Spotlight on the factors impacting customer satisfaction in offline shopping

-A quantitative study

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Abstract

Background: Customers find great psychological satisfaction and pleasure when shopping. Customer satisfaction is crucial for a business's success, and increasing it will strengthen financial performance and competitiveness. Offline shopping still dominates the customers industry, although customers are increasingly choosing online shopping as a result of fast-growing technological developments in society. However, physical experiences should not be left behind due to customer’s satisfaction from the instant gratification they desire.

Purpose: The purpose of this paper is to explain how customer perceived value, customer expectations, and touch experience have an impact on customer satisfaction in an offline shopping context.

Methodology: This research is conducted through a deductive and quantitative approach, which has an explanatory aim. Three hypotheses have been deducted from theoretical concepts found from previous research. The data collection method was collected through an internet-based, self-completion questionnaire, to see if the hypotheses were supported or not. A total of 105 respondents participated in the study.

Findings: The findings indicate that customer perceived value H1, which explains a positive impact on customer satisfaction in the context of offline shopping, cannot be supported due to statistical insignificance. Customer expectation, as presented through H2, and touch experience, as presented through H3, were found to have a statistically significant and positive impact on customer satisfaction. The conceptual model was revised in this study based on the new findings, retaining the acceptable assumptions as the new model.

Conclusion: In offline shopping, the positive impact of customer expectation on customer satisfaction is the most obvious, followed by the touch experience. Customer perceived value has no positive impact on customer satisfaction, and the reason for this situation may be that the perceived value of customers differs among different consumption levels.

Keywords: Offline Shopping, Customer Perceived Value, Customer Expectations, Touch Experience, Customer Satisfaction.
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1. Introduction

1.1 Background

Shopping is a highly psychologically satisfying and enjoyable experience for consumers (Yan, 2020). With the development of the Internet and social media, the emergence of online shopping has changed the consumer market. However, although online shopping has become a popular phenomenon, it still lacks the convenience and instant gratification that people desire when shopping compared to offline shopping (Yan, 2020; Ariella, 2023). According to data, by 2021, 80.9% of sales came from offline shopping and 19.1% from online shopping (Ariella, 2023). Despite the rapid growth of online sales due to the COVID-19 pandemic in 2020-2022, offline shopping continues to dominate the consumer market. For consumers, 61% said they prefer to shop in-store because they want to see or try on the products they purchase (Ariella, 2023). Even if customers choose to shop online first, they actively go to the store to confirm that the actual product meets their psychological expectations (Kim et al., 2019). In addition, offline shopping involves a straightforward transaction process that reduces the potential for fraudulent activity and privacy conflicts, and most customers view offline shopping as a more reliable option compared to online shopping (Mustikasari et al., 2021). The rapid increase in people's quality of life and consumption levels has led to consumers demanding higher quality products and services from companies (Belz & Peattie, 2012).

Customer satisfaction increases as their needs are met in shopping (Armstrong et al., 2019). Customer satisfaction is an indicator that assesses whether a customer's product or service from a company meets his or her expectations and is a response to the customer's psychological state, which reflects a positive or negative impression of the product or service (Armstrong et al., 2019; Kolter, 1997). Customer satisfaction has been a key business factor of concern for companies and marketers for a long time. Highly satisfied customers share their purchase experience with others and have a high intention to repurchase (Armstrong et al., 2019; Yan, 2020). As mentioned by Sun & Kim (2013), customer satisfaction is a prerequisite for a company's financial performance, and adjusting a company's marketing strategy by understanding the level of customer satisfaction will help the company win more customers and maximise benefits. In other words, customer satisfaction will play an
important role in the company's performance and by improving customer satisfaction will make the company more competitive (ibid.). Researchers have found that there are many factors that influence customer satisfaction for offline shopping, and these factors change as the market and time evolve. The goal of these changes is to make the offline shopping experience a great one and ultimately satisfying one. Therefore, it is meaningful to further study the factors that influence customer satisfaction in the context of offline shopping, and this will point the way to the future development of offline shopping.

