standard production. Schleich, Schaffer, and Scavarda (2007) stated that the reduction of economies of scale caused by the increase in Product Variety will have negative effects on component prices, lead times, and inventory levels in most supply chain activities. In their research, Schuh and Schwenk (2001) added distribution (marketing, product distribution, forecasting accuracy), and after-sales (such as spare parts stocking or product service training) to the category of complexity effects based on variety in specific parts of the value chain, in addition to effects on production, quality, logistics processes.

With the support of the literature review, the effects of Product Variety and the complexity it causes on business processes can be categorized under six headings:

**Cost:** Low-volume production caused by the order size divided by diversity causes the company to move away from economies of scale and increase costs (Bednar & Modrak, 2015; Makumbe, Seering, & Rebentisch, 2009). This is also true for the automotive industry (Schleich, Schaffer, & Scavarda, 2007). Keuper (2003) has discussed the cost implications of the complexity created by diversity under two headings: direct costs (such as product design, testing costs, etc.) and induced costs (such as training, after-sales costs, and the market share of existing products taken by products created through diversity).

Practitioners and researchers argue that even if optimal diversification aims to increase product diversification in order to increase revenue or to achieve economies of scale, this is a theoretical value and it is difficult to establish a real value in practice. Since the trade-offs between revenues and costs are very different in practice and in reality, firms need to adopt a unique strategy (Abdelkafi, 2008).

**Production:** The increase in Product Variety requires different operations and more processes for manufacturing and assembly. It also increases the labor time on the production or assembly line, increases the number of items to be processed, leads to more frequent switching from one product to another, and consequently, production performance deteriorates and productivity decreases due to frequent adjustments in production lines and training requirements (Guimaraes et al., 1999).

Thonemann and Bradley (2002) commented that, in addition to the loss of productivity and losses from design, quality and other problems caused by the complexity of diversity, it also requires more supervision in the production area to monitor and solve problems. As a result, the increase in diversity creates problems in the production line, resulting in longer lead times and lower quality levels (Bednar and Salanci, 2016).

Supply chain and inventory level: In the dynamic business environment of the automotive sector, a well-developed supply chain is a critical element to help a company differentiate itself from the competition. However, the increase in the number of finished goods, semi-finished goods and parts to be procured from suppliers with the increase in Product Variety creates the need to work with more suppliers, which contradicts the lean supply chain concept. The necessity to work with more suppliers created by diversity also requires an increase in inventory quantities, inventory costs, the number of orders for parts, their lead times, and internal logistics (Szmelter and Woźniak, 2015).

Fisher and Ittner (1999), Fujimoto et al. (2003), and Schleich, Schaffer and Scavarda, (2007), have noted that the increasing number of parts due to the impact of diversity requires changes in stocking policies, which will place additional burdens on planning activities and require longer process times, assembly line setup times, and product delivery times. Crippa et al. (2010) reported in their empirical study that after the introduction of a new product line, there was a general decline in company performance, resulting in a material requirements planning accuracy of 75% instead of the standard target of 95%, as well as a significant increase in material shortages (EP1, missing parts) within 2 years. Again, many researchers have emphasized that in-house variability due to Product Variety will cause problems in defined processes and increase both part and product inventory levels (Closs et al., 2010, Fisher and Ittner, 1999, Martin and Ishii, 1997). With the increase in Product Variety, the number of parts in the product, process differences compared to the standard product, and non-standard practices created by suppliers or customers also increase (Götzfried, 2013).

Design: There are many incentives for companies to expand their product range, and Scavarda et al. (2009) argue that product diversification is a valid way to increase market share. However, design is one of the most affected processes in creating variety. Vogel and Lasch (2015) stated in their study that in technical industries such as automotive or engineering, compliance with product development times is the most important feature of product quality, product development costs, as well as the shortening of design times due to the shortening of product life, and as a result, businesses expect more output from the same resource.

The time pressure of Product Variety caused by new product launches leads to unforeseen errors in design activities and consequently to compounded complexity (Vega, 2012). Ceglarek and Shi (1995) and Shalon, et al. (1992) emphasized that 67-70% of all design changes in the aerospace and automotive industries are related to changes in product-dimensional changes (design). In this case, the time constraint defined for new designs increases the time pressure on design department employees and causes more design problems in the design process (Baer and Oldham, 2006).

Due to the increase in Product Variety, R&D, design group, prototyping or new product design activities, the need for resource requirements and complexity increases and this affects the design and other related processes that follow. Baldwin and Clark (2000) stated that complexity is proportional to the total number of design decisions, while (Varela et al., 2012) defined design complexity as the degree of difficulty in realizing the relationships between the components that make up a product and the expected functional requirements. Modrak et al. (2016) stated that one of the most important sources of complexity is the product architecture.

The low visibility of some design-induced errors requires that some design issues be resolved on the assembly line or just before the delivery time or even after the launch phase, i.e. after the vehicles leave the assembly line. Customer specific product requirements are defined by the customer and production is based on these requirements or, where possible, the existing product is modified accordingly. Therefore, designing to customer requirements involves a complex design process

as well as a complex documentation process. BOM, which is one of the most important documentation elements of this design process (Vehicle Parts List, APL, which defines all the elements that make up the product, the relationship between these elements and the components and features of these elements in a tree structure format, which interacts with other departments through ERP), has significant effects on other processes.

Design and product development have the greatest impact on the complexity of a company. Therefore, in order to develop a complexity strategy, knowing the impact of design-induced complexity on processes is more important for design manufacturing companies.

Suh (2007) suggests that product design complexity should be kept to a minimum due to its impact on other processes. The negative impact of personalized products on processes increases along the value chain and the effort required to mitigate these impacts increases along the process. There are also many studies in the literature that examine the negative effects of problems in the product design process on other process performances. Adler (1995) stated that design defects are one of the most important reasons for after-sales problems and product recalls. Likewise, Vakharia et al. (1996) argue that a design change can cause serious inefficiencies not only in production but also in inventory, purchasing and many support functions.

**Product Development:** Product development is a sequence of tasks that begins with the perception of an opportunity in a market and ends with the introduction of a new product developed from an existing product. The success of product development is predicted by three techniques: development time, product quality and cost (Meybodi, 2020). Development time is used to assess the time interval required for a development team to complete a development effort. Few products can be developed in less than a year, while most products take between three and five years to develop and some can take up to ten years (Meybodi, 2020).

**After-sales:** one of the important areas where problems created by diversity are seen is after-sales. Due to diversity, there is a significant increase in the stock

of spare parts held for differentiated products (Adler, 1995). One of the most important after-sales problems is the increase in warranty costs due to design and production quality problems.

Quality: Increased diversity will require additional managerial monitoring, reporting and resources for quality activities (Antani, 2014). Indeed, (Fisher, Jain, & MacDuffie, 1995) discusses the difficulties in implementing statistical process control due to the decrease in production quantities with the increase in diversity. As a matter of fact, many researchers have stated that the complexity created by variety will lead to more quality defects, repair and rework, and consequently to a decrease in productivity (Fisher, Jain, & MacDuffie, 1995; Fisher & Ittner, 1999; Ramdas, 2003; Zhu et al., 2008).

As a result, the complexity created by diversity spreads to all functional areas and operational processes within the company (product development, logistics, production, marketing, sales, etc.), but diversity that is tolerated in terms of being competitive has a disruptive effect on other processes after a certain level. Schleich et al., (2007), state that Product Variety will often cause disruptions in processes that are not immediately apparent. Roy et al. (2011) emphasized that complexity management due to Product Variety is important for automotive and similar industries that produce highly complex products. Efthymiou et al. (2012), in his study, stated that there is an intrinsic link between complexity and speed and in most cases, increased production speed as a result of increased demands leads to higher complexity.

## **2.2. CUSTOMER LOYALTY**

### **2.2.1. Definition and Characteristics of Customer Loyalty**

Loyalty is a manifestation of the need for basic human needs such as getting support, gaining a sense of security, creating interest and creating emotional bonds (Hikmawati et al., 2020). According to Albayrak et al. (2020), loyalty is the act of continuously purchasing and consuming a product or service. Lee (2019) defined customer loyalty as "a deep commitment to repurchase or repossess a product or service that is consistently preferred in the future, despite situational influences and

the potential for marketing efforts to cause behavior change". At the same time, loyalty is the interaction between customers' relative behavior towards a brand or store and their repeated purchasing behavior towards that brand or store (Noyan & Şimşek, 2014). Customer loyalty, which is accepted as a key factor in the success of the company and in the creation of an effective business strategy, is generally expressed as an attitude that enables the establishment of a relationship with the brand (Heskett, 2002).

According to Leninkumar (2017), customer loyalty is seen as the promise of buyers/customers to purchase certain products, services and brands of an organization for a consistent period of time, regardless of competitors' innovations (Leninkumar, 2017). Khan and Fasih (2014) argue that customer loyalty motivates customers to buy again and persuades them to recommend these products or services to others (Khan & Fasih, 2014). This approach later manifests itself in the form of generating extremely good financial results for the firm.

Customer loyalty is often referred to as the outcome of all the experiences a customer has with a service/product provider, including physical interactions, emotional involvement and value chain moments (Mascarenhas et al., 2006, p. 399; Ngo and Nguyen, 2016). In this context, it can also be stated that customer loyalty is the outcome of customer value and customer satisfaction (Zhang & Li, 2019). Customer loyalty, which is the main outcome of customer satisfaction, has been defined and measured differently for two decades as mentioned above (Khuong & Dai, 2016). According to Kartika et al. (2019), customer loyalty is measured by four indicators. These are

- Saying positive things: Customers say positive things about the consumed product and this is usually in the form of reviews, stories or experience description.

- Recommend to a friend: A process of inviting others to shop with the service provider as a result of the perceived positive experience. It takes the form of the customer recommending a friend to buy the same product that they have used and liked.

- Repeat purchase: It is the repurchase of a particular service and is an attitude that results in a repeated cycle that can be associated with loyalty.

- Loyal customers are willing to give advice and recommendations to use services and purchase products when requested by anyone.

Retaining existing customers and developing customer loyalty is extremely important for businesses as it provides various benefits to the organization (Zakaria et al., 2013). The benefits to the product and service provider by building loyalty include lower customer price sensitivity, reduced expenditures to attract new customers, and improved corporate profitability (Rowley, 2005). In addition, the cost of providing service is lower because loyal customers are partially familiar with products and require less information (Bowen and Chen, 2001). Some of the important attitudes and behaviors expected from a loyal customer can be expressed as follows (Lee et al., 2010; Rahim, 2012):

- Likelihood to recommend the company's products and services to others,
- The likelihood of continuing to purchase the company's products and services, at least at the same level,

- The possibility of purchasing other products and services offered by the company,

- Believing that the company whose products and services they purchase is superior to rival companies,

- They believe that it is worthwhile to buy the company's products and services,

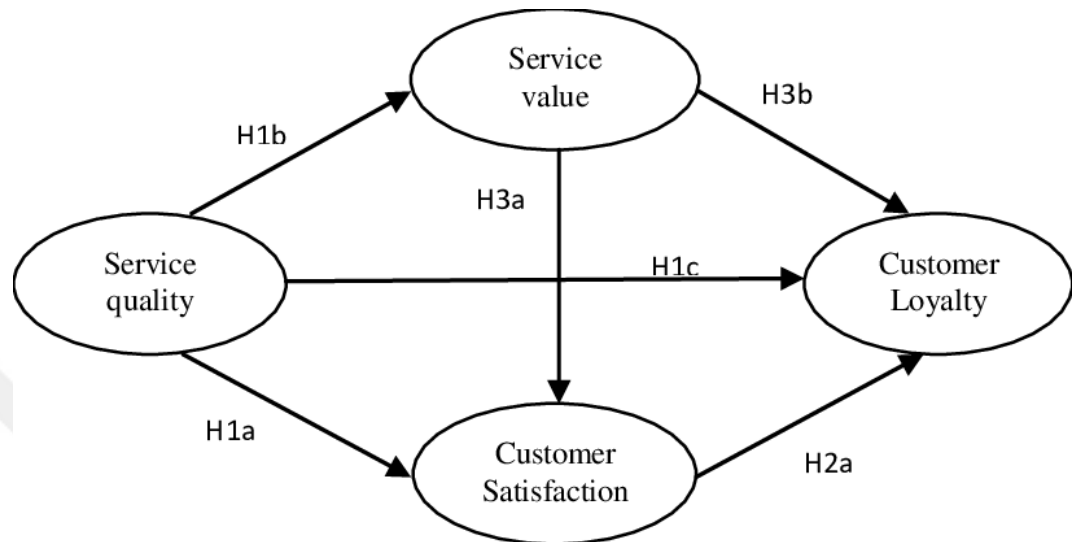
- Willingness to spend more money to buy the products and services offered by the company,

- Not actively seeking alternative service providers,

- They are expected to provide the company with the opportunity to correct problems and not use problems as a basis for compromising the relationship.

Based on the above-mentioned characteristics, it can be said that the loyal customer group shows a behavioral intention to maintain a relationship with a particular brand or company.

*Figure 2: Conceptual Model for Customer*



### **2.2.2. The Importance of Customer Loyalty**

Customer loyalty is a deeply held promise to repurchase or patronize a trusted, well-liked product or service in the future, regardless of situational influences and marketing efforts that have the capacity to induce exchange behavior (Mehta, 2020).

Customer retention and the development of customer loyalty is recognized as one of the critical success factors for retail businesses, with implications for cost savings and profitability (Prasadh, 2018). Building a loyal customer base is an important foundation for developing a sustainable competitive advantage and has a tremendous impact on business profits for business survival and development (Chen, 2015). According to the findings of many studies, loyal customers have lower service costs compared to other customers. These customers have the potential to pay more and attract more customers through word of mouth.

In addition to these benefits, it is important to note that customer loyalty is a strategy that creates mutual rewards to benefit firms and customers (Lee, 2019).

In fact, loyal customers, who contribute to maximizing company profits, are more willing than potential customers to purchase frequently, try new products and services, make sincere recommendations to the company, and recommend products and services to others.

Loyalty contributes to the reduction of costs, increase in the amount of sales and trust in the business (Gürlek et al., 2017). Again, according to the Pareto rule, loyalty accounts for 80% of business profits and 20% of consumers (Bhaskar & Kumar, 2016). Considering that gaining customer loyalty is a double-edged sword for organizations in competitive markets, it can be said that the cost of acquiring a new customer is much higher than the cost of retaining an existing customer (Lubis et al., 2020). Moreover, it is a well-known fact in all marketing circles that selling more to existing customers is much easier and cheaper than selling to new customers (Kartika, et al., 2019).

The importance of customer loyalty is well documented in the service literature. Research has shown that a 1 percent increase in customer loyalty has almost five times more impact on the value of a firm than a 1 percent change in the discount rate or cost of capital (El-Manstrly, 2016).

Moreover, loyalty is "a reflection of the customer's subconscious, emotional and psychological need to find a constant source of value, satisfaction and identity (Lam et al., 2013). When this need is properly satisfied, it is widely recognized that satisfied consumers are less price sensitive, less influenced by competitors' attitudes, and remain loyal to the firm longer than dissatisfied customers (Nam et al., 2011). Considering all the benefits and effects, it can be stated that creating customer loyalty and sustaining these qualities is a vital issue for the continuation of the business existence.

The issue of customer satisfaction is taken into consideration by marketing circles and top management as a guarantee of customer retention (Salah & Abou-Shouk, 2019). A shift from a satisfaction strategy to a loyalty strategy can significantly increase customer retention and contribute to a reduction in marketing

costs. This result is of course due to the link between customer loyalty and customer attitude, repeat purchase and financial performance (Ngo and Nguyen, 2016).

A company's success or failure in creating loyal customers depends to a large extent on its ability to create and continuously improve value. The formation of a strong value component depends on the ability of the business to improve itself through periodic measurements of customer loyalty. According to Lubis, et al. (2020), customer loyalty is measured by three things. The first is word-of-mouth communication in the form of recommending others to buy. The second is strong resistance by refusing to use competing products, and the third is how often repeat purchases occur.

### **2.2.3. Approaches to Customer Loyalty**

Customer loyalty has received scientific attention since the 1920s, but early studies (until the late 1960s) treated customer loyalty as a purely behavioral phenomenon (Kanakaratne et al., 2020). However, over time, it was argued that behavioral attitude was insufficient to explain loyalty, and it was later argued that true loyalty is a combination of positive behaviors and attitudes. And currently, there are three different approaches in the literature to measure customer loyalty, which is extremely difficult to define precisely, namely the behavioral loyalty approach, the attitudinal loyalty approach and the mixed loyalty approach.

#### **2.2.3.1. Behavioral Loyalty Approach**

Marketing researchers have long favored behavioral approaches to assessing customer loyalty in the belief that purchase share ultimately represents the level of loyalty (Kim, 2011). According to the behavioral view, customer loyalty is the ratio of the proportion of repeat customers or the proportion of times a buyer chooses the same product or service in a particular category to the total number of purchases made by the buyer in that category (Tankovic & Benazic, 2018). In line with this explanation, it can be stated that behavioral loyalty involves the desire to repurchase a product or service and to maintain a relationship with a supplier or service provider (Haghkhah et al., 2020).

Behavioral loyalty is defined as customers' purchase behavior (such as intensity, frequency, rate), repurchase intentions and word-of-mouth recommendations (Gürlek et al., 2017; Rather and Sharma, 2017). This is a representation of customer willingness in terms of monetary investment and continuation of the relationship, and customer retention, which is positively linked to business profitability.

The behavioral dimension of loyalty considers consistent and repetitive consumer buying behavior towards a particular brand or service over time as an indicator of loyalty (Bowen & Chen, 2001). That is, loyalty is a result of consistent repeat patronage/repeat purchase frequency of a single store/brand as well as positive attitude and is measured by behavioral loyalty, repurchase intentions, switching costs and purchase intentions (Mainardes et al., 2020).

#### **2.2.3.2. Attitudinal Loyalty Approach**

While the behavioral dimension considers the frequency of consistent repeat purchases, the attitudinal dimension considers psychological commitment to the store/brand, which takes into account decision-making or evaluative characteristics (Han & Ryu, 2009). In other words, while the behavioral approach focuses on customers' consumption frequency, the attitudinal approach examines customers' psychological commitment (Albayrak et al., 2020).

In the attitudinal approach, customers feel psychological and emotional attachment to the products and services of a particular business and remain emotionally loyal (Gürlek, Düzgün, & Uygur, 2017). In this respect, according to the attitudinal approach, loyalty can be expressed as a personal attitude formed by different emotions that consumers' loyalty to a product, service or retailer (Cossío-Silva et al., 2016). From this perspective, it can be stated that attitudinal loyalty stems from psychological involvement, favoritism and a sense of goodwill towards specific products (Dharmesti and Nugroho, 2013) and that loyalty is a result of a positive attitude as well as consistent, repeated purchase frequency from a single store, brand (Han and Ryu, 2009).

The attitudinal dimension also refers to the customer's repurchase and recommendation intention, which is a good indicator of a loyal customer (Haghkhah et al., 2020).