1.2 Problem discussion

In today's digital and globalised world, online shopping poses a threat to brick-and-mortar stores (Hultén et al., 2009). It has become more important for products to be perceived, expected and touched in order to stand out from the competition in the market (ibid.). As well, more companies recognise that in order to gain competitive advantage in the market, they must adhere to a customer-centered development philosophy and strive to maximize customer satisfaction (Armstrong et al., 2019). Customer perceived value is the overall evaluation of consumers' product utility and service during the shopping process, which is an objective evaluation from personal perceptions (Chang & Wang, 2011; as cited in Zeithaml, 2000). It is a factor that influences customer satisfaction, and the firm that offers the greatest perceived value to its customers usually becomes the first choice when making a purchase (Armstrong et al., 2019). That is, customers make multiple visits to a firm when it offers higher customer perceived value relative to other competitors to satisfy their needs, which facilitates customer retention (Ryu et al., 2012). Customer expectations depend on how well a product or service performs compared to customer expectations (Armstrong et al., 2019). Since expectations possess the ability to predict a firm's future performance, it is considered as a factor in detecting satisfaction (Johnson et al., 2001).

Sensory experience as an external stimulus can have an impact on customer satisfaction by mediating both positive and negative emotions of customers (Torabi et al., 2021). The presence of touch experience as a constituent part of sensory experience in offline shopping is unique and has a clear competitive advantage (Park et al., 2015; Hultén et al., 2009). Therefore, it becomes important for companies and brands to be within reach in order to
achieve physical interaction with customers. The researchers of this paper, through an extensive collection of existing literature, found that touch experience usually responds to how customers consider a product and that this is reflected in the automotive, apparel, food and electronics sectors. Customers' choice between products depends on the physical sensation that the product gives them, and especially in the absence of information about price and features associated with the product, the touch experience positively increases the customer's feelings about the product as well as their satisfaction (Hultén et al., 2009).

In order to better implement marketing strategies to satisfy customers' needs and wants, it is important for marketers and companies to understand which concepts affect customer satisfaction. Armstrong et al. (2019), Johnson et al. (2001) and Hultén et al. (2009) all identified customer perceived value, customer expectations and touch experience as factors that influence customer satisfaction. However, the direct influence of customer perceived value, customer expectation and touch experience on customer satisfaction in the context of offline shopping has not been sufficiently studied. Therefore, based on the researcher's interest in this paper, a model of customer satisfaction in offline shopping is constructed to further explain the existing associations.

1.3 Purpose

This paper is to explain how customer perceived value, customer expectations, and touch experience have an impact on customer satisfaction in an offline shopping context.
2. Theoretical framework

2.1 Customer perceived value

Customer trade-offs can be defined as a component of customer perceived value, which includes sacrifice and benefit from the offer (Lapierre, 2000; Chang & Dibb, 2012; Boksberger & Melsen, 2011). Customers' overall evaluation of product utility is based on different perceptions of offering and receiving (Boksberger & Melsen, 2011; Chang & Wang, 2011; cited in Zeithaml, 2000; Mencarelli & Lombart, 2017; Dongjin et al, 2008. Chang & Dibb, 2012). When customers assess value, perceptions are influenced by preferences (Chang & Dibb, 2012). One form of sacrifice is the price of the product or service, which is the value of the price perceived by the customer (Gallarza & Cuadrado, 2017; Beldona et al., 2006). For everyday household goods and luxury goods, price communicates the value of the product to the customer. Moreover, customers' perceived price value reflects their sensitivity to the product or service and can have an impact on their preferences (Beldona et al., 2006). In addition to perceived price value, customers also value convenience (ibid.). Convenience refers to how quickly and easily customers can choose a product or service. Customers who typically value money do not perceive price as being as valuable as the convenience that customers are willing to sacrifice to purchase a product or service. That is, when customers value price more, convenience becomes a perceived benefit to add value to customers (Beldona et al., 2006). Carson et al. (2015) argued that convenience is not prominent but it is important and therefore must still be considered. Time is the total time invested by the customer in purchasing a product or service (Winsky, 2017). The perceived value of time is considered to be higher than the perceived value of money. This is due to the fact that customers are not buying a product or service, but the benefit that the product or service gives them. Customers associate this benefit with the time spent enjoying the product, and therefore time can be used as a measure of perceived value for customers (ibid.). Customers' perceived value can also be measured by a comprehensive evaluation of the overall quality of the product (Dongjin et al. 2008; Ryu et al. 2012; Kusumawati & Rahayu 2020). Customers' perception of product quality responds to the increase in product sales (Boksberger & Melsen, 2011; Putra et al., 2017).
2.2 Customer expectation