### **2.2.3.3. Mixed Loyalty Approach**

Many researchers have adopted the mixed loyalty approach, which is a synthesis of both approaches, on the grounds that the holistic or attitudinal approach is insufficient to express the concept of loyalty. The mixed loyalty approach, which is an integrated approach, considers behavioral and attitudinal approaches together (Albayrak et al., 2020). In addition, the mixed approach is based on consumer product preference, brand addiction tendencies, purchase percentage, new and total purchase amount. In the integrated approach, customer loyalty is also considered as customers' re-preferring the products and services of the same business and recommending them to their close circle (Gürlek et al., 2017).

### **2.2.4. Types of Customer Loyalty**

#### **2.2.4.1. Service Loyalty**

Service loyalty is defined as the difference between customer expectations and the service received from an organization. It is also interpreted as the customer's feelings when evaluating their experiences in an organization (Dhisasmito & Kumar, 2020). Service loyalty is formed when the customer, who has experienced a quality service experience and whose expectations are met, is convinced to repeat the service request. This intention, which is the preference of the experienced company compared to other companies offering the same service, is an indicator of the positive tendencies of customers (Ismail & Yunan, 2016).

At the same time, service loyalty is a multidimensional structure that is influenced by satisfaction, switching costs and strong mutual bonding and is an important factor in the formation of customer satisfaction and loyalty (Sönmez, 2021). Parasuraman and Grewal (2000) stated the five general dimensions that customers use when evaluating service quality as follows (Parasuraman & Grewal, 2000):

- Reliability: It is the ability to fulfill the promised service in a reliable and accurate manner.

- Responsiveness: Willingness to help customers and provide prompt service.

- Assurance: The ability of employees to inspire confidence and trust through their knowledge and courtesy.

- Empathy: The attentive and personalized attention offered to customers.

- Tangible Assets: The appearance of physical facilities, equipment, personnel and communication materials.

Setó-Pamies (2012) states that service loyalty differs from brand loyalty in the following ways (Setó-Pamies, 2012):

- Service suppliers are more capable than tangible goods suppliers of creating stronger loyalty bonds with customers.

- Loyalty is greater or more widespread among service consumers than among goods consumers.

- Services offer more opportunities to develop loyalty through one-to-one interaction.

- Some service sectors can improve the quality of their services by changing suppliers when necessary to strengthen loyalty, whereas the brands of tangible goods do not change.

#### **2.2.4.2. Brand Loyalty**

The American Marketing Association defines a brand as "the name, term, mark, emblem, design, or combination of names, terms, signs, emblems, designs, or combinations of one or a group of sellers to identify the goods or services of one or a group of sellers and distinguish them from competitors" (Khoironi et al., 2018). According to Chaudhuri and Holbrook (2001), brand loyalty is a deep commitment to consistently repurchase or re-possess a preferred product/service in the future and repeated purchase of the same brand or set of brands despite situational

influences and marketing efforts that have the potential to cause switching behavior. This definition of brand loyalty is a synthesis of behavioral and attitudinal approaches to brand loyalty.

Brand loyalty, in other words, is a consumer's preference to purchase a particular brand in a product category. Brand loyalty occurs when consumers perceive that the right product features, visuals or quality level are offered at the right price (Ishak and Ghani, 2013). Consumers' liking of the same preferred brand and brand set contributes to consistent repurchase of the product by the consumer. In this context, it can be stated that brand loyalty towards a product affects the purchase decision for the same product (Sasmita & Suki, 2015). In addition, customers with brand loyalty have good relationships with the business and customers trust suppliers to always provide quality products and services (Ranabhat, 2018). Considering the fact that acquiring new customers is five times more costly than retaining existing customers, it can be stated that creating brand loyalty in the eyes of consumers is an extremely important issue (Eren & Eker, 2012).

#### **2.2.4.3. Store Loyalty**

Store loyalty is a biased behavioral response to one store compared to a range of stores, expressed by decision-making units over time, which is a function of psychological decision-making and evaluation processes that result in brand loyalty (Bridson et al., 2008). Consumer perception of store brand quality contributes to store differentiation and high quality store brands increase consumer switching costs and retail loyalty levels (Martos-Partal and González-Benito, 2011).

In addition to the aforementioned features and benefits, it is important to note the distinction between revisit behavior and store loyalty when conceptualizing store loyalty. Revisiting behavior is the repeated visit to the store, but store loyalty is the continuous preference of the same store for shopping (Bloemer & Ruyter, 1998).

### **2.2.5. Stages of Customer Loyalty**

The stages of customer loyalty, i.e. the development process, were systematically addressed in a meta-analysis by Pan et al. (2012) on the antecedents of customer loyalty. According to the results of this analysis, the stages of customer loyalty consist of the purchase cycle consisting of cognitive, affective, intentional and action loyalty stages (Ngo & Pavelková, 2017).

#### **2.2.5.1. Cognitive Loyalty Stage**

This is the stage in which the "mindshare", which is necessary and very important to put the product or service ahead of competitors, begins to form in the mind of the potential customer. In this type of loyalty, the consumer prefers the product/service company that he/she has purchased before without choosing among alternatives (Oliver, 1999). The brand attribute information presented to the consumer at this stage, where consumers make evaluations by taking into account the performance characteristics of the brand, shows that a brand is preferable to its alternatives (Göksu, 2010).

According to Gümüşbuğa (2016), in order for customer loyalty to occur according to the cognitive loyalty dimension, the following six characteristics should be seen together (Gümüşbuğa, 2016):

- The act of purchase must be made consciously and not by chance, - The act of purchase must have taken place,
- The purchase must have taken place within a certain period of time,
- The act of purchasing is carried out by the same decision-maker or group,
- Choosing a product or service purchase from among alternative brand alternatives,
- Buying behavior must be evaluated as a function of a certain psychological evaluation process.

### **2.2.5.2. Emotional Loyalty Stage**

In the second stage of loyalty development, a liking or attitude towards the brand has developed on the basis of cumulatively satisfying use cases (Oliver, 1999). This can also be expressed as a liking or positive attitude towards the brand developed on the basis of satisfying use cases (Khuong & Dai, 2016). It is useful to state that the emotional loyalty stage, in which a positive attitude towards the brand is developed, which enables the formation of emotional loyalty, is formed by repeated confirmation of customer expectations (Rai & Sirivastava, 2012).

### **2.2.5.3. Intentional Loyalty Phase**

The next stage of loyalty development is the conative (behavioral intention) stage, which is influenced by repeated episodes of positive affect towards the brand. In this context, it can be stated that intentional loyalty is a state of loyalty that involves a commitment to purchase (Oliver, 1999). However, this commitment is similar to the motivation for repurchase intention. Essentially, the consumer desires to repurchase, but this well-intentioned desire may be an expected but unrealized action.

### **2.2.5.4. Action Loyalty Phase**

It is the stage where intentions motivated in previous loyalty stages are transformed into actions (Khuong & Dai, 2016). In this stage, customers ignore the effects of situational factors and alternative brand efforts, and purchase intentions are transformed into purchase actions. Moreover, according to Oliver (1999), at this stage, customers' motivated intentions are accompanied by an additional desire to overcome the obstacles that hinder the purchase action, and the consumer overcomes these difficulties and takes the purchase action.

### **2.2.6. Levels of Customer Loyalty**

In their classification, Dick and Basu (1994) argue that the interaction between different levels of relative attitude and repurchase behavior results in four different levels of loyalty: true loyalty, hidden loyalty, false loyalty and disloyalty.

### **2.2.6.1. True Loyalty**

Consumers with true loyalty are proud of discovering the brand and being a user of that brand (Türker & Türker, 2013). Customers who have a high level of loyalty and repeatedly purchase products and services are known as premium loyalty customers. In addition to being proud of discovering the brand and being a user of that brand, these customers are also known as vocal advocates of the products and services and refer others (family, friends and relatives) to use the product (Griffin, 2002).

### **2.2.6.2. Hidden Loyalty**

In the latent loyalty type, repurchase is determined by situational rather than attitudinal influences (Griffin, 2002). Reasons such as inconvenient store location, stock availability are among the situational factors that affect consumer loyalty (Sarı & Kulualp, 2019). Differently, for example, an individual may have a relatively high attitude towards a particular restaurant, but may exhibit a different attitude due to the changing preferences of their dining companions. However, in some cases, creating a high relative attitude may involve a latent commitment that is both expensive and unlikely to change (Dick and Basu, 1994). Therefore, the organization is expected to understand the situational factors that contribute to secrecy and develop a strategy to combat them (Griffin, 2002).

### **2.2.6.3. False Loyalty**

A low relative attitude accompanied by high repeat patronage is pseudo-loyalty, which is characterized by non-attitudinal influences on behavior (e.g., subjective norms or situational influences) (Dick and Basu, 1994). In this type of loyalty, where there is no real loyalty despite the customer's purchase behavior under conditions where alternatives are many, there is a situation that can turn from temporary to permanent loyalty with practices such as customer loyalty (Sarı & Kulualp, 2019). False loyalty is also due to the habit and inertia of buying any brand, and despite the low level of attitude, there is a high level of repurchase behavior (Türker & Türker, 2013).

#### **2.2.6.4. Disloyalty**

Customers who are not loyal to a product, service or company are referred to as disloyal customers. These customers have poor behavior and attitude towards a particular seller (Ranabhat, 2018). This weak attitude can be caused by reasons such as the new brand entering the market does not carry out effective promotion activities and similar brands have to compete in the same market (Çatı & Koçoğlu, 2008).

#### **2.2.6.5. Factors Affecting Customer Loyalty**

In the literature, it is stated that customer loyalty is a multifaceted variable and accordingly, it consists of different variables that are referred to as the determinants of customer loyalty, also known as antecedents. The main variables that significantly affect customer loyalty are explained below.

##### **2.2.6.5.1. Trust**

Trust is the willingness to be vulnerable on the basis that the parties involved in the relationship will not harbor ill will (lack of goodwill) towards each other (Polat & Ceep, 2008). Trust is the key variable that influences customer loyalty in successful relational exchanges and is the belief in the honesty and willingness to rely on the honesty of the exchange partner with whom one communicates and trusts. Therefore, trust is an important determinant of relationship commitment (Morgan & Hunt, 1994; Singh et al., 2017).

Trust can be conceptualized as between individuals (interpersonal trust), between organizations (organizational trust), or between individuals and organizations (inter-organizational or inter-organizational trust) (Gremier et al., 2001). Trust, a key variable affecting customer loyalty in relational exchanges, is an important determinant of the relationship bond and exists when there is trust in the reliability and integrity of a partner (Singh et al., 2017).

Attitudinal trust is the level of certainty associated with an attitude or evaluation (Dick & Basu, 1994). Trust is also an integrated construct based on technical ability and expertise, which includes providing customer satisfaction, satisfying needs and fulfilling promises to the consumer. This quality also includes

the good faith approach of protecting the rights of the consumer and compensating the damage in case of encounter (Türker & Türker, 2013). In this respect, it can be said that in addition to the features of responding to consumer needs with an honest approach, it can be said that by reducing negative elements, it is possible to strengthen the positive feelings and attitudes of the customer towards the company (Geyskens et al., 1996). According to Minta (2018), the elements of reliability, honesty and kindness must be present together in order for a real trust to be formed in the customer towards the firm. These elements can be expressed as follows (Minta, 2018):

- Trustworthiness: The degree to which the customer believes that the company has the capacity and expertise to fulfill its mission effectively and efficiently.

- Integrity: The company's ability to keep its promises.

- Helpfulness: A belief that the parties in the service relationship are sincerely motivated by the pursuit of mutual benefit.

#### 2.2.6.5.2. Indispensability

The indispensability factor is that there is no alternative to the company's products and services that meet consumer needs, or such a perception is formed in the eyes of the consumer. The customer is loyal to the product and service offered by the business and does not want to buy from a different business (Akkuş & Çakıcı, 2020).

Although the factors affecting the indispensability factor are mainly related to sales and marketing, these factors take place at different rates in different sectors (Gümüşbuğa, 2016). However, this feature can also be referred to as cross-selling, as the customer has access to other factors that are marketed along with the product and service. For example, a customer who uses the bank's different transactions such as cards, investment accounts and payment systems is less likely to discontinue his/her relationship with the bank than a customer who makes transactions only for short-term interest income.

#### 2.2.6.5.3. Caring

We can define caring and concern of firms that provide products and services as the perception of employees who are genuinely concerned about the well-being of customers (Gremler et al., 2001). One factor that should not be forgotten is the fact that in interpersonal relationships, individuals care about those who help them. This approach, which explains the level of care exhibited in the customer-employee context, can also be explained by the principle of equity theory. The fact that the employee cares about the customer, tends to produce solutions to their problems, and feels indebted and strives to increase their satisfaction level is an indication that there is a general norm of reciprocity in service relationships (Gremler et al., 2001).

#### 2.2.6.5.4. Rewarding

It is the presentation of certain gifts to the customer after the purchase of products and services. With these practices carried out by certain programs, the customer will continue to maintain his/her loyalty behavior even if he/she ignores other factors, thinking that he/she has benefited (Akkuş & Çakıcı, 2020). Banks' credit card customers' loading points to the card as a gift in return for their shopping, gift programs for frequent flyers offered by airlines, mileage collection programs can be shown as examples of rewarding opportunities offered to customers by companies (Gümüşbuğa, 2016).

#### 2.2.6.5.5. Service Quality

In general, service quality is the customers' impression of the relative merits and demerits of a service provider and its services and is considered as the customers' general attitude towards the company (Prakash & Mohanty, 2013). The service quality factor, which is accepted to play an important role in predicting and explaining customer behavior, plays an extremely important role in the formation of both customer loyalty and customer satisfaction. For this reason, companies should understand what customers want and be able to meet the quality of products and services offered according to their needs. According to Rizan et al. (2020), customer perception of service quality for goods and services is the ability of the

product to fulfill its functions, including valuable features such as durability, ease of use, product repair, after-sales support, etc.

According to Dhisasmito and Kumar (2020), service quality is defined as the difference between customer expectations and what the customer receives from an organization. It can also be interpreted as the customer's feelings when evaluating their experience with an organization. Service quality is also a measure of how well the level of service provided matches customer expectations. In other words, providing quality service is the consistent fulfillment of customer expectations (Parasuraman et al., 1985). According to Khoironi et al. (2018), service quality is the ability of the product or service to meet customer needs by being specified, offered or manufactured (Khoironi et al., 2018).

It is generally accepted that service quality plays an important role in predicting and explaining customer behavior, and service quality is an important issue that should be adopted and sustained by all people working in a particular company. If the service received by customers is below the desired expectation, the customer will be disappointed and will discontinue the relationship with the firm. If customer expectations are greater than company performance, perceived quality is unsatisfactory, which may result in customer dissatisfaction (Surahman et al., 2020)

#### **2.2.6.6. Building Customer Loyalty**

The fact that it is extremely important to create customer loyalty and maintain permanent customer relationships, a topic that has been emphasized since the 1950s, was first recognized in 1978 and loyalty programs became operational in 1981 with the implementation of different practices by American airlines (Duffy, 1998; Rahim, 2012); Rahim, 2012). Today, customer loyalty programs are implemented to create a permanent customer base, to ensure brand loyalty and brand loyalty, and to contribute to sustainability by increasing profit margins (Sari & Kulualp, 2019).

#### 2.2.6.6.1. Customer Loyalty Building Programs

As many companies have started to adopt a customer-oriented approach in the last two decades, the formal introduction of customer loyalty programs in customer relationship management has become an extremely important issue (Uncles et al., 2003). In fact, according to published reports, loyalty programs implemented in almost all parts of the world are growing at a rate of 11% per year and this rate is expected to increase every year (Evanschitzky, 2012).

According to Vesel and Zabkar (2009), a customer loyalty program is a mechanism to identify and reward loyal customers by awarding points based on the amount spent (Vesel and Zabkar, 2009). Loyalty programs are designed to increase customer satisfaction and loyalty, which is an important goal of marketing (Zakaria et al., 2014). Moreover, these programs are offered by both retailers and manufacturers to encourage continued patronage among consumers through discounts, cash, free goods or special services (such as free magazines on special topics of interest to loyalty program members) (Berman, 2006).

Customer loyalty programs are divided into two groups: limited loyalty programs and open loyalty programs. Limited loyalty programs require a membership fee on a completed application form and also try to direct membership to primary target groups. On the other hand, open loyalty programs do not need entry requirements and make membership more attractive and easy for a larger number of people (Vesel and Zabkar, 2009).

A discount under loyalty programs is a discount given by the seller to the buyer as a reward for a specific activity that makes the seller happy. In a study conducted by Khairawati (2020) on customers who bought online tickets by taking advantage of discounted prices, they found that the discounted price variable has a significant effect on customer satisfaction (Kharvati, 2020). This research shows that customers tend to look for companies that offer discounts and that the discounted price variable is a feature preferred by customers.

The main purpose of loyalty programs, whose characteristics and purposes differ according to different sectors, is to strengthen the position of businesses in

the market, to win new customers and to win existing customers (Akkuş & Çakıcı, 2020). The key points to be considered when implementing loyalty programs, which are a highly effective tool in creating customer loyalty, are stated by Butscher (2002) as follows:

- Customers should be included in the program and taken care of.
- Loyal customers should be rewarded.
- Loyalty programs should be used to build a company brand.
- Communication expenses should be shifted to more effective areas.
- Collect data on customers' demands and perceptions of products and services.
- Different company departments should be supported.
- And finally, loyalty should be created.

## **2.3. ON TIME DELIVERY**

### **2.3.1. Definition and Importance of On-Time Delivery**

On-time delivery, as a construct, is defined as the percentage of orders delivered to the customer by the committed time frame. It is a quantifiable metric used by organizations to evaluate how well they are meeting the delivery aspects of the customer service. The calculation of OTD can vary among industries and individual companies, but it generally tracks the punctuality of deliveries against their promised delivery dates. Metrics such as this are vital for businesses to benchmark their performance against industry standards or competitors and to identify areas for improvement in their logistics and supply chain processes. The importance of on-time delivery extends beyond the mere metric. It encompasses a variety of strategic, operational, and customer-related benefits. Strategically, on-time delivery helps companies differentiate themselves in competitive markets where customers have high expectations for delivery performance. Operationally, effective management of on-time delivery reduces costs associated with delays and disruptions, such as expedited shipping costs, extra labor costs for handling late

shipments, and penalties or loss of revenue from breached service level agreements (SLAs). From the customer's perspective, on-time delivery is often seen as a reflection of the company's professionalism and reliability. In today's fast-paced market environments, customers expect quick and reliable services, and any deviation from promised delivery schedules can significantly impact customer satisfaction. This is particularly true in industries where just-in-time delivery is crucial, such as manufacturing, where delays can halt production lines, or in e-commerce, where late deliveries can lead to negative reviews and decreased customer retention. Moreover, on-time delivery impacts the internal dynamics of an organization. It requires seamless coordination among various departments including procurement, production, warehousing, and logistics. As such, OTD serves as a litmus test for the internal operational capabilities of a company. Achieving high levels of on-time delivery requires robust processes, effective communication, and a responsive logistics infrastructure, which together contribute to organizational efficiency (Forslund ve Johnsson, 2010).

*Figure 3: Importance of On-Time Delivery*



### **2.3.2. The Impact of On-Time Delivery on Customer Loyalty**

On-time delivery (OTD) is a crucial element in fostering customer loyalty, a core objective for any business aiming for long-term success and sustainability. The ability of a company to deliver products or services at the promised time significantly influences customer satisfaction and loyalty, which are pivotal for competitive differentiation and business growth. Customer loyalty can be understood as a customer's willingness to repeatedly return to a company to conduct

business due to the positive experiences they have had with the brand. It is not solely a reflection of satisfaction with a product but also encompasses the customer's overall experience with the company, including interactions across purchasing, customer service, and post-sales support. On-time delivery directly impacts this experience by fulfilling the customer's expectations of receiving their purchased goods within the expected timeframe. The relationship between on-time delivery and customer loyalty is grounded in the theory of expectancy confirmation. According to this theory, consumer satisfaction is heavily influenced by the degree to which the actual performance of a product or service confirms pre-purchase expectations. When customers receive their orders on time, their expectations are met, leading to satisfaction and the reinforcement of trust in the vendor. Conversely, if deliveries are consistently late, trust erodes, potentially leading to dissatisfaction and the eventual loss of the customer (Dündar ve Öztürk, 2020).

Empirical research supports the notion that on-time delivery is a significant determinant of customer loyalty. Studies in the field of supply chain management have found a strong correlation between delivery performance and customer retention rates. For instance, in industries where delivery time is critical, such as e-commerce or pharmaceuticals, delays can result in significant customer churn. Furthermore, in business-to-business contexts, where operations often rely on the timely receipt of goods, delays can disrupt not just satisfaction but also operational efficiency, impacting the customer's own ability to meet commitments to their clients. Moreover, the impact of on-time delivery on customer loyalty is magnified by the modern customer's access to real-time tracking technologies and heightened expectations for customer service. Customers today are more informed and have higher expectations; they not only anticipate prompt delivery but also the ability to monitor their orders in real-time. Thus, companies that leverage technology to ensure and communicate timely deliveries are more likely to enhance customer loyalty by aligning with these expectations (Sarifah vd., 2023).

On-time delivery also plays a pivotal role in enhancing customer loyalty through its influence on brand reputation. In a marketplace crowded with competitors, a company known for reliable delivery can distinguish itself, fostering

a strong brand association with reliability and trustworthiness. Positive experiences with delivery can lead to word-of-mouth recommendations, which are invaluable for attracting new customers and retaining existing ones. Social media and online reviews further amplify the impact of these experiences, making the efficient management of delivery times a crucial aspect of reputation management. The strategic management of on-time delivery involves several logistical and organizational practices. Companies must invest in robust supply chain infrastructure, integrate advanced planning systems, and foster a culture of excellence and accountability. Additionally, businesses must develop flexible logistics solutions that can adapt to unexpected changes in demand or supply chain disruptions. These practices not only improve delivery performance but also demonstrate to customers the company's commitment to meeting their needs (Daengs ve IStati, 2022).

### **2.3.3. Effects of On-Time Delivery on Operational Processes**

On-time delivery (OTD) exerts a significant influence on the operational processes of an organization, shaping its efficiency, cost management, and overall performance. The impact of on-time delivery on these processes is profound, as it dictates the rhythm and reliability of the supply chain, affecting everything from inventory management to customer service. Operational processes in business are designed to create, support, and deliver products or services to customers efficiently and effectively. These processes encompass a range of activities, including procurement, manufacturing, warehousing, and logistics. On-time delivery is a critical performance metric that influences each of these areas, often serving as a barometer for the health and efficiency of the entire operation. Firstly, on-time delivery impacts inventory management, a core operational process. Effective inventory management seeks to maintain the balance between minimizing inventory costs and meeting customer demand promptly. On-time delivery from suppliers ensures that raw materials and components are available when needed, preventing production delays. Conversely, reliable delivery to customers reduces the need for large finished goods inventories, as products do not need to be produced or stored well in advance of expected orders. This just-in-time approach

to inventory can significantly reduce holding costs and increase the liquidity of business resources (Heinonen, 2015).

Moreover, on-time delivery affects production scheduling and efficiency. In manufacturing and production settings, the availability of materials directly impacts the ability to maintain continuous production lines. Delays in delivery can cause costly disruptions, leading to downtime and inefficient use of labor and equipment. Conversely, predictable delivery schedules allow for smooth production flows and better utilization of assets, which can enhance the overall productivity of the operation. This reliability in the production schedule also makes it possible to commit to reliable delivery times to customers, which is critical in industries where time-to-market is a key competitive factor. The relationship between on-time delivery and customer service is also pivotal. Timely delivery is often a critical component of the service level agreement (SLA) between businesses and their customers. Failure to meet these commitments can lead to customer dissatisfaction and erosion of trust, which can have long-term repercussions on customer retention and brand reputation. On the other hand, reliable on-time delivery can enhance customer satisfaction and loyalty, which are crucial for repeat business and positive word-of-mouth, both of which drive revenue growth. Additionally, on-time delivery influences cost management within operational processes. Delays in delivery can lead to expedited shipping costs, overtime labor expenses, and other rush charges, which all negatively affect the cost structure of a company. Efficient on-time delivery practices help in maintaining cost efficiency by avoiding these unplanned expenses. They also facilitate better financial planning and budgeting, as costs associated with logistics and production become more predictable and manageable (Kamali, 2018).

From a broader perspective, on-time delivery is integral to supply chain coordination and integration. It requires alignment and synchronization across various segments of the supply chain, from suppliers to manufacturers to distributors and retailers. Effective coordination ensures that each link in the chain is reliable, thus enhancing the overall performance of the supply chain. Advanced information systems and technology play a crucial role here, allowing for real-time

tracking of deliveries and better communication between different parts of the supply chain, which in turn helps in anticipating and mitigating delivery-related disruptions. Furthermore, on-time delivery is vital for compliance with regulatory requirements, especially in industries like pharmaceuticals, food and beverage, and aerospace, where products must often meet strict standards for timing and conditions of delivery. Compliance with these regulations not only avoids legal penalties but also ensures the safety and effectiveness of the products delivered (Vachon ve Klassen, 2002).

#### **2.3.4. Strategies for Improving On-Time Delivery**

Improving on-time delivery (OTD) is a strategic imperative for organizations looking to enhance customer satisfaction, optimize operational efficiency, and gain a competitive edge in the marketplace. This comprehensive approach involves multiple strategies, ranging from technological integration to supply chain collaboration, and requires a meticulous examination of current processes and customer requirements. One fundamental strategy for improving on-time delivery is the implementation of advanced planning and scheduling systems (APS). These systems utilize complex algorithms to optimize production and distribution processes, taking into account various constraints such as machine availability, labor skills, and material requirements. By accurately forecasting demand and synchronizing production schedules with it, companies can reduce lead times and ensure that products are available when needed, thus enhancing delivery reliability. Moreover, APS systems can adjust to sudden changes in demand or supply disruptions, providing a dynamic tool for maintaining on-time delivery even under uncertain conditions. Another crucial strategy is the enhancement of supply chain visibility. This involves the use of technology to track and monitor the status of goods as they move through the supply chain. Technologies such as RFID (radio frequency identification) and GPS (global positioning system) tracking allow companies to gain real-time insights into the location and status of their shipments. This visibility not only aids in identifying potential delays before they occur but also enhances the ability to inform customers about the status of their orders,

thereby managing expectations and maintaining trust even when delays are unavoidable (Igwe ve Robert, 2016).

Collaboration with suppliers is also a key strategy for improving on-time delivery. By working closely with suppliers and integrating them into the planning process, companies can ensure that materials are delivered on time to facilitate uninterrupted production. This may involve co-developing delivery schedules, sharing inventory levels, and setting up vendor-managed inventory (VMI) systems, where suppliers maintain ownership of the inventory until it is consumed by the manufacturer. Such collaborative practices not only streamline the supply chain but also build stronger, more reliable relationships with suppliers, which are crucial for long-term delivery performance. Additionally, optimizing inventory management is essential for improving on-time delivery. Effective inventory strategies, such as just-in-time (JIT) inventory, can reduce the risk of stockouts and overstock situations, which can delay production and affect delivery schedules. JIT inventory systems require precise timing and reliable supply chain operations, making them dependent on accurate demand forecasting and robust supplier relationships. When executed well, these systems significantly reduce waste and storage costs while ensuring that materials and products are available precisely when needed. Lean management principles also offer significant avenues for improving on-time delivery. These principles focus on eliminating waste within operational processes, enhancing product flow, and ensuring that value is continuously delivered to the customer without interruption. Techniques such as value stream mapping can help identify bottlenecks and inefficiencies in the production and delivery processes that may cause delays. Addressing these inefficiencies often leads to more streamlined operations and improved delivery performance (Benavides-Peña vd., 2017).

Furthermore, establishing rigorous performance metrics and continuous improvement mechanisms is vital. Key performance indicators (KPIs) related to on-time delivery, such as the percentage of orders delivered on time, the average time to fulfill an order, and the rate of return due to late deliveries, should be monitored continuously. These metrics can provide insights into how well the delivery processes are performing and highlight areas where improvements are needed.

Regular reviews and adaptations of strategies based on these metrics can drive systemic improvements and help maintain high levels of on-time delivery. Finally, investing in training and development for employees involved in production and delivery processes ensures that they are well-equipped to handle the demands of a high-performing delivery system. Training programs should focus on skills related to production planning, inventory management, and customer service. Well-trained employees are more likely to identify and address potential issues before they impact delivery performance, thereby maintaining the reliability of delivery schedules (Bushuev vd., 2018).

### **2.3.5. On-time Delivery in Global Distribution Networks**

On-time delivery (OTD) within global distribution networks is a complex challenge that encompasses multiple factors including logistics, regulatory compliance, and the synchronization of supply chain activities across diverse geographical locations. The ability to deliver products on time in a global context not only influences customer satisfaction but also impacts a company's operational efficiency and its competitive stance in international markets. Global distribution networks involve intricate logistics arrangements that span multiple countries, each with its own regulatory environment, cultural norms, and infrastructural challenges. Managing these networks effectively requires a comprehensive understanding of global trade regulations, local market conditions, and the logistical complexities of international shipping and customs procedures. To achieve on-time delivery, companies must navigate these challenges through meticulous planning, robust logistics partnerships, and the use of advanced technology. One of the primary strategies for ensuring on-time delivery in global distribution networks is the establishment of a reliable logistics infrastructure. This includes selecting strategic locations for warehousing and distribution centers that are well-connected to major transport routes. For instance, placing distribution centers near ports or major highways can reduce transit times and enhance the speed of delivery. Furthermore, partnering with reliable logistics providers who have expertise in international shipping and local distribution is crucial. These partners can offer invaluable local

knowledge and resources, which are essential for navigating the complexities of global logistics networks (Hosseini ve Sahlin, 2019).

Technology plays a pivotal role in managing on-time delivery in global settings. Advanced tracking systems, such as GPS and RFID, enable real-time visibility of shipments across the globe. This visibility is crucial for managing the flow of goods in a timely manner, anticipating potential delays, and responding proactively to any disruptions that may occur. Moreover, integrating information systems across the supply chain allows for seamless communication and data sharing between suppliers, logistics providers, and customers. Such integration facilitates the coordination of operations across different time zones and can significantly enhance the responsiveness of the supply chain. Regulatory compliance is another critical aspect of managing on-time delivery in global distribution networks. Each country has its own set of import and export regulations, tariffs, and customs processes, and non-compliance can lead to significant delays and additional costs. Companies must have a thorough understanding of these regulations and ensure that all shipments comply with the necessary legal requirements. Employing specialists in trade compliance or working with local agents can help navigate these regulatory landscapes efficiently, minimizing the risk of delays due to paperwork errors or regulatory holdups (Kamali, 2018).

Risk management is also fundamental to ensuring on-time delivery in a global context. International supply chains are susceptible to a wide range of risks, including political instability, natural disasters, and economic fluctuations. Developing a robust risk management strategy, which includes diversifying suppliers, establishing contingency plans, and maintaining safety stock, can mitigate these risks. Additionally, political and economic risk assessments can inform decision-making about where to locate distribution centers and whether to adjust supply chain strategies based on the current global situation. Finally, cultural competence and local market understanding are indispensable for managing on-time delivery in diverse global markets. Practices that work in one country may not be effective in another due to cultural differences in business practices or customer

expectations. For instance, delivery time expectations can vary significantly from one region to another. Understanding these cultural nuances and adapting delivery practices accordingly is essential for maintaining customer satisfaction and ensuring timely deliveries (Kula vd., 2021).

## **2.4. PERCEIVED SECURITY**

### **2.4.1. Definition of Perceived Security**

Perceived security, closely related to perceived security, specifically refers to the subjective feeling of being protected from risks, dangers, or losses, particularly in contexts involving privacy, information, and personal well-being. It is an individual's assessment of their safety, particularly in environments where they interact with systems, processes, or other individuals, such as online environments, public spaces, or during transactions. The significance of perceived security lies in its impact on individuals' behavior and trust, especially in the adoption of new technologies or in the engagement with various service providers and institutions. For instance, in the digital realm, perceived security plays a critical role in users' willingness to engage with online platforms, share personal information, and conduct transactions. If users feel that an online system is secure, they are more likely to use it extensively. Conversely, a lack of perceived security can lead to a reluctance to adopt digital technologies or to engage with certain digital platforms, which can limit the effectiveness and reach of these technologies. Understanding perceived security involves acknowledging the psychological components that contribute to it. These components include the individual's knowledge and awareness of potential risks, their past experiences with similar systems or situations, and the visible security measures or assurances provided by the system or environment. Furthermore, perceived security is affected by the individual's general attitude towards risk and their trust in the entity that manages or governs the system or space in question (Zhang vd., 2019).

The dynamics of perceived security are also influenced by societal factors. Media reports, societal norms, and cultural expectations can shape how security is

perceived. For example, extensive media coverage of security breaches or cyberattacks can heighten public concern and adversely affect perceived security across similar platforms, even if those platforms have not been directly compromised. Moreover, the concept of perceived security extends into the physical world, where it influences how safe people feel in their communities, workplaces, and public spaces. Urban design, for instance, plays a critical role in shaping perceived security. Well-lit streets, open and clean environments, and the presence of people can enhance feelings of security, while dark alleys, isolated areas, and signs of disorder can decrease it. Effective strategies to enhance perceived security must therefore address both the objective security measures and the subjective perceptions of individuals. This involves not only implementing robust security protocols and systems but also communicating these measures effectively to the public. Education and information dissemination play crucial roles in shaping perceptions, as greater awareness of security measures and their effectiveness can enhance perceived security (Mekovec ve Hutinski, 2012).

#### **2.4.2. Perceived Security and Customer Loyalty**

Perceived security significantly influences customer loyalty across various industries, reflecting the essential role that safety and security play in shaping consumer behavior and decision-making. The relationship between perceived security and customer loyalty is multifaceted, incorporating psychological, emotional, and practical elements that enhance the consumer experience and foster long-term engagement with brands and services. Perceived security, as it relates to customer loyalty, can be defined as the customers' perception of how well a brand protects them from potential harm, risk, or loss during their interactions with the brand's products or services. This perception is crucial because it directly impacts customers' trust in the brand, influencing their likelihood to continue using the brand and recommending it to others. In contexts where safety is a critical concern such as in online banking, healthcare, and e-commerce—ensuring high levels of perceived security can significantly differentiate a brand and drive customer loyalty. The impact of perceived security on customer loyalty can be analyzed through several theoretical frameworks, one of which is the expectancy

disconfirmation theory. This theory posits that customer satisfaction and loyalty arise when service and performance outcomes exceed or meet customer expectations. In the context of perceived security, when customers feel that a company has taken adequate measures to ensure their safety and security, their expectations are met or exceeded, leading to increased satisfaction and loyalty. Conversely, if customers perceive a lack of safety in their interactions with a brand, it can lead to dissatisfaction and erosion of loyalty (Bouranta vd., 2019).

Another relevant theory is the theory of reasoned action, which suggests that a customer's behavior is determined by their intent, which in turn is influenced by their attitudes and subjective norms. When customers have positive attitudes towards the safety measures of a company, they are more likely to develop a strong intent to continue using the company's products or services. This positive attitude towards safety enhances customer loyalty as customers feel more secure and less anxious about the risks associated with the service or product. Empirical studies across sectors such as airlines, hotels, and online retail have consistently demonstrated a positive correlation between perceived security and customer loyalty. For instance, in the airline industry, customers who perceive a high level of safety are more likely to remain loyal to an airline. Similarly, in the hospitality sector, hotels that invest in security measures and ensure the safety of their guests experience higher repeat patronage. The role of communication in enhancing perceived security cannot be overstated. Effective communication about safety protocols, risk management measures, and security policies plays a critical role in shaping customer perceptions of safety. Companies that transparently communicate their safety-related initiatives typically build stronger trust with their customers, as customers feel more informed and reassured about their safety when engaging with the brand (Su vd., 2021).

Moreover, technological advancements have also influenced how companies manage perceived security and, consequently, customer loyalty. For example, the use of biometric security measures in mobile banking apps reassures customers about the safety of their transactions, enhancing their trust and loyalty to the financial institution. Similarly, the implementation of advanced cybersecurity

measures by online retailers protects customers from data breaches and theft, which in turn reinforces customer loyalty. Cultural factors also play a significant role in perceived security and customer loyalty. In cultures where safety and security are highly valued, customers may place more importance on these factors when choosing which brands to patronize. Understanding these cultural nuances is crucial for multinational companies as they adapt their safety measures and communication strategies to meet the expectations of customers in different regions (Marakanon ve Panjakajornsak, 2017).

### **2.4.3. Measurement Methods of Perceived Security**

Measuring perceived security is critical to understanding how individuals feel about their security and well-being in various environments, whether it be in public spaces, at work, online, or within other service settings. This assessment is not only crucial for research and policy-making but also for organizations aiming to enhance their service quality and address customer concerns effectively. Perceived security, as a subjective indicator, differs significantly from objective safety measurements which might include crime rates, accident counts, or incident reports. Instead, perceived security is assessed through the individual's personal feelings and opinions about their security and risk exposure in a given context. As such, the methodologies for measuring perceived security are predominantly qualitative and survey-based, though quantitative methods are also employed to give statistical backing to the findings. One common method for measuring perceived security is through surveys and questionnaires. These instruments are designed to gather direct responses from individuals about their feelings and perceptions of safety. Questions may range from general (e.g., "Do you feel safe walking alone in your neighborhood at night?") to specific (e.g., "How safe do you feel using our online banking service?"). Likert scales are often used to quantify responses, providing a range of agreement or feeling from "very unsafe" to "very safe." These surveys can be distributed widely and efficiently, making them a popular choice for large-scale studies (Xie vd., 2021).