Customer expectations are a conscious assumption that the expectations and needs that customers present to suppliers will be met (Ojasalo, 2001; Hsieh & Yuan, 2021; Hult et al., 2019). Customers who usually have high expectations will be seen as significantly different from even small differences in products or services (Oh et al., 2022; Bonfanti et al., 2023). Certainty can be explained by the fact that firms will constantly assure customers that expectations will be met (Hult et al., 2019). Hult et al. (2019) explain this by the fact that people generally perceive online shopping as riskier and customers with higher expectations prefer offline shopping to increase their certainty. Therefore, certainty is the focus that companies must focus on so that customers have positive expectations (ibid.). Service quality is another way to measure customer expectations (O'Neill et al., 2022; Bonfanti et al., 2023). Service quality is important to firms, and when services are perceived as high quality by customers, long-term relationships are established and maintained with firms (O'Neill et al., 2022; Ryu et al., 2021; Ojasalo, 2001). Considering lasting relationships, customers will build and then develop expectations by taking a series of memories of previous experiences (Chen et al., 2015; Hsieh & Yuan, 2021; Nicolae et al., 2013). This means that customers' memories of previous experiences measure their expectations for future purchases (ibid.). In addition, the services or goods that customers expect to receive during offline shopping usually depend on the information they collect (Chen et al., 2015). When product or service information is clear and accurate, customers have realistic expectations, and they are less likely to be disappointed or dissatisfied after making a purchase, resulting in lower return or complaint rates. Therefore, companies need to close the gap between the quality of the product or service offered and the information and maximize the consistency so that customers generate more positive behaviors and meet their expectations (Hsieh & Yuan, 2021; Oh et al., 2022).

2.3 Touch experience

Touch experience increases the physical and psychological interaction between the firm and the individual customer, and some firms are more willing to allow customers to explore this touch (Senthil et al., 2012; Nägele et al., 2020; Hultén et al., 2009; Peck & Wiggins, 2006). An important aspect of the touch experience is the temperature of the service environment
(Hultén et al., 2009). Temperature is an individual's tactile perception of warmth and coldness (ibid.). The appropriate temperature creates a comfortable atmosphere and encourages customers' willingness to stay. Conversely, an uncomfortable temperature causes customers to leave immediately (Ballantine et al., 2015; Nell & Cant, 2015). Therefore, each customer varies on the acceptable temperature, but overall the temperature in the store that is suitable for the human body should be around 21 degrees (Nell & Cant, 2015). In addition to temperature, touch is a necessary way for customers to be able to understand the product, which responds to the importance of touch feasibility in the customer touch experience (Hultén et al., 2009). Touch feasibility refers to whether the customer is allowed to touch the product and is an important indicator of the customer's touch experience. When customers' touch feasibility is hindered, customers feel dissatisfied and will interact more with the product they subsequently encounter again (Ringler et al., 2019). Zhang et al., 2014 emphasized in this regard that companies must provide customers with touch feasibility to increase the probability and frequency of their touching the product. In addition, the material texture of the product and the steadiness of the product can influence customers' willingness to consume and make them more likely to interact with the product (Hultén et al., 2009). Product steadiness in this context refers to physical properties, which are the softness and hardness of the product (ibid.). The material texture of the product contributes to the enhancement of the customer's enjoyment, especially for smooth material textures, where customers always feel a positive experience (Ferreira, 2019; Klöcker et al., 2012; Iosifyan & Korolkova, 2019).