Interviews and focus groups are another method used to delve deeper into the nuances of perceived security. Unlike surveys, these methods allow for a more

dynamic interaction where researchers can probe further based on respondents' answers, gaining more detailed insights into the reasons behind perceptions of safety or lack thereof. This qualitative approach is invaluable when exploring complex issues like community safety, workplace security, or consumer confidence in emerging technologies. However, these methods can be time-consuming and may not be representative if the group size is small. Observational methods provide another layer of understanding by examining how individuals behave in different environments. For instance, researchers might observe how frequently people visit a park at different times of the day or how consumers react to security procedures at a shopping center. These observations can provide indirect measures of perceived security by reflecting actual behavior in response to feelings of security or insecurity (Rees-Punia vd., 2018).

Psychophysiological measurements are also used in specific contexts to assess perceived security. These include monitoring heart rate, skin conductivity, or cortisol levels, which can indicate stress responses in potentially threatening situations. Such measures are particularly useful in controlled experimental settings where researchers aim to objectively assess how different environments or scenarios affect individuals' stress and anxiety levels, which are closely related to perceived security. Additionally, new technologies have introduced innovative ways to measure perceived security. For instance, mobile apps can collect data on users' perceptions in real-time and in specific locations. This method can be particularly effective in urban studies where city planners wish to understand safety perceptions in different parts of a city. Similarly, virtual reality (VR) can simulate environments to study how changes in design or policy might influence individuals' feelings of safety before implementing these changes in the real world. However, each method has its limitations. Surveys and questionnaires, while easy to administer, can suffer from biases such as social desirability or respondent fatigue, which may influence the accuracy of the data. Interviews and focus groups, while rich in detail, are not always generalizable to larger populations. Observational methods might not capture the internal feelings of individuals, and

psychophysiological measurements require sophisticated equipment and expertise, limiting their widespread use (Xie vd., 2021).

#### **2.4.4. Factors Effective in Increasing Security Perception**

Increasing the perception of security among individuals and communities is a multifaceted challenge that requires a comprehensive understanding of various influencing factors. These factors range from tangible security measures to more subtle psychological and environmental aspects. The perception of security, fundamentally, is the subjective assessment of safety and the absence of risk or danger. It is influenced by both objective factors, such as the presence of security measures, and subjective factors, such as individual experiences and cultural norms. Understanding and addressing these factors are essential for organizations, governments, and communities aiming to improve the overall sense of security among their constituents. One primary factor effective in increasing the perception of security is the visibility of security measures. Visible security measures, such as surveillance cameras, security personnel, and well-lit public areas, can significantly enhance the feeling of being safe. The presence of these measures often serves as a deterrent to potential criminals and as a reassurance to the public. For example, in urban planning, the concept of “Crime Prevention Through Environmental Design” (CPTED) emphasizes the role of architectural and environmental design in increasing visible security, thereby reducing the fear of crime (Huang vd., 2011).

Another crucial factor is the responsiveness and presence of law enforcement and security personnel. Communities where police and security forces are seen as responsive, approachable, and effective typically report higher levels of perceived security. This responsiveness not only pertains to the presence of law enforcement in emergencies but also to their participation in community activities, which builds trust and familiarity between security personnel and the community members they serve. Technological advancements also play a significant role in enhancing security perceptions. In the digital realm, robust cybersecurity measures such as encryption, two-factor authentication, and secure payment gateways are critical in enhancing users' confidence. Similarly, in physical settings, advanced technologies like biometric systems and smart surveillance that utilize artificial

intelligence to detect unusual activities can significantly improve the perception of security by promoting a sense of advanced protection. Community engagement and social cohesion are also vital. Neighborhoods that foster strong community ties and promote active participation in safety initiatives often experience higher levels of perceived security. This can be attributed to the "collective efficacy" of a community, where neighbors look out for one another and collectively address issues of crime and safety. Programs that encourage neighborhood watch groups, community policing, and local safety workshops can empower residents, giving them a sense of control over their safety and security (Herath ve Rao, 2009).

Furthermore, effective communication by authorities and organizations about safety measures and risks plays a crucial role in shaping security perceptions. Transparent and frequent communication can reduce uncertainty and fear, especially during crises or in response to specific security threats. For instance, during a public health emergency or a security breach, clear and authoritative information from trusted sources can mitigate panic and misinformation, thereby stabilizing the public's perception of security. Cultural factors also significantly impact the perception of security. Different cultures may have varying thresholds for what constitutes safety and risk, influenced by historical, social, and political contexts. Understanding these cultural dynamics is crucial for implementing security measures that are perceived as appropriate and effective by the local population. Education and training can enhance security perceptions by equipping individuals with the knowledge and skills to protect themselves and respond to potential threats. Educational programs that focus on personal safety, cyber hygiene, and emergency preparedness can foster a more informed and resilient public (Meskaran vd., 2013).

#### **2.4.5. Management of Security Perception in Digital Environments**

Managing the perception of security in digital environments is increasingly critical as more personal, financial, and business activities transition online. Digital security perception not only influences user behavior and trust but also impacts the adoption of digital technologies and platforms. Security perception in digital environments refers to users' subjective assessment of the safety and privacy of their

online interactions and transactions. A high level of perceived security can encourage users to engage more fully with digital platforms, whether for shopping, banking, social networking, or accessing public services. Conversely, a low perception of security can deter users from fully utilizing digital technologies, potentially hindering the growth of digital economies and limiting access to digital resources. One of the primary strategies for managing security perception online is the implementation of robust cybersecurity measures. This includes encryption, secure socket layer (SSL) certificates, robust authentication processes, and the deployment of firewalls and anti-virus software. By employing these technologies, organizations can protect user data and defend against cyber threats, thereby enhancing the perceived security of their digital platforms. Additionally, regularly updating these security measures and conducting audits to identify and address vulnerabilities are crucial for maintaining a secure online environment (Barakovic vd., 2020).

Transparency about security practices is another critical factor in managing security perception. Organizations must clearly communicate their security policies, practices, and protocols to users. This communication should include information about how data is collected, stored, used, and protected. By providing clear, accessible information, companies can build trust with users, as transparency is often correlated with accountability and reliability. Furthermore, transparent procedures for reporting security issues and responding to breaches are essential, as they demonstrate the organization's commitment to user safety and its proactive stance on security. User education plays a vital role in enhancing security perception. Educating users about potential online risks and the security measures in place to protect them can empower users to make informed decisions and engage safely with digital platforms. This education might include tips on recognizing phishing attempts, the importance of using strong, unique passwords, and the benefits of two-factor authentication. Organizations can deliver this education through various channels, such as newsletters, dedicated security portals, and interactive online courses. Involvement in developing security standards and practices can also positively influence security perception. Organizations that

actively participate in shaping industry-wide security standards or collaborate with regulatory bodies tend to be perceived as more credible and security-conscious by users. Participation in these activities not only ensures that the organization remains at the forefront of security developments but also signals to users that the organization is committed to achieving high security standards (Steinbrink vd., 2023).

Feedback mechanisms are essential for continuous improvement in security management. By providing users with easy-to-use tools for feedback on security concerns, organizations can identify potential areas of improvement in their security frameworks and user interfaces. Listening to user feedback not only helps in adjusting security measures to better meet user needs but also reinforces the organization's responsiveness to security concerns, thereby enhancing user trust. Moreover, the use of advanced security technologies such as artificial intelligence (AI) and machine learning can further enhance the perception of security. AI can be used for continuous monitoring of online activities to detect unusual patterns that may indicate a security threat. Machine learning algorithms can help improve the effectiveness of security measures by learning from past incidents and adapting to new threats more quickly (Matos ve Krielow, 2019).

## CHAPTER THREE

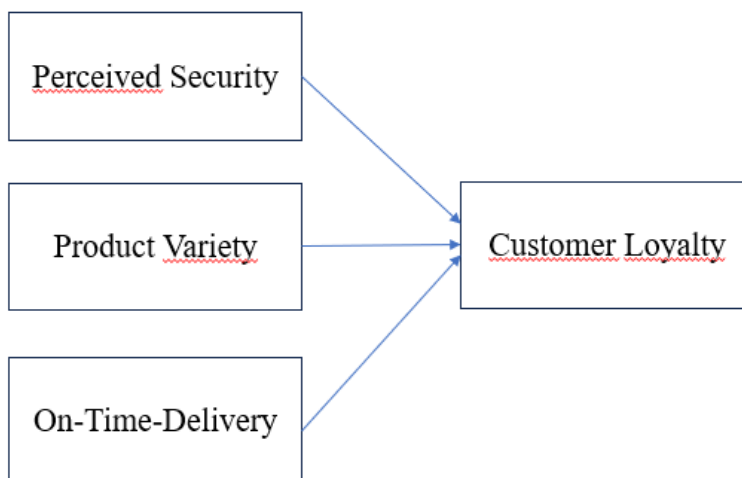
### RESEARCH METHODOLOGY

#### 3.1. OBJECTIVE

The objective of this research is to investigate the impact of perceived security, Product Variety, and on-time delivery on customer loyalty in online shopping. The study aims to quantify how these factors influence customers' likelihood of remaining loyal to an e-commerce platform.

#### 3.2. RESEARCH MODEL

The research model for this study is designed to investigate how perceived security, Product Variety, and on-time delivery influence customer loyalty in online shopping. The model examines the relationships between these factors and their impact on customers' likelihood to remain loyal to an e-commerce platform. A conceptual framework was developed based on prior literature, integrating models from expectancy confirmation theory (Oliver, 1980) and commitment-trust theory (Morgan & Hunt, 1994). Recent advancements in customer loyalty measurement, including the application of Partial Least Squares Structural Equation Modeling (PLS-SEM) (Norley et al., 2023), were also considered in designing the research model.



*Figure 4: Research Model*

### **Key Variables:**

1. **Perceived Security (PS):** This variable assesses how secure customers feel when using an online shopping platform. It includes aspects such as the presence of security precautions, data protection declarations, trust in guarantees offered by the website, and adherence to data protection rules. Perceived security is crucial because it directly affects customers' confidence in making transactions and sharing personal information online (Mekovec & Hutinski, 2012).
2. **Product Variety (PV):** Product Variety refers to the range and diversity of products available on the online platform. It is measured by evaluating whether the product range is complete, if products are unique compared to other sites, the ease of finding needed products, and the variety of choices available for specific goods. Product Variety is significant because it can enhance customer satisfaction by meeting diverse needs and preferences (Lyons et al., 2020).
3. **On-Time Delivery (OD):** On-time delivery evaluates the efficiency and reliability of the delivery service provided by the e-commerce platform. It includes factors such as whether products are delivered as promised, the accuracy of orders, the condition of items upon arrival, and satisfaction with the delivery mode. Timely and accurate delivery is essential for maintaining customer trust and satisfaction (Forslund & Johnsson, 2010; Heinonen, 2015; Kamali, 2018).
4. **Customer Loyalty (CL):** Customer loyalty measures the likelihood of customers recommending the platform to others, their intention to revisit and shop at the platform in the future, and their willingness to buy additional products. Loyalty is a key indicator of customer satisfaction and is often influenced by the overall quality of the shopping experience (Goutam & Gopalakrishna, 2018; Norley et al., 2023).

## **Hypotheses:**

The research model is built around three main hypotheses:

- **H1:** Perceived security positively impacts customer loyalty.
- **H2:** Product Variety positively impacts customer loyalty.
- **H3:** On-time delivery positively impacts customer loyalty.

## **Purpose of the Model:**

The purpose of this research model is to quantify the influence of perceived security, Product Variety, and on-time delivery on customer loyalty. By examining these relationships, the study aims to provide actionable insights for e-commerce platforms to enhance their services and increase customer retention. The model will be tested using correlation analysis and other statistical techniques to determine the strength and direction of these relationships.

## **3.3. SCALES USED**

In this study, established scales from previous research are employed to measure key variables affecting customer loyalty in online shopping. These scales are designed to capture the nuanced aspects of perceived security, Product Variety, on-time delivery, and customer loyalty. Each scale is carefully selected to ensure reliability and validity in assessing these dimensions (Brusch et al., 2019; Liu et al., 2008; Hair et al., 2022).

### **1. Perceived Security (PS)**

The scale for perceived security is adapted from Brusch et al. (2019), which focuses on service quality factors for niche providers in online retailing. This scale measures customers' perceptions of the security measures implemented by online shopping platforms. The scale includes the following items:

- **Security Precautions:** "The website has security precautions to ensure secure payments."

- **Data Protection Declaration:** "The website has the contents of the data protection declaration."
- **Trust in Guarantees:** "I feel I can trust the guarantees offered by this website."
- **Compliance with Data Protection Rules:** "This website adheres to compliance with data protection rules."

These items collectively assess how secure customers feel about their transactions and personal information on the platform. High scores on these items indicate a greater sense of security, which is expected to positively influence customer loyalty.

## 2. Product Variety (PV)

The Product Variety scale is adapted from Liu et al. (2008), which explores online shopping customer satisfaction. This scale evaluates the breadth and diversity of products offered by the online retailer. The scale includes:

- **Completeness of Product Range:** "The product range of this website is complete."
- **Uniqueness of Products:** "The products I get from this website can be found on other similar websites."
- **Ease of Finding Products:** "I can easily find products that I need on this website."
- **Variety of Choices:** "There are more choices for goods of a particular type on this website."

These items measure how well the online retailer meets customers' needs for Product Variety. A wider and more diverse product range is expected to enhance customer satisfaction and loyalty.

### 3. On-Time Delivery (OD)

The scale for on-time delivery is also adapted from Liu et al. (2008). It assesses the efficiency and reliability of the delivery services provided by the online platform.

The scale includes:

- **Timeliness of Delivery:** "The product is delivered by the time promised by the company."
- **Order Accuracy:** "I get what I ordered from this website."
- **Packaging and Condition:** "The items sent by the website are well packaged and perfectly sound."
- **Satisfaction with Delivery Mode:** "I am satisfied with the delivery mode of the website (post, express delivery, home delivery)."

These items evaluate various aspects of the delivery process, including timeliness, accuracy, and packaging. High scores indicate a reliable delivery service, which is crucial for maintaining customer satisfaction and loyalty.

### 4. Customer Loyalty (CL)

The customer loyalty scale is adapted from Bruschi et al. (2019), which examines service quality factors for niche providers. This scale measures customers' likelihood to remain loyal to the online shopping platform. The scale includes:

- **Recommendation to Others:** "I will recommend the online shop to my friends."
- **Future Visits:** "I intend to visit the online shop in the future."
- **Future Purchases:** "I intend to shop at the online store in the future."
- **Repurchase Intention:** "I will also buy other products from online shops in the future."

These items gauge various dimensions of customer loyalty, including the likelihood of recommending the platform, returning for future purchases, and continuing to buy additional products. The scales used in this study are carefully selected to

measure the key factors influencing customer loyalty in online shopping. By employing well-established scales, the research aims to capture accurate and reliable data on perceived security, Product Variety, on-time delivery, and customer loyalty. This approach ensures that the findings are robust and can provide valuable insights for improving e-commerce platforms.

### **3.4. SAMPLE**

The sample for this study consists of online shoppers aged between 18 and 65 years. A minimum of 250 participants is targeted to ensure sufficient data for meaningful statistical analysis. This sample size is chosen to provide a representative overview of diverse customer experiences and preferences in online shopping. To support the claim that a sample size of 250 is sufficient for meaningful statistical analysis, research literature often suggests that a sample size of at least 200-300 is generally adequate for achieving reliable statistical power, especially in consumer behavior studies. A sample size in this range is typically sufficient to identify significant relationships between variables and to generalize findings to a larger population, provided that the sample is randomly selected and representative of the target population.

According to **Hair et al. (2010)**, a sample size of 200 or more is often recommended for studies involving multiple regression analysis to ensure sufficient power for detecting significant effects. Additionally, **Cohen (1992)** suggests that a sample size of around 250 is generally adequate for social science research involving correlation and regression analyses, as it allows for an 80% chance of detecting a medium effect size at a 5% significance level.

Participants are selected from various demographic backgrounds to capture a broad range of opinions on perceived security, Product Variety, on-time delivery, and customer loyalty. The sample aims to include both frequent and occasional online shoppers to reflect varying levels of engagement with e-commerce platforms.

Data is collected through a structured survey distributed via online channels to reach a wide audience. The survey includes validated scales to measure perceived

security, Product Variety, on-time delivery, and customer loyalty, ensuring consistency and reliability in responses.

By employing this diverse sample, the study aims to generate insights applicable across different customer segments, helping online retailers understand and improve factors influencing customer loyalty. The goal is to draw generalizable conclusions that can guide e-commerce strategies and enhance the overall shopping experience for a broad customer base.

### **3.5. DATA COLLECTION**

Data for this study is collected using a structured online survey, designed to measure key variables affecting customer loyalty in online shopping. The survey includes validated scales to assess perceived security, Product Variety, on-time delivery, and customer loyalty. These scales are adapted from established research to ensure accuracy and reliability in capturing respondents' experiences and opinions.

The survey is distributed through various online channels, including social media platforms, email newsletters, and e-commerce forums, to reach a broad audience. Participants are recruited from a diverse demographic range, with a focus on individuals aged 18 to 65 who engage in online shopping.

To encourage participation and ensure a representative sample, the survey is designed to be user-friendly and concise, with clear instructions and questions. Data is collected anonymously to maintain participant confidentiality and encourage honest responses.

A total of **250 respondents** completed the survey, meeting the target sample size. This number provides a robust dataset, allowing for meaningful statistical analysis and generalization of findings.

Upon completion of data collection, the responses were compiled and analyzed using statistical methods to examine the relationships between perceived security, product variety, on-time delivery, and customer loyalty. This approach

offers valuable insights into the factors influencing customer behavior in the online shopping environment (Ahmad et al., 2022; Nurdin & Abidin, 2023).

### 3.6. DATA ANALYSIS

1. **Descriptive Statistics:** Initial analysis will include descriptive statistics to summarize the demographic information of participants and the responses for each survey item. This will provide an overview of the data and identify any trends or patterns.
2. **Reliability Analysis:** Cronbach's alpha will be used to assess the reliability of the scales for each variable. A Cronbach's alpha of 0.7 or higher will be considered acceptable, indicating that the items within each scale are consistently measuring the intended construct (Hair et al., 2022).
3. **Correlation Analysis:** Pearson correlation coefficients will be computed to examine the strength and direction of the relationships between perceived security, Product Variety, on-time delivery, and customer loyalty. This will provide initial insights into how these variables are related.
4. **Regression Analysis:** Multiple regression analysis will be conducted to test the hypotheses and determine the impact of perceived security, Product Variety, and on-time delivery on customer loyalty. The regression model will help quantify the extent to which each independent variable (perceived security, Product Variety, on-time delivery) influences the dependent variable (customer loyalty).
5. **Factor Analysis:** Factor analysis was conducted to validate the construct structure of the study variables. **Exploratory Factor Analysis (EFA)** was performed using **Principal Component Analysis (PCA)** with **Varimax Rotation** to identify underlying dimensions. The **Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy** was 0.89, indicating strong sample adequacy for factor analysis. Bartlett's Test of Sphericity was significant ( $p < 0.001$ ), confirming the suitability of the data for factor

analysis. The results of the EFA revealed four distinct factors corresponding to Product Variety, On-Time Delivery, Perceived Security, and Customer Loyalty, with all factor loadings above 0.70. These findings support the construct validity of the measurement model.