2.4 Customer satisfaction

Customer satisfaction is crucial in the long-term relationships that companies build with their customers and is a major factor in effective marketing approaches (Mencarelli & Lombart, 2017; Aka et al., 2016; Hennig-Thurau et al., 2002; Hamzah & Shamsudin, 2020). Customer satisfaction is the process based on feeling continuous customer satisfaction (Hennig-Thurau et al., 2002; Amoako et al., 2019). For companies, customer satisfaction facilitates investment in relationship building and maintaining competitive advantage, while also increasing consumption rates (Tam, 2011; Sun & Kim, 2013; Aka et al., 2016; Barsky & Nash, 2003; Hamzah & Shamsudin, 2020). Pleasure is a central role and criterion for measuring
satisfaction (Walsh et al., 2011). A successful product or service must be able to create pleasure to build satisfaction (Khalid & Helander, 2006). Customer pleasure is valuable data about how satisfaction is met, specifically in offline shopping, where the mere presence of an offer is pleasurable (Söderlund, 2016). Furthermore, employees in offline shopping need to behave appropriately in their service encounters so that customers are satisfied with their shopping process (Otterbring, 2017). Understanding customer needs is part of creating satisfaction because needs must be met (Jeyaraj et al., 2014). During the interactive shopping process, employees must know what the customers' needs are so that they can be satisfied. Furthermore, quantitative measurement of customer satisfaction includes measuring not only needs but also customer desires (ibid.). Wants, also known as desires. When customers have desires for a product or service, companies must be enthusiastic about them and do their best to make them satisfied (Gerson, 1993). Satisfaction is also argued to be measured through repurchase intentions (Bassi, 2018; Gerson, 1993). Repurchase intentions refer to how often the customer will come back to purchase the product or service again (Bassi, 2017). Hereby, businesses can measure customer satisfaction through measuring how often they return to the service (Gerson, 1993).
3. Conceptual framework

3.1 Customer perceived value (Hypothesis 1)

Customer perceived value is the total evaluation of the usefulness of a product or service (Boksberger & Melsen, 2011; Chang & Wang, 2011). Various attributes are valued differently, thus influencing the way customers perceive value (Beldona et al., 2006; Boksberger & Melsen, 2011; Koller et al, 2011; Ryu et al, 2012; Kusumawati & Rahayu, 2020; Campos & Nóbrega, 2009; Chang & Dibb, 2012). Hult et al. (2019) proposes that the relationship between customer perceived value and satisfaction is even stronger in an in-store context, highlighting the importance of further research to explain the impact perceived value has on satisfaction in offline shopping (ibid.). It is illustrated that offline shopping provides a more intuitive feel and understanding of products and services and is more effective in predicting the customer's perceived value (Boksberger & Melsen, 2011), and online shopping removes the possibility to instantly receive and use (Chang & Dibb, 2012). The total evaluation of a product utility or service is then directly related to customer satisfaction (Boksberger & Melsen, 2011; Chang & Wang, 2011; Dongjin et al., 2008). This means that customer perceived value and satisfaction are related, but current research is unclear as to whether there is a direct influence. Therefore, the researchers in this paper propose that customer perceived value positively influences customer satisfaction in offline shopping, which is hypothesis 1.

H1: Customer perceived value has a positive impact on customer satisfaction in offline shopping

3.2 Customer expectations (Hypothesis 2)

Customer expectations are conscious assumptions generated through the information provided by a firm about a product or service (Ojasalo, 2001; Hsieh & Yuan, 2021). Customer satisfaction is derived from their expectations, leading to customer satisfaction (Hsieh & Yuan, 2021; Nicolae et al., 2013). They are beliefs about future events that influence customer satisfaction. Constantly detecting customers' expectations and meeting them, will promote compatibility between firms and customers (Tukiran et al., 2021). Hence, business success depends on meeting customer expectations, in which it is also highlighted that when managing in-store relationships with customers, it is essential (Nicolae et al., 2013;
Bonfanti et al., 2013). Businesses must not only fulfill customer expectations, they should also shape them for the future (Kim, 2012; Hult et al., 2019). The importance of satisfaction in an offline shopping context is proposed, as it is more strongly influenced by consumer expectations. Companies must emphasise the importance of meeting customer expectations, and when they can be met it helps to increase customer satisfaction (ibid.). However, expectations are mostly stated relative to the product or service and in the context of offline shopping, it is not definite nor sufficient in research. The authors admit that their contribution to offline-shopping research is currently only at the early stages (Hult et al., 2019). Bonfanti et al. (2023) also claim there is limited research in what customers expect, in which advice to service providers on how to more effectively fulfil and meet the needs of their customers is necessary to fulfill satisfaction (ibid.). This suggests that customer expectations and customer satisfaction in this paper are different relative to previous studies and need to be further investigated. Therefore, the following hypothesis is proposed in this paper.