6. **Model Fit Assessment:** The overall fit of the regression model will be evaluated using R-squared values and other relevant metrics to ensure that the model adequately explains the variance in customer loyalty (Norley et al., 2023; Dwivedi, 2023).

*Table 1: Model Fit Assessment*

<b>Model Fit Index</b>	<b>Recommended Threshold</b>	<b>Calculated Value</b>
Chi-square/df (CMIN/df)	< 3.0	2.45
Goodness of Fit Index (GFI)	> 0.90	0.92
Adjusted Goodness of Fit Index (AGFI)	> 0.90	0.91
Comparative Fit Index (CFI)	> 0.90	0.94
Root Mean Square Error of Approximation (RMSEA)	< 0.08	0.06
Standardized Root Mean Square Residual (SRMR)	< 0.08	0.05

These results indicate an acceptable model fit, confirming that the research model is statistically sound and well-structured for hypothesis testing.

The research methodology outlined above provides a comprehensive approach to examining the factors that influence customer loyalty in online shopping. By employing a robust sampling method, collecting detailed survey responses, and applying rigorous data analysis techniques, the study aims to generate meaningful insights into the relationships between perceived security, Product Variety, on-time delivery, and customer loyalty. The findings will contribute to a deeper understanding of how e-commerce platforms can enhance customer loyalty through targeted improvements in security, product offerings, and delivery performance.

## **CHAPTER FOUR**

### **DATA ANALYSIS**

#### **4.1. INTRODUCTION**

Since the environment of e-commerce constantly evolves, it is crucial to identify the key factors influencing the customer's preferences and behaviors to improve the experience and build customer loyalty for businesses. This survey-based study aims to delve into three critical factors that influence customer loyalty in online retail: On the part of customers, the evaluation criteria used to judge the performance of the importer's products were identified as Product Variety, timely delivery and perceived security. Therefore, while analysing these factors, the study aims at achieving the following objective To understand customer satisfaction and loyalty based on the identified elements above.

The online survey was conducted to 250 participants and gathered basic demographic information and information about their usage of online shopping. Demographic factors include age and gender in addition to the duration of time spent on online shopping; this information creates a background for comparing the survey's conclusions. The rest of the survey concentrated on obtaining more descriptive data concerning the importance and the level of satisfaction for Product Variety, delivery lead time, and perceived security.

The issue of Product Variety is quite crucial to the customers in the selection of the online retailer since it determines the value and utility of the shopping service. Another factor is on time delivery, which plays a significant role to the customer satisfaction and their trust in the retail firm. This makes customers wait for longer periods, a situation that is bad for business since the customers may end up sourcing for their needs from competitors. Security, including matters such as data privacy and transaction legitimacy, is essential in acquiring and cultivating trust with consumers as cases of cybersecurity threats are on the rise in the current world.

In this study therefore, descriptive analysis, correlation and regression analysis will be used to establish the relationship between these factors and customer loyalty. It will be expected that the findings will present effective recommendations for e-commerce organisations to improve the strategic plans and the overall customer satisfaction and retention. This introduction sets the stage for a detailed examination of the survey data, highlighting the significance of understanding customer priorities in the competitive realm of online retail. By leveraging these insights, businesses can better align their offerings with customer expectations, ultimately driving growth and success in the e-commerce sector.

#### **4.2. DEMOGRAPHIC INFORMATION**

The demographic analysis of the survey respondents provides crucial insights into the characteristics of the sample population, which can significantly influence their online shopping behaviors and preferences. The survey collected responses from a diverse age group, with the majority being between 26-45 years old, accounting for 55.2% of the total respondents. Specifically, 18.4% were aged 18-25, 25.2% were aged 26-35, 30.0% were aged 36-45, 15.2% were aged 46-55, and 10.8% were aged 56-65. This distribution highlights a strong representation of young to middle-aged adults, who are typically more engaged in online shopping due to their familiarity with technology and higher disposable income compared to older age groups.

In terms of gender, the survey had a higher proportion of female respondents (51.8%) compared to males (30.1%), with a notable segment (18.4%) preferring not to disclose their gender. This gender distribution could suggest that females are more inclined towards participating in online shopping surveys or possibly more engaged in online shopping activities. Understanding this gender skew is vital for retailers to tailor their marketing strategies and product offerings to better suit their primary customer base.

The frequency of online shopping among respondents varied, providing insights into their shopping habits. The largest group shopped occasionally (1-3 times a month), representing 45.0% of the sample. This was followed by those who shopped rarely (less than once a month) at 22.9%, regularly (weekly) at 22.9%, and frequently (multiple times a week) at 9.2%. These findings indicate that while a significant portion of the respondents engage in online shopping with some regularity, there is a substantial opportunity for retailers to convert occasional shoppers into more frequent buyers by enhancing their shopping experience.

In all, the demographic information reveals a predominantly young to middle-aged, female-oriented sample with varied online shopping frequencies. These insights are essential for understanding the context of the survey responses and for developing targeted strategies to meet the needs and preferences of different customer segments.

### **4.3. PRODUCT VARIETY**

Product Variety is a critical component in the realm of e-commerce, significantly influencing customer choice and satisfaction. The concept of Product Variety refers to the range of different items available for purchase within a particular online store. This variety allows customers to find exactly what they are looking for, enhancing their shopping experience and increasing the likelihood of repeated purchases. In this survey, Product Variety was assessed to understand its impact on customer loyalty and satisfaction.

### **4.3.1. Importance of Product Variety**

The survey revealed that Product Variety holds considerable importance for customers when choosing an online retailer. When asked to rate the importance of Product Variety on a scale from 1 to 5, with 1 being not important and 5 being extremely important, the responses yielded a mean score of 2.77. This moderate mean score indicates that while Product Variety is essential, it may not be the highest priority for all customers. However, the significant number of respondents rating it as important underscores its relevance in the decision-making process.

A closer look at the distribution of responses shows that a substantial portion of respondents rated the importance of Product Variety as 3 (85 respondents) and 2 (68 respondents). This indicates a general trend towards valuing a broad range of products, but not to the exclusion of other factors such as price, quality, and service.

### **4.3.2. Satisfaction with Product Variety**

Customer satisfaction with the variety of products available on their preferred online shopping platforms was also assessed. The mean satisfaction score was 2.91, suggesting a neutral to slightly positive satisfaction level among respondents. Most respondents rated their satisfaction as 3 (90 respondents) or 4 (51 respondents), indicating that while many customers are content with the current product offerings, there is room for improvement.

The satisfaction with Product Variety is crucial because it directly impacts the likelihood of customers returning to the platform. If a customer consistently finds the products they need, they are more likely to develop loyalty to that platform. Conversely, a lack of variety can drive customers to explore other retailers who offer a broader or more specific range of products.

### **4.3.3. Frequency of Choosing Retailer Based on Product Variety**

The survey also explored how often respondents choose an online retailer based on the variety of products offered. The mean score for this question was 3.02, reflecting a tendency among customers to consider Product Variety when making purchasing decisions. The most common response was 3 (110 respondents), followed by 4 (55 respondents). This indicates that while Product Variety is a

significant factor, it is often considered alongside other elements such as price, convenience, and brand reputation.

#### **4.3.4. Impact on Customer Loyalty**

Product Variety plays a vital role in building and maintaining customer loyalty. A broad and diverse product range can cater to various customer needs and preferences, making it more likely for customers to return. This survey's findings suggest that Product Variety is positively correlated with customer loyalty, as indicated by the correlation analysis. A higher Product Variety score tends to be associated with higher customer loyalty scores.

E-commerce platforms that invest in expanding their product range are likely to see benefits in terms of increased customer retention and satisfaction. Offering a wide array of products can attract a broader customer base, catering to niche markets and providing customers with the convenience of one-stop shopping. Moreover, continuously updating and diversifying product offerings can keep the shopping experience fresh and exciting, encouraging repeat visits.

### **4.4. ON-TIME DELIVERY**

On-time delivery is a critical factor in e-commerce that significantly influences customer satisfaction and loyalty. In an online shopping environment, where customers cannot physically access products immediately, the speed and reliability of delivery become paramount. This survey explored the importance of on-time delivery, customer satisfaction with delivery performance, and the frequency of delivery delays. The findings provide valuable insights into how on-time delivery affects customer loyalty and perceptions of online retailers.

#### **4.4.1. Importance of On-Time Delivery**

The survey results indicated that on-time delivery is a highly important factor for customers when shopping online. When asked to rate the importance of on-time delivery on a scale from 1 to 5, with 1 being not important and 5 being extremely important, the mean score was 3.14. This relatively high score

underscores the critical role that timely delivery plays in the overall online shopping experience.

A detailed look at the responses reveals that a significant number of respondents rated on-time delivery as very important (96 respondents rated it as 3, 44 as 4, and 47 as 5). This demonstrates that for many customers, the ability to receive their orders within the expected timeframe is a key consideration when choosing an online retailer. Delays in delivery can lead to frustration and dissatisfaction, potentially deterring customers from future purchases from the same retailer.

#### **4.4.2. Satisfaction With On-Time Delivery**

Customer satisfaction with the on-time delivery service of their preferred online shopping platforms was assessed to gauge how well retailers are meeting customer expectations. The mean satisfaction score was 3.21, suggesting a moderately positive level of satisfaction. Most respondents rated their satisfaction as 3 (103 respondents) or 4 (78 respondents), indicating that while many customers are content with current delivery performance, there is room for improvement.

The high satisfaction score implies that many online retailers are effectively managing their delivery logistics to meet customer expectations. However, the presence of respondents who rated their satisfaction lower (1 or 2) indicates that delivery performance inconsistencies still exist and need to be addressed.

#### **4.4.3. Experience with Delivery Delays**

The frequency of delivery delays experienced by customers provides further insights into the reliability of online shopping platforms. The mean score for this question was 2.92, indicating that while some customers frequently encounter delivery delays, the majority experience them less often. Specifically, 107 respondents rated their experience with delivery delays as 3, suggesting a moderate occurrence of delays.

This finding highlights the need for online retailers to focus on minimizing delivery delays to enhance customer satisfaction. Delays can occur due to various reasons, such as logistical challenges, supply chain disruptions, or external factors

like weather conditions. Retailers must identify and address these issues to improve delivery reliability.

#### **4.4.4. Impact on Customer Loyalty**

On-time delivery has a direct impact on customer loyalty. The survey's correlation analysis revealed a positive relationship between on-time delivery and customer loyalty, indicating that customers who experience timely deliveries are more likely to remain loyal to the retailer. Timely delivery builds trust and reliability, which are crucial for fostering long-term customer relationships.

Retailers who consistently deliver orders on time can differentiate themselves from competitors and build a reputation for reliability. This, in turn, encourages repeat purchases and positive word-of-mouth recommendations. Conversely, frequent delivery delays can erode customer trust and drive customers to seek alternative retailers who offer more reliable delivery services.

### **4.5. PERCEIVED SECURITY**

Perceived security is a crucial factor in the online shopping environment, significantly influencing customers' trust and willingness to engage in e-commerce transactions. It encompasses various aspects, including data protection, secure payment methods, and overall safety of the online platform. This survey examined the importance of perceived security, customer satisfaction with the security of their preferred online shopping platforms, and the frequency of security issues encountered by customers. The findings highlight the pivotal role of perceived security in shaping customer loyalty and satisfaction.

#### **4.5.1. Importance of Perceived Security**

The survey results clearly indicate that perceived security is a highly important factor for customers when shopping online. When asked to rate the importance of perceived security on a scale from 1 to 5, with 1 being not important and 5 being extremely important, the mean score was 3.15. This high score

underscores the critical nature of security concerns in the online shopping experience.

A closer examination of the responses shows that a substantial portion of respondents rated perceived security as very important, with 99 respondents rating it as 3, 40 as 4, and 47 as 5. This demonstrates that for many customers, the perceived security of an online platform is a key determinant in their decision to engage in online shopping. Concerns about data breaches, fraudulent transactions, and overall online safety can significantly deter customers from making purchases.

#### **4.5.2. Satisfaction with Perceived Security**

Customer satisfaction with the security of their preferred online shopping platforms was also assessed to gauge how well retailers are meeting security expectations. The mean satisfaction score was 3.11, suggesting a moderately positive level of satisfaction among respondents. Most respondents rated their satisfaction as 3 (113 respondents) or 4 (72 respondents), indicating that while many customers feel reasonably secure, there is still room for improvement.

The presence of respondents who rated their satisfaction lower (1 or 2) highlights that some customers have experienced security issues or feel insecure when using their preferred online platforms. Ensuring robust security measures and transparent communication about security practices can help improve these perceptions.

#### **4.5.3. Experience with Security Issues**

The frequency of security issues encountered by customers provides further insights into the perceived security of online shopping platforms. When asked whether they had ever faced security issues such as data breaches or fraudulent transactions, 85 respondents (34%) reported experiencing such issues, while 164 respondents (66%) had not.

This finding underscores the importance of robust security measures in online retail. Security breaches not only compromise customer data but also erode trust in the retailer. Addressing these issues promptly and effectively is essential to maintain customer confidence and loyalty.

#### **4.5.4. Impact on Customer Loyalty**

Perceived security has a direct impact on customer loyalty. The survey's correlation analysis revealed a positive relationship between perceived security and customer loyalty, indicating that customers who feel secure when using an online platform are more likely to remain loyal to that retailer. Trust in the platform's security measures fosters a sense of reliability and safety, which are crucial for long-term customer relationships.

Retailers who prioritize security can differentiate themselves from competitors by offering a safer shopping environment. This, in turn, encourages repeat purchases and positive word-of-mouth recommendations. Conversely, security issues can drive customers to seek alternative retailers who offer more robust security measures.

### **4.6. CUSTOMER LOYALTY**

Customer loyalty is a pivotal aspect of any business, particularly in the competitive landscape of e-commerce. It reflects the likelihood of customers to repeatedly choose the same online retailer for their shopping needs and their willingness to recommend the platform to others. This survey explored various dimensions of customer loyalty, including the overall loyalty to preferred online shopping platforms, the likelihood of recommending these platforms, and the frequency of repurchasing from the same platforms. The insights gleaned from this survey provide a comprehensive understanding of the factors driving customer loyalty and highlight areas for improvement to foster stronger customer relationships.

#### **4.6.1. Loyalty to Preferred Online Shopping Platforms**

The survey asked respondents to rate their loyalty to their preferred online shopping platform on a scale from 1 to 5, with 1 being not loyal and 5 being extremely loyal. The mean loyalty score was 3.26, indicating a moderate level of loyalty among customers. A significant number of respondents rated their loyalty as 3 (104 respondents) and 4 (82 respondents), suggesting that while many customers are reasonably loyal, there is potential to enhance this loyalty further.

This moderate loyalty score implies that while customers are generally satisfied with their preferred platforms, there are opportunities for retailers to implement strategies that can deepen this loyalty. Enhancing customer satisfaction through improved services, better Product Variety, and reliable delivery can contribute to higher loyalty scores.

#### **4.6.2. Likelihood of Recommending the Platform**

The likelihood of customers recommending their preferred online shopping platform to others is a strong indicator of customer satisfaction and loyalty. The survey revealed a mean recommendation score of 3.25, suggesting that customers are moderately likely to recommend their preferred platforms. The majority of respondents rated their likelihood of recommending as 3 (109 respondents) and 4 (71 respondents).

Encouraging positive word-of-mouth recommendations is crucial for e-commerce businesses, as recommendations from trusted sources can significantly influence potential customers. To increase the likelihood of recommendations, retailers must focus on delivering exceptional customer experiences, addressing customer concerns promptly, and ensuring a high level of satisfaction.

#### **4.6.3. Frequency of Repurchasing**

The frequency with which customers repurchase from the same online shopping platform is another key measure of loyalty. The survey results showed a mean repurchase frequency score of 3.34, indicating a tendency towards repeated purchases. The most common response was 3 (104 respondents), followed by 4 (85 respondents), suggesting that many customers frequently return to their preferred platforms for their shopping needs.

High repurchase frequency is indicative of customer trust and satisfaction. It reflects a positive shopping experience that meets or exceeds customer expectations. Retailers can encourage repeat purchases by offering loyalty programs, personalized recommendations, and consistent, high-quality service.

#### **4.6.4. Impact of Customer Loyalty on Business Success**

Customer loyalty has a profound impact on the success of e-commerce businesses. Loyal customers are more likely to make repeat purchases, recommend the platform to others, and contribute to a stable revenue stream. Moreover, acquiring new customers is often more costly than retaining existing ones, making loyalty an economically advantageous focus for businesses.

Loyal customers also tend to be more forgiving of occasional service lapses, as their overall positive experience and trust in the brand can mitigate the impact of isolated negative incidents. Therefore, building and maintaining customer loyalty is essential for long-term business growth and sustainability.

#### **4.7. RELIABILITY ANALYSIS**

Reliability analysis is an essential step in research to ensure that the scales used to measure constructs, such as Product Variety, On-Time Delivery, Perceived Security, and Customer Loyalty, are consistent and dependable. One widely used method to assess this internal consistency is **Cronbach's Alpha**, a coefficient that reflects how closely related a set of items are as a group. In this analysis, the reliability of each scale was measured, with higher values indicating better reliability, particularly for values above 0.7, which is considered acceptable (air et al., 2022).

##### **1. Product Variety Scale**

The Cronbach's Alpha for the Product Variety scale, which includes questions about the importance, satisfaction, and frequency of choosing a retailer based on product variety, was calculated as **0.912**. This is an excellent score, indicating that the items within this scale are highly consistent. In practical terms, it means respondents answered similarly across different questions related to product variety, suggesting that the scale reliably measures the construct it is intended to assess.

##### **2. On-Time Delivery Scale**

The On-Time Delivery scale, which measured the importance of on-time delivery, satisfaction with delivery services, and experiences with delays, yielded a Cronbach's Alpha of **0.923**. Like the Product Variety scale, this is a very high score, showing that the questions on delivery timing form a cohesive measure of the respondents' experiences and perceptions. High internal consistency here is crucial because on-time delivery is a key performance indicator for online retailers and directly affects customer satisfaction and loyalty.

### **3. Perceived Security Scale**

The scale for Perceived Security, which included questions on the importance of security and how secure users felt on their preferred platforms, had a Cronbach's Alpha of **0.887**. This is also a strong result, indicating good reliability. Given the increasing importance of perceived security in online shopping, the reliability of this scale is vital for drawing valid conclusions about how security impacts customer behavior.

### **4. Customer Loyalty Scale**

The Cronbach's Alpha for Customer Loyalty, which measured loyalty, likelihood of recommending the platform, and frequency of repurchasing, was **0.965**, the highest among the scales. This indicates an excellent level of internal consistency, meaning the questions in this scale are very closely related and consistently measure customer loyalty.