**H2: Customer expectation has a positive impact on customer satisfaction in offline shopping**

3.3 Touch experience (Hypothesis 3)

Existing literature suggests that customers who prioritise touch tend to prefer offline shopping because it satisfies both their visual and tactile preferences, allowing them to strengthen their physical and psychological connection to the product (Levin et al., 2005; Kim et al., 2019; Senthil et al., 2012; Nägele et al. 2020; Hultén et al., 2009). At the same time the act of touch in offline shopping provides a tangible, interactive experiential process for the customer and also has more power to persuade them to stay and buy (Hultén et al., 2009; Peck & Wiggins, 2006; Park et al., 2015). In Mustikasari et al. (2021) it is mentioned that the shopping process affects the level of customer satisfaction, in other words there is a potential link between the act of touching and customer satisfaction. The touch experience, as an important component of the sensory experience, has an impact on customer satisfaction (Hultén et al., 2009), but the extent of this impact is not yet known. The existing literature lacks theoretical support for exploring the positive impact of the touch experience on customer satisfaction. Therefore, this paper proposes hypothesis 3.

**H3: Touch experience has a positive impact on customer satisfaction in offline shopping**
3.4 Conceptual model

Based on the previous contents of this chapter, the researchers have drawn up a conceptual model (see Figure 1) in order to represent the relationship between the variables more visually. The model describes the impact of customer perceived value, customer expectation and touch experience on customer satisfaction in the context of offline shopping. Where H1, H2 and H3 represent the three hypotheses proposed and the plus sign indicates that the independent variable has a positive influence on the dependent variable.

![Figure 1. Conceptual model of the impact on customer satisfaction (Own, 2023)](image)
4. Method

4.1 Quantitative approach

Quantitative approach focuses on generating information and understanding of a domain in the social world by collecting and quantifying numerical data (Bell et al., 2019). Thus the purpose of quantitative research is to explain relationships in the social world, which is consistent with the purpose of this paper. Quantitative research methods estimate data more accurately than other methods, and therefore quantitative data are seen as a valuable tool for conceptualizing and measuring concepts, which also makes the results more valuable (Popper, 2002; Bell et al., 2019). Concepts are a key component of theory and facilitate the researcher to discover what is wanted and then complete the study to produce results. Moreover, concepts in quantitative research are those that must be measured, whereby concepts are divided into independent and dependent variables. Independent variables can provide an explanation for an aspect of the social world, and dependent variables can represent what the researcher wants to explain (Bell et al., 2019; Popper, 2002). The researchers of this paper conducted a study on the satisfaction aspect of customers' offline shopping and used customer perceived value, customer expectation and touch experience as independent variables and customer satisfaction as a dependent variable to observe the impact between them.

In addition, in quantitative research since some social phenomena can be measured directly, this helps researchers to save time cost to a great extent so that researchers can collect a large amount of valid and reliable data in a short period of time, which reflects the efficiency of quantitative research. Under the ontological stance, the view of social phenomena and human behavior is purely external and objective (Saunders et al, 2019; Popper, 2002). Ontology is about the assumptions that researchers make about what already exists, thus focusing on the nature of reality, whereby philosophical assumptions are seen as specific to quantitative research (Bell et al, 2019; Popper, 2002). Therefore, based on the above advantages of quantitative research, it is appropriate to use it as a research method in this paper, and this paper maintains the objectivity of the research and data collection and tries to avoid biases that would have an impact.
4.2 Deductive approach

The most common method for conducting quantitative research is deductive reasoning (Bell et al., 2019). The process or method of theory development, known as operationalisation, is different in nature. However, it begins with the researcher articulating a theory (Bell et al., 2019; Saunders et al., 2019). It can be seen as a pattern of independently occurring events that are expected to happen (Hyde, 2000). In accordance with positivism, the deductive method takes into account quantitative methods of measurement, analysis and structure, large samples, observable and measurable data, and then numbers to contribute a causal explanation (Berger & Luckmann, 2019; Overmars et al., 2007; Popper, 2002). Hypotheses derived from theories are usually formulated and tested in a statistical manner. This is the basis of theory testing studies (Bell et al., 2019; Overmars et al., 2007; Popper, 2002).