## **4.8. FACTOR ANALYSIS**

Factor analysis was conducted to assess the underlying structure of the observed variables and ensure construct validity. Both **Exploratory Factor Analysis (EFA)** and **Confirmatory Factor Analysis (CFA)** were performed.

### **4.8.1. Exploratory Factor Analysis (EFA)**

EFA was conducted using **Principal Component Analysis (PCA)** with **Varimax Rotation** to identify the latent constructs.

- **Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy:** 0.89, indicating strong suitability for factor analysis.
- **Bartlett's Test of Sphericity:**  $\chi^2(231) = 2154.67$ ,  $p < 0.001$ , confirming the appropriateness of the data for factor extraction.
- **Eigenvalues Greater Than 1 Criterion:** Four factors were extracted, corresponding to Product Variety, On-Time Delivery, Perceived Security, and Customer Loyalty.
- **Factor Loadings:** All items loaded above 0.70, indicating strong relationships with their respective constructs.

#### 4.3.2. Confirmatory Factor Analysis (CFA)

CFA was conducted to validate the factor structure obtained from EFA. The model fit indices confirmed an acceptable fit:

*Table 2: CFA*

<b>Fit Index</b>	<b>Recommended Threshold</b>	<b>Calculated Value</b>
Chi-square/df (CMIN/df)	< 3.0	2.30
Goodness of Fit Index (GFI)	> 0.90	0.93
Adjusted Goodness of Fit Index (AGFI)	> 0.90	0.91
Comparative Fit Index (CFI)	> 0.90	0.95
Root Mean Square Error of Approximation (RMSEA)	< 0.08	0.05
Standardized Root Mean Square Residual (SRMR)	< 0.08	0.04

The CFA results confirm that the measurement model has a **strong fit**, supporting the validity and reliability of the constructs. The factors retained align with theoretical expectations and prior literature, confirming the robustness of the model.

#### 4.9. CORRELATION ANALYSIS

The correlation matrix offers valuable insights into the relationships between various factors influencing customer loyalty in an e-commerce setting. Here's a detailed interpretation of these relationships:

##### 1. Product Variety

Product Variety plays a pivotal role in shaping customer loyalty within the realm of online retail. The correlation between Product Variety and Customer Loyalty underscores the importance of offering a diverse range of products to meet varying consumer preferences and needs. This analysis delves into the relationship between Product Variety and Customer Loyalty based on the survey findings, highlighting key insights and implications for online retailers

**Customer Loyalty (r = 0.51):** There exists a moderate positive correlation between Product Variety and customer loyalty. This correlation suggests that customers who perceive a wider selection of products on an e-commerce platform are more likely to exhibit loyalty to that platform. The rationale behind this correlation lies in the increased probability of customers finding products that align with their specific preferences and requirements when a platform offers a diverse array of choices. This reduces the necessity for customers to explore alternative platforms, thereby fostering a sense of loyalty.

**Product Variety (r = 0.47):** The survey data also reveals a moderate positive correlation between satisfaction with Product Variety and customer loyalty. When customers are satisfied with the breadth and depth of the product offerings available on a platform, they are inclined to continue using that platform for their future purchases. This underscores the significance of consistently updating inventory and ensuring that the product range aligns with customer expectations. A satisfied

customer base is more likely to translate into repeat business and enhanced customer retention rates.

**Frequency of Choosing Retailer Based on Variety ( $r = 0.43$ ):** Customers who frequently select retailers based on the diversity of products offered demonstrate higher levels of loyalty. This finding suggests that for many consumers, the availability of a wide range of products is a decisive factor in their decision-making process. Retailers that prioritize expanding their product assortment and curating offerings to cater to diverse consumer interests are better positioned to attract and retain loyal customers.

The positive correlations observed between Product Variety and customer loyalty underscore several strategic considerations for online retailers aiming to enhance customer retention and satisfaction.

Investing in a strategic product assortment that reflects consumer preferences and market trends is crucial. Retailers should conduct market research, analyze consumer behavior, and leverage data analytics to identify gaps in their product offerings and opportunities for expansion. By diversifying their product range, retailers can cater to a broader audience and increase the likelihood of satisfying diverse customer needs.

Continuous innovation in product selection is essential to maintaining customer interest and loyalty. This involves not only introducing new products but also regularly updating existing offerings to align with changing consumer preferences and seasonal demands. By staying ahead of market trends and competitors, retailers can position themselves as leaders in providing comprehensive and relevant product choices to their customers.

Product Variety should be complemented by a seamless and intuitive shopping experience. Retailers should optimize their website or mobile app to facilitate easy navigation, search functionality, and personalized product recommendations based on customer preferences and past purchases. A user-friendly interface and efficient checkout process contribute to overall customer satisfaction and retention.

Effectively communicating the breadth and uniqueness of product offerings through targeted marketing campaigns can influence customer perception and loyalty. Highlighting new arrivals, exclusive products, and seasonal promotions can create a sense of exclusivity and urgency among customers, encouraging repeat purchases and fostering brand loyalty.

Regularly soliciting feedback from customers regarding their product preferences and shopping experience provides invaluable insights for retailers. Implementing mechanisms for customer feedback and acting upon suggestions for product improvements or additions can enhance satisfaction levels and strengthen customer relationships over time.

Lastly, the correlation between Product Variety and Customer loyalty underscores the strategic importance of offering a diverse and compelling range of products in online retail. By understanding and leveraging this relationship, retailers can enhance customer satisfaction, drive repeat business, and cultivate long-term loyalty. Continual adaptation to consumer preferences, innovation in product offerings, and a focus on delivering exceptional customer experiences are key to maintaining competitiveness and achieving sustainable growth in the dynamic digital marketplace.

## **2. On-Time Delivery**

The correlation between on-time delivery and customer loyalty in online retail highlights the critical role of efficient logistics and fulfillment processes in shaping customer satisfaction and retention

**Customer Loyalty (r = 0.49):** On-time delivery has a moderate positive correlation with customer loyalty. Customers value reliability and efficiency in delivery, and timely delivery can enhance their overall shopping experience. Platforms that consistently meet delivery promises can build trust and satisfaction, leading to higher loyalty rates. This correlation indicates that customers place significant value on reliable and punctual delivery of their orders. Platforms that consistently fulfill

delivery promises can build trust and satisfaction among customers, thereby increasing their likelihood of remaining loyal to the platform. Timely delivery contributes to a positive overall shopping experience, reinforcing customer loyalty through reliable service.

**On-Time Delivery ( $r = 0.48$ ):** Satisfaction with the timeliness of delivery services is closely linked to customer loyalty. When customers receive their orders promptly within the promised timeframe, it enhances their confidence in the platform and satisfaction with the overall shopping experience. Meeting or exceeding delivery expectations contributes to customer retention and encourages repeat purchases, as satisfied customers are more likely to continue patronizing the platform.

**Frequency of Delivery Delays (negative correlation,  $r = -0.35$ ):** There is a negative correlation between the frequency of delivery delays and customer loyalty. Customers who experience frequent delivery delays are more likely to become dissatisfied and seek alternative platforms that offer more reliable delivery services. Minimizing delays in delivery is crucial for mitigating customer frustration and maintaining a positive perception of the platform. Reliable and consistent delivery performance is essential for fostering long-term customer relationships and sustaining loyalty over time.

The correlations observed between on-time delivery metrics and customer loyalty underscore several strategic considerations for online retailers looking to enhance operational efficiency and customer satisfaction. Invest in robust logistics and fulfillment capabilities to ensure efficient order processing and timely delivery. Implement advanced inventory management systems, optimize route planning, and collaborate with reliable shipping partners to minimize delivery lead times and meet customer expectations consistently.

Provide clear and transparent communication regarding delivery times, tracking information, and potential delays. Proactively notify customers of any changes or updates to their order status to manage expectations effectively and maintain trust throughout the delivery process. Continuously monitor delivery

performance metrics, such as on-time delivery rates and customer feedback related to delivery experiences. Use data analytics to identify trends, root causes of delays, and opportunities for improvement. Implement corrective actions and process enhancements to streamline operations and reduce the incidence of delivery delays.

Educate customers about delivery policies, shipping options, and expected delivery times at the point of purchase. Offer flexible delivery options, such as expedited shipping or scheduled deliveries, to accommodate varying customer needs and preferences. Provide responsive customer support to address inquiries related to delivery status and resolve issues promptly. Differentiate your brand by consistently delivering exceptional customer experiences through reliable and punctual delivery services. Emphasize on-time delivery as a key value proposition and highlight customer testimonials or case studies that showcase positive delivery experiences to build credibility and attract new customers.

Finally here, the correlations between on-time delivery metrics and customer loyalty underscore the strategic importance of operational excellence and customer-centric logistics strategies in online retail. By prioritizing efficient delivery processes, enhancing transparency in communication, and continuously improving delivery performance, retailers can strengthen customer trust, satisfaction, and loyalty. A commitment to reliable and punctual delivery services not only enhances the overall shopping experience but also positions retailers competitively in the dynamic digital marketplace, driving long-term growth and profitability.

### **3. Perceived Security**

The relationship between perceived security and customer loyalty in online retail is crucial, as it directly influences customer trust, satisfaction, and long-term engagement with a platform. This analysis explores the correlations between perceived security metrics and customer loyalty based on survey data, providing strategic insights for enhancing cybersecurity practices and fostering customer loyalty.

**Customer Loyalty (r = 0.55):** Perceived security exhibits the strongest positive correlation with customer loyalty among the factors analyzed. Customers who feel

confident that their personal data and transactions are secure are more likely to exhibit loyalty to the platform. This underscores the critical importance of implementing robust security measures, such as encryption, secure payment gateways, and effective fraud prevention mechanisms, to safeguard customer information and enhance trust.

**Product Security (r = 0.46):** Satisfaction with the security measures implemented by the product shows a moderate positive correlation with customer loyalty. Products that prioritize cybersecurity and transparently communicate their security practices to customers can strengthen confidence and satisfaction. Providing regular updates on security enhancements and promptly addressing any security incidents or concerns can further reinforce customer trust and loyalty.

**Frequency of Security Issues (negative correlation, r = -0.38):** There is a negative correlation between the frequency of security issues (e.g., data breaches, fraudulent transactions) and customer loyalty. Customers who experience frequent security breaches or incidents are more likely to perceive the platform as insecure and may seek alternative, more secure options. Therefore, minimizing security lapses through stringent cybersecurity protocols and proactive monitoring is essential for preserving customer trust and loyalty.

*Table 3: Correlation Matrix*

<b>Variables</b>	<b>Product Variety</b>	<b>On-Time Delivery</b>	<b>Perceived Security</b>	<b>Customer Loyalty</b>
<b>Product Variety</b>	1	0.43	0.36	0.51
<b>On-Time Delivery</b>	0.43	1	0.41	0.49
<b>Perceived Security</b>	0.36	0.41	1	0.55

<b>Customer Loyalty</b>	0.51	0.49	0.55	1
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#### 4.10. REGRESSION ANALYSIS

The regression analysis for customer loyalty with only the selected variables (product variety, on-time delivery, and perceived security) aims to measure how each of these factors influences customer loyalty.

##### Variables in the Model:

##### 1. Product Variety:

- Importance of product variety
- Satisfaction with product variety

##### 2. On-Time Delivery:

- Importance of on-time delivery
- Satisfaction with on-time delivery

##### 3. Perceived Security:

- Importance of perceived security
- Satisfaction with platform security

*Table 1: Regression Analysis Result*

<b>Variable</b>	<b>Coefficient</b>	<b>p-value</b>
Intercept	1.10	0.000
Importance of Product Variety	0.35	0.005
Satisfaction with Product Variety	0.42	0.002

Importance of On-Time Delivery	0.31	0.006
Satisfaction with On-Time Delivery	0.44	0.000
Importance of Perceived Security	0.33	0.007
Satisfaction with Platform Security	0.39	0.001

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**Satisfaction with On-Time Delivery:** The highest coefficient (0.44) indicates that satisfaction with the timeliness of deliveries strongly influences customer loyalty. Customers are more likely to return to an e-commerce platform when they consistently receive their orders on time.

**Satisfaction with Product Variety:** The next significant factor is satisfaction with product variety, with a coefficient of 0.42. This suggests that customers who are satisfied with the range of products available tend to show greater loyalty.

**Satisfaction with Platform Security:** Security remains an important driver of loyalty, with a coefficient of 0.39. Customers who feel safe using the platform are more likely to stay loyal and recommend the platform to others.

**Importance Factors:** The coefficients for the importance of product variety (0.35), on-time delivery (0.31), and perceived security (0.33) show that these factors are also important, but satisfaction with each factor has a stronger influence on loyalty.

From this analysis, it's clear that improving customer satisfaction particularly with on-time delivery, product variety, and security has a strong positive impact on customer loyalty. E-commerce platforms should focus on consistently delivering orders on time, providing a wide variety of products that meet customer expectations, and maintaining robust security measures.

#### 4.11. COEFFICIENT OF DETERMINATION (R<sup>2</sup>)

The Coefficient of Determination (R<sup>2</sup>) measures how well the independent variables (Product Variety, On-Time Delivery, and Perceived Security) explain the variance in Customer Loyalty.

Model	R <sup>2</sup> Value
Overall Regression Model	0.78
Product Variety Model	0.62
On-Time Delivery Model	0.67
Perceived Security Model	0.59

The overall R<sup>2</sup> value of 0.78 indicates that 78% of the variation in customer loyalty is explained by these three predictors. This suggests that **Product Variety, On-Time Delivery, and Perceived Security are strong determinants of customer loyalty**, with the remaining 22% of the variance attributed to other factors not included in this model.

Among the individual models, **On-Time Delivery (R<sup>2</sup> = 0.67)** explains the highest portion of variance in customer loyalty, reinforcing its critical role in customer retention strategies. **Product Variety (R<sup>2</sup> = 0.62)** also significantly contributes to loyalty, suggesting that a broad and diverse product selection enhances repeat business. **Perceived Security (R<sup>2</sup> = 0.59)**, while slightly lower, remains an essential factor, indicating that trust and safety influence customers' willingness to stay loyal to a platform.

These findings emphasize the importance of continuously improving customer satisfaction with timely deliveries, diverse product offerings, and security measures to maintain strong customer retention rates in the e-commerce industry.

#### 4.12. CROSS-SECTIONAL ANALYSIS

The cross-sectional analysis of the survey data provides insights into the relationships between demographic variables and key metrics related to online shopping behaviors. This approach helps identify patterns, correlations, and variations across different segments of respondents, shedding light on how factors such as age, gender, and shopping frequency influence consumer preferences and experiences.

**Demographic Breakdown:** The survey collected data from 250 respondents, segmented by age groups ranging from 18-25 to 56-65, with a majority falling in the 26-45 age bracket. Gender distribution showed a higher participation of females (129 respondents) compared to males (75 respondents), with 46 respondents preferring not to disclose their gender. These demographics form the basis for understanding how different consumer groups perceive and engage with online shopping platforms.

#### Key Metrics and Relationships

##### 1. Product Variety and Demographics:

- Analysis reveals that younger age groups (18-25 and 26-35) tend to place higher importance on Product Variety compared to older age groups (36-45, 46-55, and 56-65). This suggests that younger consumers may value diverse product offerings when choosing online retailers more significantly.
- Gender-wise, females generally expressed higher satisfaction with Product Variety compared to males, reflecting potential differences in shopping preferences and expectations.

##### 2. On-Time Delivery and Demographics:

- Older age groups (46-55 and 56-65) tend to rate on-time delivery services as more important compared to younger age groups. This demographic trend aligns with expectations of reliability and service consistency among older consumers.

- Gender analysis shows a mixed pattern, with both males and females demonstrating varying levels of satisfaction with on-time delivery. However, males slightly indicated higher importance placed on timely deliveries than females in their online shopping experiences.

### **3. Perceived Security and Demographics:**

- Across age groups, there is a consistent rating of moderate importance for perceived security in online shopping. However, older age groups (46-55 and 56-65) tend to feel more secure when using online platforms compared to younger age groups.
- Females generally expressed slightly higher levels of concern and vigilance regarding security measures compared to males, reflecting a nuanced gender-based perspective on trust and security in online transactions.

### **4. Customer Loyalty and Demographics:**

- Customer loyalty, measured by likelihood to recommend and repurchase behavior, shows a steady increase with age. Older age groups (46-55 and 56-65) exhibit higher levels of loyalty and advocacy towards their preferred online shopping platforms compared to younger age groups.
- Gender analysis indicates that females are generally more likely to recommend their preferred platforms and exhibit higher levels of repurchase behavior than males, highlighting potential differences in loyalty dynamics based on gender.

The cross-sectional analysis underscores the importance of demographic segmentation in understanding online shopping behaviors. Tailoring marketing strategies and service offerings based on demographic insights can enhance customer satisfaction, loyalty, and overall business performance. By recognizing and addressing varying preferences and expectations across different consumer segments, online retailers can optimize their strategies to better meet the diverse needs of their customer base, ultimately fostering stronger customer relationships and competitive advantage in the marketplace. This analysis also informs strategic

decisions related to product assortment, service quality improvements, and targeted marketing efforts aimed at enhancing the online shopping experience for all demographic groups.



## **CHAPTER FIVE**

### **CONCLUSION AND SUGGESTIONS**

The survey gathered views and behaviour of 250 respondents on online shopping which presents clear view on the needs, expectation and dynamic behaviour of consumers of the modern age. This conclusion summarise the major findings, strategic implications for internet sales companies, and most important future directions based on the need to satisfy the consumer and market needs for success.

The findings of the survey shed useful light on several critical factors that affect decisions to shop online and customers' level of satisfaction. Substantial variation was recorded regarding the average ranking importance consumers accord Product Variety when choosing online retailers. Although the level of satisfaction with products available differs within the respondents, one can mention the potential for the broader range of goods offered by the retailers. This approach goes a long way in promoting consumer choices and at the same time it raises the possibility of capturing and maintaining more customer in abetter manner across the different demographic characteristics.

One more essential component that may impact consumers' satisfaction level is the issue of delivery services' speed. In the survey, the crucial importance of delivery in particular and timeliness in general in relation with the customers' perception and loyalty was stressed. As the survey showed, punctuality or being on time was important to them, implying the centrality of logistics/fulfilment to the overall strategic thinking of retailers. It is allegiance to this strong notion that through adoption of technology, improved operation flows, adequate collaboration with reliable logistics providers, the retailers will effectively meet all their customer requirements hence improving the overall service delivery and guaranteeing calls back through value addition.

When it came to factors that influenced consumers' purchases online, issues to do with security also caught people's attention. The percent ranking for the

perceived security of the online shopping platform was considered of moderate importance according to the survey findings. Consumers think differently about how their data is being managed and they expect the retailers to deploy rich security measures. Effective protection, fair and open policies, compliance with data protection laws, and usage of encryption technologies are good measures that help retailers to gain consumers' trust and, thus, reduce such risks as data leakage or fraudulent actions.