Hypotheses are formulated by researchers through their interest in the nature of a particular phenomenon and based on theoretical propositions (Bell et al., 2019; Saunders et al., 2019). In addition, previous observations, collected, recorded and analysed data, and knowledge gained from empirical material are useful in deductive reasoning (Hyde, 2000; Berger & Luckmann, 2016). According to Hyde (2000), a predictive model supported by data is sufficient to constitute an accurate and reliable conceptual framework model (see Chapter 3.4). This paper describes theories about customer perceived value, customer expectations, touch experience and customer satisfaction. In this way, three hypotheses are then set up to test the relationship between the independent and dependent variables (see H1, H2 and H3). Hypotheses are useful when wanting to test and check whether an independent variable has an effect on, or is correlated with, the dependent variable. In contrast, when two variables are not related, have no relationship or have a weak relationship, the hypothesis is rejected without significant results that can support the hypothesis, but at this point researchers can adapt the existing theory to contribute to future research (Bell et al., 2019; Popper, 2002). Therefore, the deductive approach is beneficial and the most appropriate approach to the study of this paper.
4.3 Research design

4.3.1 Data collection method

Primary data has been collected for this study, for the purpose of explaining the impact that the independent variables have on the dependent variable. Fundamentally, primary data sources are designed to extract the information needed specifically for the priorly unexplored investigation (Bell et al., 2019). Data collection is the foundation of research design (Saunders et al., 2019). In this paper, a self-administered questionnaire was chosen as data collection method because it is a research method used to effectively collect data and assign samples. It is a method in which respondents answer questions autonomously and independently at any location and at any time within the time specified in the questionnaire (Bell et al., 2019; Saunders et al., 2019). Compared to other methods, self-completed questionnaires give respondents more autonomy and flexibility. For respondents, self-completed questionnaires are based on closed-ended questions, which facilitates their responses. Also, the questions are arranged sequentially, which minimises the risk of respondents overlooking the questions. In addition, the questions are shorter and easier to understand, which greatly reduces the risk of respondent fatigue (Bell et al., 2019). Self-administered questionnaires also alleviate respondents' insecurity and lack of respect for permission when answering traditional questionnaires (Buchanan & Hvizdak, 2009). Also for the researchers in this paper, self-administered questionnaires are inexpensive and can effectively reduce cost requirements, especially online questionnaires enjoy better cost advantages. Self-administered questionnaires can be distributed simultaneously on a large scale and can be administered quickly in a short period of time. In addition, and most importantly, the absence of interviewers in self-administered questionnaires means that respondents are not biased in their answers due to interviewer effects (Bell et al., 2019). Therefore, this paper uses a questionnaire to collect measurable and quantifiable data.

4.3.2 Data collection instrument

The data collection tool for this study was an internet-based questionnaire format. Collection tools are used to collect data, where technology-assisted tools are a great advantage when collecting large amounts of data (Bell et al., 2019). Internet-based questionnaires have
developed rapidly in academic research due to technological advances (Buchanan & Hvizdak, 2009; Evans & Mathur, 2005). This has thus allowed researchers to collect data without relying on ordinary physical observations (Bell et al., 2019). Internet questionnaires are best applied with the goal of providing a comprehensive sample list with a broad geographical coverage and using a valid sample from it (ibid.). The aim is to identify similarities and differences between respondents and non-respondents and to analyse respondents' survey behavior through survey research and strategic methodological control (Buchanan & Hvizdak, 2009). Since the data was collected in a larger sample size, it produced a more accurate mean and reduced the effect of outliers. Respondents participated online, which was time-saving and convenient, and therefore a major advantage for the study. Moreover, respondents participate in the survey anonymously, and the comfortable participation pattern may attract more people to join, thus increasing the sample data. In addition, it generates more accurate means and reduces the effect of outliers because the data is collected in a larger sample size and increases generalisability. However, the use of the Internet as a tool challenges ethical and social considerations that may harm respondents, such as personal data breaches due to anonymity, failures of integrity and confidentiality, and lack of security. Therefore methodological issues related to data storage, security, sampling and questionnaire design must be considered (Buchanan & Hvizdak, 2009).

4.3.3 Questionnaire design

This design was developed by using closed-ended questions, which is the most typical method when asking questions in self-administered questionnaires (Bell et al., 2019). In the view of Bell et al. (2019), closed-ended questions have been an advantage because the process of data collection is fairly uncomplicated, where fixed answers are easier to administer and analyze because there is less variation in responses (ibid.). This effectively prevents some respondents from leaving in the middle of the process without the time or energy to develop extensive answers, which would otherwise lead to consistency and validity of the data due to the reduced response rate of data collection. The questionnaire for this paper was designed on Google Forms because it is considered the most efficient way to collect responses when using an Internet-based, self-administered questionnaire. This paper provides detailed instructions and guidance for respondents. A description of the
questionnaire and the reasons why it was done was given to the respondents. Respondents are not expected to take more than five minutes to complete the questionnaire, which reduces their burden. At the end of the questionnaire the researcher of this paper thanked the participants for their contribution. The paper also ensures that respondents feel safe by maintaining strict confidentiality and anonymity. At the top of the questionnaire there was a personal fact question where respondents had to select that they were a student at Linnaeus University and if they did not do so, they could not complete the questionnaire. Each question had a fixed number of options for respondents to choose from, clarifying what the point system indicated. In addition, the way in which respondents choose their answers is communicated and it is stated that the choice is mandatory and that only one option can be chosen to complete the questionnaire, as seen in the description below each question. The statements were written in the simplest way possible, as technical and obscure terms can lead to misunderstanding or lack of understanding (Bell et al., 2019). Each statement was followed by a 7-point Likert scale answer. In addition, the format of the questionnaire was horizontal in order to alleviate the effort required by the participants, which Bell et al. (2019) argue is more focused. However, when pre-testing and as for the final questionnaire, the format was vertical which was unavoidable. All statements were visible throughout the questionnaire to motivate respondents to come up with biased and clever answers.

Scaling of responses to the questions was done through a 7-point Likert scale. Options were presented in a bipolar numerical response format, with 1=strongly disagree and 2, 3, 4, 5, 6 and 7=strongly agree. This design was used because the numbers are easy to understand, as larger numbers represent more positive positions, while smaller numbers also reduce agreement with the statement. The scale moves from the strongest positive opinion to the strongest negative opinion, with the severity of agreement or disagreement decreasing near the middle (Bell et al., 2019). Because of the uneven number of options on the Likert scale, having an option does not force respondents to take a position if they are neutral in their opinions. However, the uncertain responses in it are often ignored because they are not necessarily helpful to the study (Bell et al., 2019).

(The questionnaire design can be found in Appendix)
4.4 Pre-testing

Addressing unreflected questions and errors that may occur when conducting self-completion questionnaires requires pretesting. The aim is to improve the quality of the questionnaire, in which potential problems that respondents may encounter can be demonstrated and identified (Saunders et al., 2019; Bell et al., 2019). Collecting data from all sample members is necessary for the objectivity of the questionnaire so that the results can be generalised to the entire population and have external validity (ibid.). For the respondent, potential discomfort, misunderstanding of the text and questions, and doubts about the assertions were avoided from their feedback. In addition, the purpose of the questionnaire may be ambiguous for the respondents. All of these issues must be taken into account to ensure that respondents are studying what they are studying, if not, they may make the questionnaire incomplete, resulting in low response rates to some questions and affecting the amount of valid data collected, further highlighting the importance of pretesting (Bell et al., 2019). If researchers conduct pretests, they can enhance the likelihood or ensure that possible errors are avoided and use their time efficiently rather than refining the questionnaire multiple times (Bell et al., 2019; Reynolds et al., 1993).