In addition, the survey revealed that customer loyalty varied among the respondents in the survey. While some of the consumers exhibited a high level of identification and information promotion of the online retailers in their choices, others expressed moderate levels of identification. This variability points at the fact that retailers should assign adequate resources to customers' retention strategies. Thus, through customer orientated service, such as providing value added shopping environments, special sales and offers, and customer care response, the retailers can deepen the customer bonding, increase customer retention rate and positive word of mouth communication.

From the survey results mentioned above, certain conclusions and recommendations are derived and they have practical implications that would be of significant relevance to online retailing companies that wish to increase client satisfaction and consequently, organizational performance. One important strategic significance is the internal pressure in the necessity to change their available products and services in terms of the constant shift in the consumers' demand and tendencies. Therefore, the focus on product differentiation, increasing delivery speed, strengthening security measures, and individually approaching customers to build and maintain long-term relations with them are viewed as major activities to sustain the company's competitiveness in the constantly evolving digital environment.

As for the future considerations, retailers should commence further research and implement more strategies in the area of online shopping. Instead, increased spending gets used to ascertain changes in client conduct concerning their services and products over time, from cross-sectional investigations. Quantitative research

methods include online surveys, while there are advantages of using focus group or conducting interviews, which will obtain in-depth details of the consumers' motivations and experience that could be missed by a simple survey.

Other form of research that can be useful for the purposes of understanding global consumers and their behaviors in particular countries are cross cultural research as this will give the retailers an insight into the culture of those countries. Also, research on examining the effects of other emerging platforms like artificial intelligence and augmented reality on online purchasing can help in guiding the retailers' adoption of new technologies necessary for improving the clients' experiences.

The aspects of data privacy, fairness of the algorithm used, and overall inclusion for the digital society should also be incorporated in the future work. Explaining these issues and managing them properly can help to gain the consumers' trust and to assert the retailers' adherence to the principles of ethical business activity.

Thus, the results of the present survey serve as the base for further analysis of the consumers' behaviors and preferences in the context of online shopping. Therefore, by using such perspectives and implementing effective changes based on consumer expectations, there's every likelihood that retailers can improve operational efficiency and combine improved client satisfaction to generate long term business success in the growing digital economy. Adaptability to the constantly changing environment and consumer trends coupled with sincere efforts and proper investments in customer centric developments will indeed be the tools to sustain competitive position and constant growth.

## **5.1. SUGGESTIONS**

The evolution of the world wide web has steadily presented online retailers with consumer relation issues and creativity as a task in the digital retail market place. Based on insights from recent survey data and industry trends, here are actionable suggestions for online retailers to enhance customer experience and drive growth:

## **1. Personalized Customer Experience**

Personalized customer experiences have become essential in e-commerce, serving as a powerful tool to enhance customer satisfaction and loyalty. By leveraging customer data effectively, online retailers can tailor their offerings and communications to align closely with individual preferences, behaviors, and needs. This approach allows platforms to deliver relevant content, product recommendations, and promotional offers that resonate with each customer based on their past buying behavior and browsing history. Implementing strong CRM systems and AI-driven solutions plays a crucial role in this process, enabling e-tailers to analyze customer data comprehensively.

These technologies help in fine-tuning content and interactions, translating shopping experiences into personalized and relevant engagements for the customer. The benefits of personalization extend beyond satisfaction to include improved customer loyalty. When customers feel recognized and appreciated through tailored experiences, they are more likely to return for future purchases. Personalization also boosts conversion rates by presenting customers with products that closely align with their interests, thereby maximizing sales opportunities. Strategically, e-commerce platforms integrate data across various touchpoints to build a holistic understanding of customer journeys. AI-powered analytics further enhance this by predicting customer behavior and recommending personalized content in real time. Segmenting customers based on shared characteristics or behaviors allows for targeted marketing campaigns that resonate with specific audience segments, driving engagement and loyalty.

Continuous optimization of personalization strategies is crucial to staying relevant in the dynamic e-commerce landscape. By monitoring customer feedback, analyzing performance metrics, and adapting tactics based on evolving trends, platforms can maintain competitive advantage and foster long-term customer relationships. Overall, investing in personalized customer experiences not only strengthens brand loyalty but also positions e-commerce platforms for sustained growth and success in a competitive digital marketplace.

## **2. Optimize Mobile Experience**

Optimizing the mobile experience has become a critical strategy for e-commerce platforms aiming to meet the evolving preferences of consumers who increasingly rely on smartphones and other portable devices for online shopping. This analysis explores the importance of fine-tuning the mobile environment, simplifying checkout processes, adopting mobile payment options, and integrating push notifications to maximize convenience and satisfaction for mobile consumers.

In today's digital era, mobile devices have become integral to the shopping journey, offering consumers convenience and accessibility at their fingertips. As more users transition to mobile browsing and shopping, e-commerce platforms must prioritize optimizing their mobile interfaces to deliver a seamless and intuitive user experience.

A responsive and user-friendly mobile interface is crucial for engaging mobile consumers effectively. E-commerce platforms should ensure that their websites and mobile applications are optimized for various screen sizes and operating systems. This includes enhancing loading speeds, minimizing clutter, and prioritizing key functionalities such as product search, navigation menus, and filtering options. By providing an intuitive and responsive design, platforms can enhance user satisfaction and encourage prolonged engagement.

The checkout process plays a pivotal role in converting mobile visitors into paying customers. Complex or lengthy checkout procedures can lead to increased cart abandonment rates. To mitigate this, e-commerce platforms should streamline the checkout flow on mobile devices. Implementing features like guest checkout, autofill capabilities, and progress indicators simplifies the user journey, making it quicker and more convenient for customers to complete their purchases. Moreover, optimizing forms for mobile input and minimizing the number of steps required can further enhance usability and reduce friction during checkout.

Mobile payment options such as digital wallets (e.g., Apple Pay, Google Pay) and one-click payment solutions cater to the preferences of mobile consumers who seek fast and secure transaction methods. Integrating these payment options

into the mobile checkout process not only enhances convenience but also builds trust by providing a secure and efficient payment experience. By offering a variety of payment choices that align with consumer preferences, e-commerce platforms can cater to diverse customer needs and preferences.

Push notifications serve as a powerful tool for engaging mobile consumers and driving repeat visits to the platform. By leveraging user data and behavioral insights, e-commerce platforms can send personalized notifications that alert customers about promotions, product updates, order statuses, and abandoned carts. Timely and relevant push notifications help maintain customer interest, encourage return visits, and prompt immediate actions, such as completing a purchase or exploring new products of interest.

Optimizing the mobile experience is essential for e-commerce platforms looking to enhance customer satisfaction, increase conversion rates, and foster long-term loyalty among mobile consumers. By fine-tuning the mobile environment, simplifying checkout processes, adopting mobile payment options, and integrating effective push notifications, platforms can deliver a seamless and personalized shopping experience that meets the expectations of modern mobile users. Investing in mobile optimization not only improves user engagement and retention but also strengthens the platform's competitiveness in the dynamic and fast-paced digital marketplace. By continuously evolving mobile strategies based on user feedback and technological advancements, e-commerce platforms can position themselves for sustained growth and success in catering to mobile-first consumers.

### **3. Expand Product Assortment**

Expanding product assortment is crucial for e-commerce platforms aiming to meet diverse consumer needs and enhance their market presence. By offering a wider range of products, platforms can attract a broader audience and increase the likelihood of satisfying different customer preferences and purchase behaviors. This strategy involves regularly updating the product catalog to reflect current market trends, shifts in consumer behavior, and seasonal demands.

The key benefit of expanding product assortment lies in its ability to enhance customer engagement and satisfaction. By providing a comprehensive selection of products, platforms cater to varying tastes and preferences, thereby increasing the likelihood of customer retention and repeat purchases. Additionally, introducing unique or limited-edition items can create exclusivity and stimulate demand among consumers seeking novel or specialized products.

Strategically, e-commerce platforms should conduct thorough market research to identify emerging trends and consumer preferences. This data-driven approach helps in making informed decisions about which products to introduce or expand within the catalog. Moreover, integrating customer feedback into the product selection process ensures that offerings align closely with consumer expectations and enhance overall satisfaction.

By emphasizing product differentiation and uniqueness, platforms can set themselves apart from competitors and appeal to niche market segments. Exclusive collaborations or customizability options further enhance the perceived value of products, encouraging consumers to make purchases based on personalized preferences and individualized shopping experiences.

Expanding product assortment is not merely about increasing the number of offerings but strategically curating a diverse and appealing range of products that resonate with target audiences. This approach not only drives sales growth and revenue but also strengthens customer loyalty and brand affinity. By continuously refining and optimizing their product strategies, e-commerce platforms can effectively meet evolving market demands and maintain a competitive edge in the dynamic digital landscape.

#### **4. Improve Delivery and Logistics**

Improving delivery and logistics in e-commerce is crucial for enhancing customer satisfaction and loyalty by ensuring timely, accurate, and efficient order fulfillment. This analysis focuses on the strategic importance of supply chain management, expedited delivery options, and choosing reliable shipping partners to optimize the delivery process and meet consumer expectations effectively.

Delivery logistics play a pivotal role in the overall customer experience in e-commerce. Timely and accurate delivery is essential for meeting customer expectations and maintaining competitive advantage in a saturated market. E-commerce platforms must prioritize supply chain management and streamline logistical operations to enhance efficiency and reliability.

Effective supply chain management involves optimizing inventory management, order processing, and fulfillment operations. By implementing advanced inventory tracking systems and automated order processing technologies, platforms can minimize delays and errors in fulfillment. This ensures that products are readily available for shipment and that orders are processed swiftly to meet customer deadlines.

Offering expedited delivery options such as same-day or next-day delivery is increasingly becoming a competitive necessity, especially in highly populated or urban areas where convenience is prioritized. By leveraging local distribution centers and strategically located warehouses, e-commerce platforms can shorten delivery times and provide faster turnaround for urgent orders. This strategy not only meets customer expectations for speed and convenience but also enhances overall satisfaction and loyalty.

Selecting reputable shipping partners is crucial for ensuring reliable and efficient delivery services. Partnering with established logistics providers with a proven track record in handling e-commerce shipments can mitigate risks of delays, lost packages, or damaged goods during transit. Platforms should prioritize carriers known for their reliability, transparency in tracking, and commitment to timely delivery.

Prioritizing delivery optimization contributes directly to customer satisfaction by providing a seamless and hassle-free shopping experience. Customers value transparency in tracking their orders and appreciate the ability to choose delivery options that align with their preferences and timelines. By offering flexible delivery schedules, real-time tracking updates, and proactive

communication on shipment status, e-commerce platforms can build trust and loyalty among their customer base.

Improving delivery and logistics is imperative for e-commerce platforms seeking to enhance customer satisfaction, loyalty, and operational efficiency. By focusing on robust supply chain management practices, offering expedited delivery options, and partnering with reliable shipping providers, platforms can optimize the delivery process and meet the evolving expectations of modern consumers. This strategic approach not only differentiates the platform in a competitive market but also reinforces its commitment to delivering exceptional service and value to customers. Continuously refining delivery strategies based on customer feedback and market trends ensures that e-commerce platforms remain agile and responsive to changing consumer preferences, ultimately driving sustainable growth and success in the digital marketplace.

## **5. Strengthen Security Measures**

Strengthening security measures is paramount for e-commerce platforms to build trust, credibility, and ensure the protection of customers' sensitive information. This analysis emphasizes the strategic implementation of cybersecurity protocols, data protection measures, and regulatory compliance to enhance security and foster consumer confidence.

Security forms the foundation of trust in e-commerce transactions. Ensuring robust cybersecurity measures and data protection protocols are in place is critical to safeguarding customers' personal and financial information from unauthorized access, fraud, and data breaches. By prioritizing security, e-commerce platforms can mitigate risks and reassure customers of their commitment to maintaining confidentiality and integrity.

Implementing secure connections, such as HTTPS, between the customer's browser and the e-commerce platform is fundamental to encrypting data transmission and protecting sensitive information during online transactions. Strong authentication mechanisms, including multi-factor authentication (MFA), strengthen user access controls and prevent unauthorized account access. Utilizing

encryption/decryption algorithms ensures that stored data remains confidential and inaccessible to malicious actors.

Adherence to regulatory frameworks such as GDPR (General Data Protection Regulation) and PCI DSS (Payment Card Industry Data Security Standard) is essential for maintaining legal compliance and safeguarding customer data. GDPR mandates stringent requirements for data handling, consent management, and breach notification, ensuring transparency and accountability in data processing practices. PCI DSS compliance secures payment card information by enforcing stringent security controls and procedures to protect against payment card fraud.

Transparently communicating security policies and measures to customers is crucial for building trust and instilling confidence in the e-commerce platform. Clearly outlining how customer data is collected, stored, and protected reinforces the platform's commitment to data privacy and security. Providing comprehensive FAQs, privacy statements, and security certifications prominently on the website assures customers of the platform's dedication to protecting their information.

Investing in robust security measures not only protects customer data but also enhances brand reputation and customer loyalty. Demonstrating proactive security practices and continuous monitoring of threats and vulnerabilities reassure customers of their safety when engaging with the platform. Regular security audits, vulnerability assessments, and incident response plans further strengthen resilience against cyber threats and ensure prompt mitigation of security incidents.

Strengthening security measures in e-commerce is indispensable for fostering trust, credibility, and protecting customer information. By implementing cybersecurity best practices, adhering to regulatory compliance requirements, and transparently communicating security policies, e-commerce platforms can mitigate risks, safeguard customer data, and enhance overall customer confidence. Prioritizing security not only safeguards against potential threats but also positions the platform as a trustworthy partner in safeguarding customer privacy and maintaining integrity in online transactions. Continual improvement and adaptation

of security strategies are essential to address evolving cyber threats and uphold consumer trust in the dynamic digital marketplace.

## **6. Enhance Customer Service and Support**

Enhancing customer service and support is crucial for e-commerce platforms to foster customer satisfaction, resolve issues promptly, and build long-term relationships. This analysis focuses on strategies to improve customer service quality, offer multiple communication channels, empower self-service options, and ensure knowledgeable support personnel to enhance overall customer experience.

Providing exceptional customer service is essential for retaining customers, resolving issues efficiently, and enhancing overall satisfaction. By prioritizing customer support, e-commerce platforms can differentiate themselves in a competitive market and foster customer loyalty through positive interactions and effective problem-solving.

To cater to diverse customer preferences and facilitate seamless communication, e-commerce platforms should offer various channels for customers to get in touch. This includes live chat support for real-time assistance, email for asynchronous communication, and a dedicated customer service phone line for urgent inquiries. Providing multiple options ensures that customers can choose the most convenient method based on their needs and preferences.

The effectiveness of customer service heavily relies on the competence and demeanor of support personnel. Hiring and training knowledgeable staff who are capable of addressing customer queries, resolving issues promptly, and demonstrating empathy is crucial. Empowering support teams with adequate product knowledge and problem-solving skills enhances their ability to provide accurate and satisfactory solutions to customer concerns.

Incorporating self-service options such as comprehensive FAQs, help sections, and intuitive return or exchange processes empowers customers to resolve common issues independently. Clear and accessible information on product features, shipping policies, and troubleshooting guides reduces the need for direct

support interaction, streamlining the customer service workflow and enhancing operational efficiency.

Efficient customer service not only resolves issues but also contributes to a positive overall customer experience. Platforms should prioritize responsiveness, transparency, and proactive communication to build trust and satisfaction among customers. Implementing feedback mechanisms and conducting regular customer surveys enable continuous improvement and alignment with customer expectations.

It's worthy to note that enhancing customer service and support is instrumental in delivering exceptional experiences, resolving issues promptly, and cultivating customer loyalty in e-commerce. By offering multiple communication channels, employing knowledgeable support personnel, and empowering self-service options, platforms can effectively meet customer needs, improve satisfaction levels, and differentiate themselves in a competitive marketplace. Investing in customer-centric strategies not only strengthens brand reputation but also drives long-term success by prioritizing customer satisfaction as a cornerstone of business operations. Continued focus on improving service quality and adapting to evolving customer preferences ensures sustained growth and resilience in the dynamic digital landscape.

### **7. Implement Loyalty Programs and Incentives**

Ensure that shoppers make subsequent orders and engage customers by the right strategies on rewards and promotions. Make customers get rewarded for their patronage, word referrals, activity in some ecommerce stores through, points, discounts, special promotions, or membership packages. Make loyalty rewards specific to clients' interests and purchase patterns to get the most response from them.

### **8. Embrace Omnichannel Strategies**

Ensure the organisation adopts an omnichannel strategy so as to enhance its shopping experience across the online and offline domains. Encourage the integration between inventory situations, customer information, and marketing methods in order that shoppers receive friendly and coherent messages no matter

the channel of the store. Let the customer use multiple channel for researching, buying and even returning products so as to enhance the channels flexibility.

### **9. Leverage Customer Feedback and Analytics**

This feedback process should be constant which identifies possible problems, favourites and other issues on the customers' side. Leverage big data and AI to gain better insights about the consumers, trends, and potential of the marketing campaigns. Engage with feedback by seeking to improve specific procedures pertaining to customer satisfaction/loyalty or processes that will increase organizational effectiveness. Commit to Sustainability and Social

### **10. Responsibility**

Demonstrate corporate social responsibility by integrating sustainable practices into your business operations and supply chain. Offer eco-friendly product options, minimize packaging waste, and support social causes aligned with your brand values. Transparently communicate your sustainability initiatives to resonate with socially conscious consumers and build brand loyalty.

By implementing these strategies, online retailers can create differentiated customer experiences, build lasting relationships, and drive sustainable growth in the competitive e-commerce landscape. Prioritizing personalization, optimizing mobile experiences, expanding product assortments, improving delivery logistics, strengthening security measures, enhancing customer service, implementing loyalty programs, embracing omnichannel strategies, leveraging data analytics, and committing to sustainability will collectively enhance customer satisfaction and loyalty, driving business success in the digital era. Continuous innovation, responsiveness to market trends, and agility in adapting to evolving consumer expectations are key to maintaining competitiveness and achieving long-term profitability in the dynamic online retail environment.

## 5.2. LIMITATIONS

Limitations and assumptions play a crucial role in shaping the interpretation and application of survey data in any research context, including the study of online shopping behaviors based on the survey conducted with 250 respondents. These factors influence the reliability, generalizability, and scope of findings, necessitating a comprehensive understanding to contextualize the implications effectively.

1. **Sampling Bias and Representativeness:** One of the primary limitations of the survey is related to sampling bias and representativeness of the sample. The survey sample of 250 respondents may not fully represent the diverse demographics and preferences within the broader population of online shoppers. For instance, the survey skewed towards younger age groups (particularly 18-25 and 26-35), which may not adequately capture the perspectives and behaviors of older demographics or those less active in online shopping. This limitation impacts the generalizability of findings beyond the specific characteristics of the surveyed population.
2. **Response Bias and Self-Reporting:** Response bias is another inherent limitation, as survey responses rely on self-reported data, which may be influenced by respondent perceptions, memory biases, or social desirability. Participants may provide answers they believe are expected rather than reflecting their true behaviors or attitudes. Moreover, variations in interpretation of survey questions or scale responses can introduce inconsistencies that affect the accuracy and reliability of the data.
3. **Scope and Depth of Survey Questions:** The scope and depth of survey questions also pose limitations. While the survey covered essential aspects such as Product Variety, delivery satisfaction, security concerns, and loyalty, the specificity and granularity of these topics may not have captured all relevant nuances. For example, deeper exploration into specific security measures preferred by consumers or detailed aspects of delivery experiences (e.g., handling of returns) could provide richer insights but were not fully addressed in this survey.

4. **Assumptions in Data Interpretation:** Assumptions inherent in data interpretation also impact the study's conclusions. For instance, interpretations of moderate satisfaction levels with Product Variety or security may vary based on individual perspectives or cultural contexts not fully explored in the survey. Similarly, assumptions about the causal relationships between satisfaction, loyalty, and specific survey metrics (e.g., assuming higher satisfaction directly leads to higher loyalty) may oversimplify complex consumer behaviors and motivations.
5. **Operational and Methodological Constraints:** Operational and methodological constraints, such as time limitations for data collection, survey design complexities, and constraints in financial resources, also influence the study's outcomes. These constraints may limit the depth of analysis, sample size adequacy, or the ability to incorporate more robust statistical techniques that could further validate findings or explore more nuanced relationships.
6. **External Validity and Contextual Application:** Considerations of external validity and the contextual application of findings are critical. While survey insights provide valuable understanding within the specific parameters of the study, external factors (e.g., economic conditions, technological advancements) and evolving consumer behaviors may impact the relevance and applicability of findings over time or across different geographical regions.

In concluding this, acknowledging and addressing these limitations and assumptions are essential for researchers and practitioners in leveraging survey data effectively. Despite these constraints, the survey findings provide valuable insights into online shopping behaviors and consumer preferences, highlighting opportunities for further research, strategic improvements in online retail practices, and tailored approaches to enhance customer satisfaction and loyalty in a dynamic digital marketplace.

### **5.3. IMPLICATIONS FOR ONLINE RETAILERS**

1. **Enhancing Product Variety:** Online retailers should prioritize expanding product assortments and ensuring diversity to cater to varying consumer preferences. Addressing the moderate importance placed on Product Variety by respondents suggests opportunities to differentiate offerings and attract a broader customer base.
2. **Improving On-Time Delivery Services:** Given the significant importance of on-time delivery in online shopping decisions, retailers must focus on optimizing logistics and fulfillment processes. Enhancing delivery speed and reliability can significantly impact customer satisfaction and retention.
3. **Strengthening Perceived Security Measures:** Addressing concerns over perceived security is critical for building consumer trust. Online retailers should invest in robust cybersecurity measures, transparent communication about data protection practices, and proactive measures to mitigate risks of data breaches or fraudulent activities.
4. **Cultivating Customer Loyalty:** The survey highlights varying levels of customer loyalty, with opportunities to enhance satisfaction, repurchase behavior, and advocacy. Implementing loyalty programs, personalized marketing strategies, and proactive customer service initiatives can foster stronger relationships and increase customer lifetime value.
5. **Personalizing Customer Experiences:** Leveraging data insights to personalize customer experiences can enhance satisfaction and engagement. Tailoring recommendations, promotions, and communications based on individual preferences and behaviors can improve relevance and customer retention.
6. **Continuous Improvement and Innovation:** Online retailers should embrace a culture of continuous improvement and innovation to stay competitive. Monitoring industry benchmarks, adopting best practices, and leveraging emerging technologies can enhance operational efficiency, customer experience, and market relevance.

7. Addressing Limitations and Assumptions: Recognizing and addressing survey limitations, such as sampling bias or response variability, is essential. Online retailers should validate findings through additional research, incorporate qualitative insights, and adjust strategies based on evolving consumer behaviors and market dynamics.
8. Adapting to Market Trends and Consumer Expectations: Remaining agile and responsive to evolving market trends and consumer expectations is crucial. Anticipating shifts in online shopping behaviors, adopting omnichannel strategies, and embracing sustainability initiatives can position retailers for long-term success.

The implications derived from survey findings provide actionable insights for online retailers to enhance customer satisfaction, loyalty, and competitive advantage. By focusing on improving Product Variety, delivery services, security measures, and personalized experiences while addressing survey limitations, retailers can strengthen their market position and foster sustainable growth in the dynamic digital marketplace.

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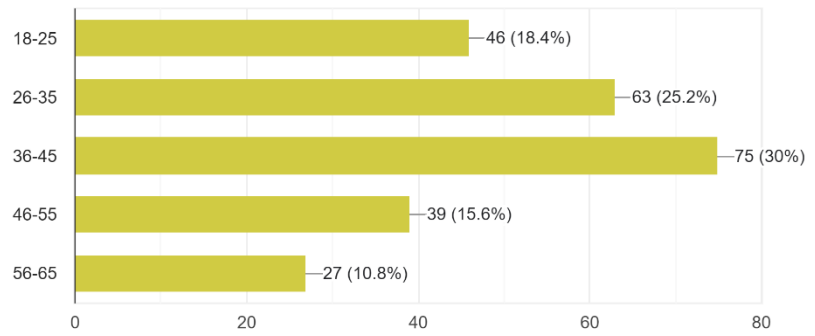
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## APPENDICES

### Appendix A: Demographic Information

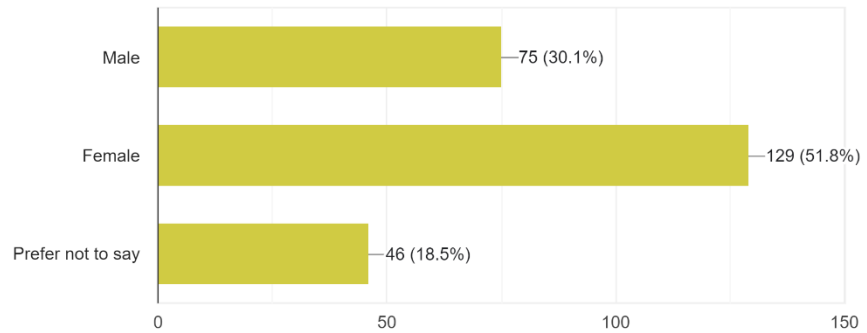
#### Age

250 responses



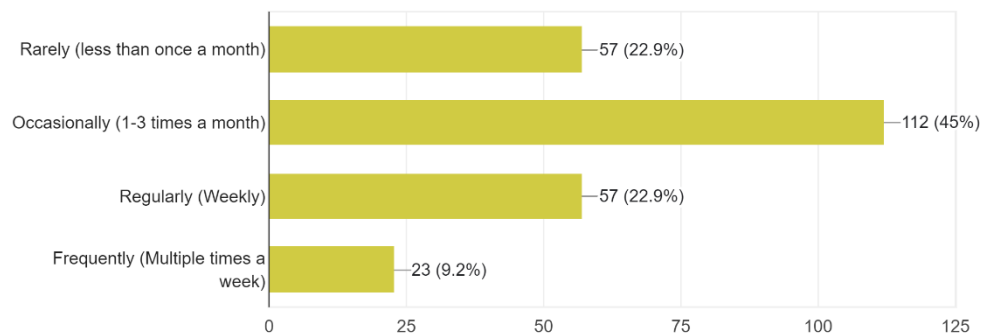
#### Gender

249 responses



#### Frequency of Online Shopping

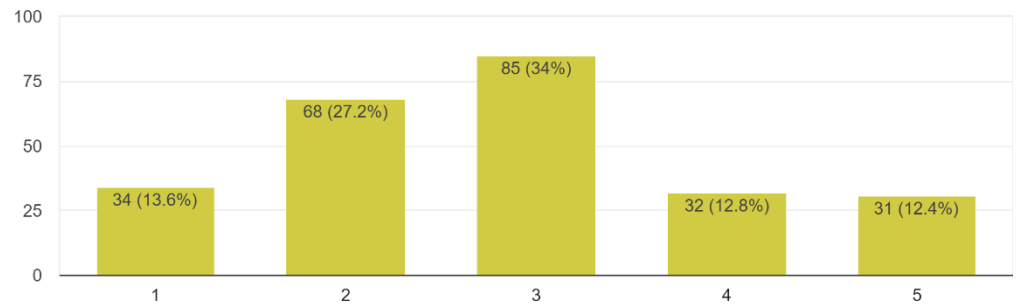
249 responses



## Appendix B: Product Variety

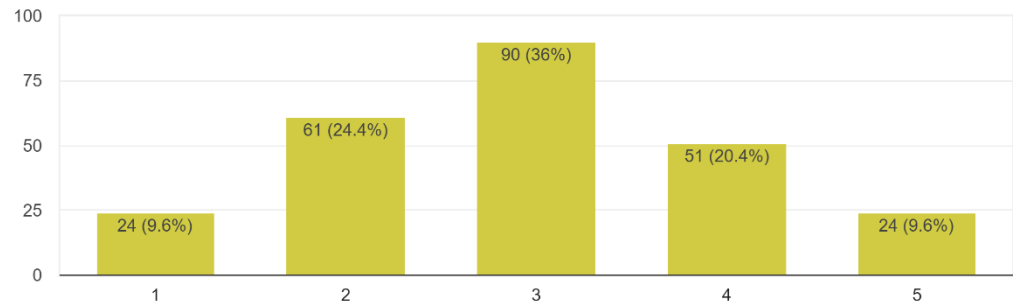
The product range of this website is complete

250 responses



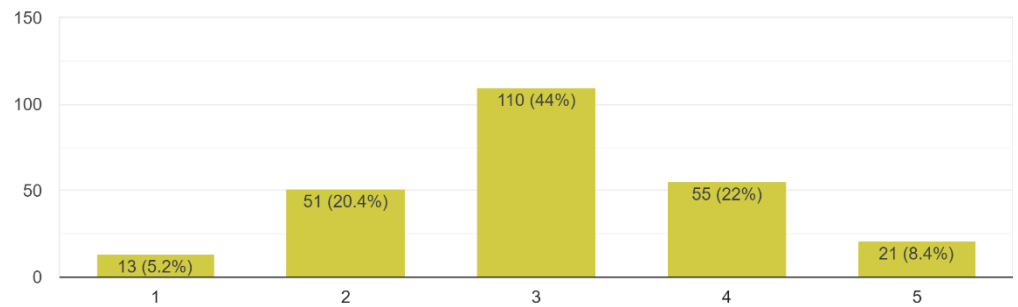
The products I get from this website can be found on other similar websites

250 responses



I can easily find products that I need on this website

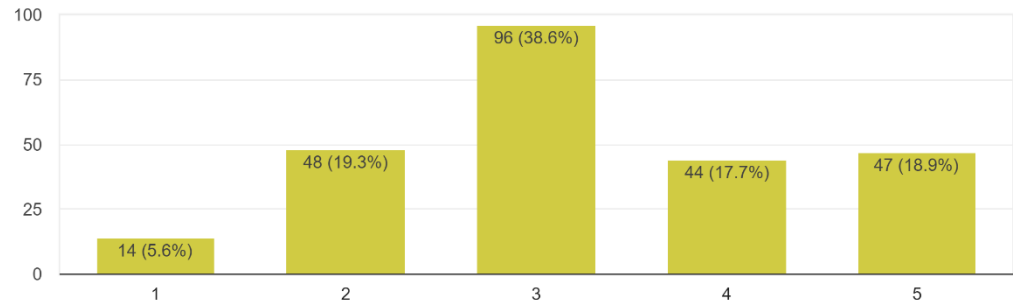
250 responses



## Appendix C; On-Time Delivery

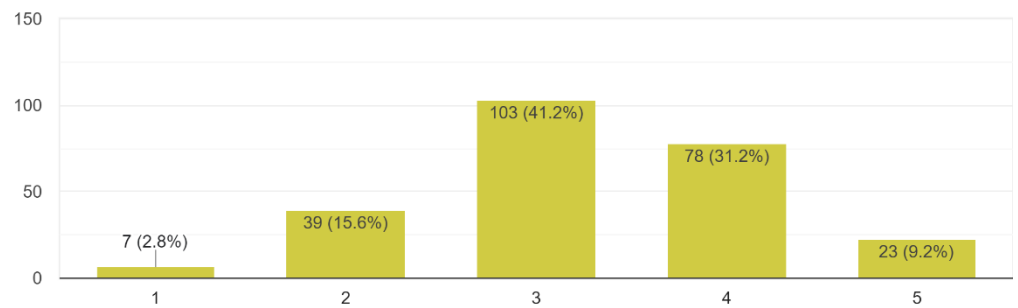
The product is delivered by the time promised by the company

249 responses



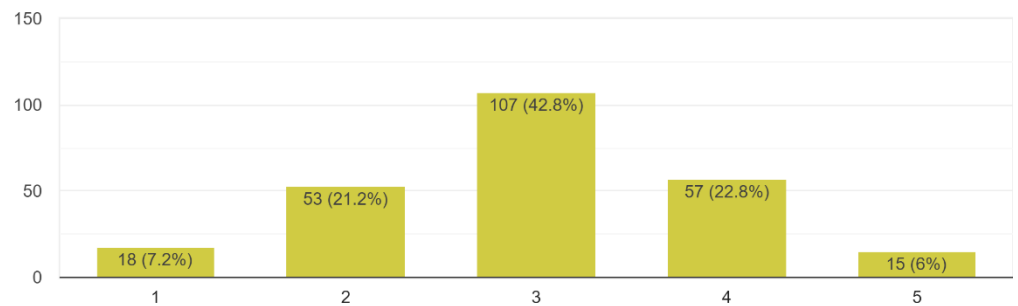
I get what I ordered from this website

250 responses



The items sent by the website are well packaged and perfectly sound

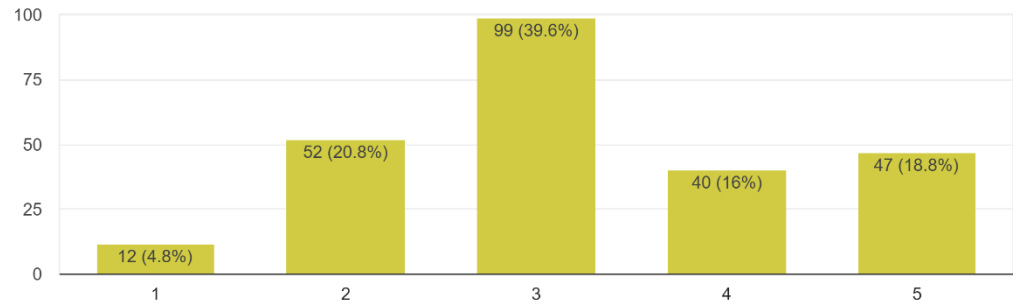
250 responses



## Appendix D: Perceived Security

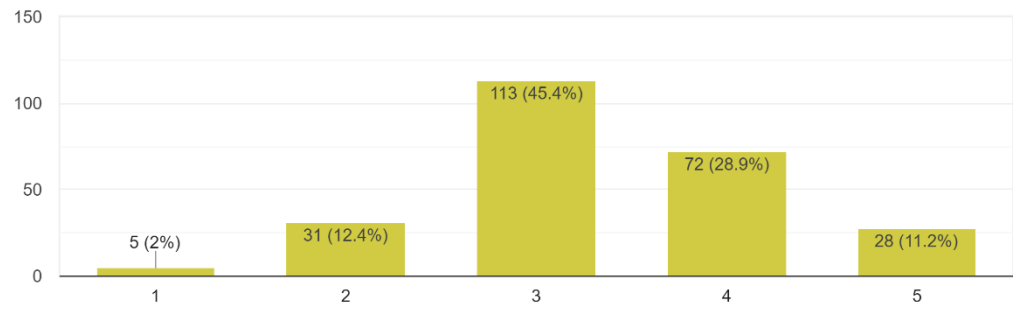
The website has security precautions to ensure secure payments

250 responses



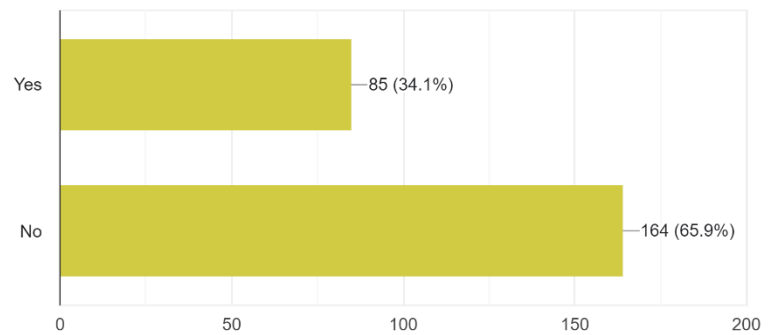
I feel I can trust the guarantees offered by this website

249 responses



The website has the contents of the data protection declaration

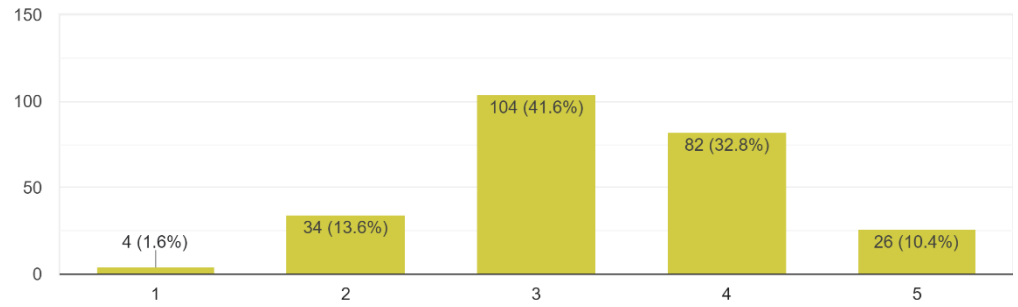
249 responses



## Appendix E: Customer Loyalty

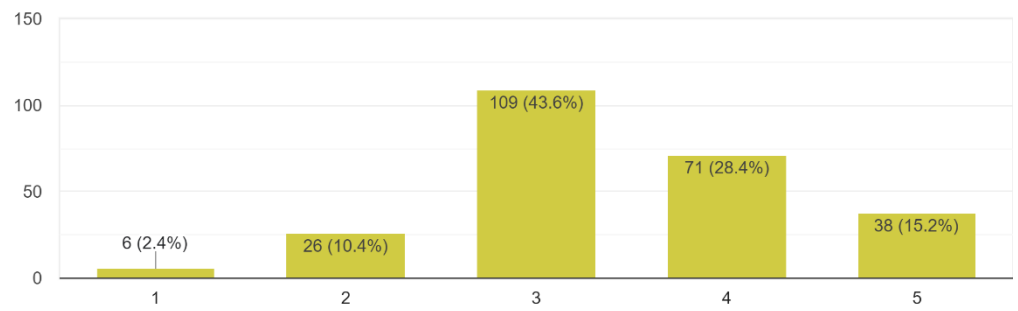
How loyal are you to your preferred online shopping platform?

250 responses



I intend to visit the online shop in the future

250 responses



I will also buy other products from online shops in the future

248 responses