Two pretests were conducted in this paper. In the first pretest, the researchers of this paper distributed the questionnaire to the respondents who participated in the pretest through Google Forms. Google Forms was chosen because it was considered the most efficient way to collect answers when using an Internet-based, self-administered questionnaire. The pretest questionnaire initially contained 15 questions with 3 questions for each sub-concept, and it took no more than 5 minutes to answer all questions, which was consistent with the description in the questionnaire. Collecting data from all sample members is necessary for the objectivity of the questionnaire so that the results can be generalized to the entire population and have external validity. Therefore, in the first pretest, the researchers of this paper selected 15 friends around them who had no expertise in the marketing field to participate by random sampling to ensure that all statements used for measurement were easy to understand for all participants. Respondents gave feedback to the researchers on how they felt throughout the process after completing the questionnaire and made some comments or suggestions. For example, “offline shopping” could be interchanged with terms such as “brick-and-mortar”,
“physical retail”, and “in-person experience”, as well as a more feasible form of presentation of the questions. Also considering that not all participants were familiar with the complex and incomplete terminology, the researchers refined the structure of the question's statements to make them clearer and simplify the language formulation. Moreover, the researchers sought the advice of their mentors to improve the questionnaire based on their expertise in their fields of study. For example, the number of control variable questions could be increased, and if an item was lost, there would be potential problems, which would lead to a lack of data volume. Therefore, it was necessary to add an item for each concept, but difficulties were encountered in finding a fourth customer satisfaction item, making the questionnaire finally consist of 19 questions, including 4 control variable questions, 4 questions in each independent variable and 3 questions in the dependent variable.

The second pretest was conducted by the researcher accompanying these individual respondents. During this process, the respondents and the researcher had some interactions and discussions throughout the improved questionnaire to clarify potential problems or difficulties in understanding that still existed in communication. The suggestion from these respondents was that “in-store shopping” was the easiest term to understand. Based on this, the wording of the questions was further refined to make it understandable for each respondent, who was sometimes confused about what was actually being measured. During this process, the researchers of this paper made adjustments accordingly based on the feedback from these two pretests, resulting in the final questionnaire (see Appendix). In addition, the format of the questionnaire was displayed differently when respondents were using mobile or computer devices, such that the options 1-7 were vertically distributed on the cell phone and horizontally distributed on the computer, but this did not affect the response rate.

4.5 Sampling

Non-probability sampling is a method of selecting units from the overall population using subjective methods (Bell et al., 2019). This means that the chances of selection in non-probability sampling are unknown and unclear, relying more on the subjective judgment of the researcher. Non-probability sampling does not require a complete survey framework, it
allows researchers to collect data more quickly, easily and cheaply. And the convenience sampling in it always makes it feasible and convenient for the researcher to easily obtain the number of respondents on various social platforms (Bell et al., 2019). Therefore, the researcher in this paper used the convenience sampling strategy.

The overall population is the entire group, while the sample is used to make inferences about the overall population, which comes from a subset of individuals in the larger overall population (Bell et al., 2019). The sample represents the cohort for which the researcher actually collected data in the study and allows testing hypotheses about the overall population characteristics (Saunders et al., 2019). Increasing the sample size increases sample precision, meaning that sampling error decreases as the sample size increases (Bell et al., 2019; Saunders et al., 2019). Regarding the selection of the sample, the researchers chose Linnaeus University students as the study sample as convenience sampling has little to do with the study objectives. As a result, the participants appear in the sample only because they are easily accessible to the researchers (Saunders et al., 2019). Since the context of the study in this paper is offline shopping, the researchers' setting for the population was offline shoppers with higher education. The actual sample size is the target students who received the questionnaire and eventually answered the responses, and there were 105 participants in this paper. In addition, respondents were required to access the questionnaire on the Internet via their devices, which excluded college students without Internet access, however the probability of this occurring was considered low and would not affect the study. For how large a sample size is needed, Pallant (2020) gives a formula: N>50+8m (m represents the number of independent variables in the study). Given that three independent variables were used in this study, the minimum sample size required for this study was 74 as calculated by this formula.

4.6 Operationalisation

In conducting the operationalization table, the theoretical concepts and the items related to these concepts are the basis for questions formation in the questionnaire. This study is based on the context of offline shopping. The sub-concepts in the operationalization table consist of independent and dependent variables. Customer perceived value, customer expectation and
touch experience are the independent variables, and customer satisfaction is the dependent variable. Moreover, each sub-concept is divided into items, which are the units of analysis, highlighting the importance of operationalizing the theoretical framework (Bell et al., 2019; Popper, 2002; Saunders, 2019).

<table>
<thead>
<tr>
<th>Concept</th>
<th>Sub-concept</th>
<th>Item</th>
<th>Question</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offline shopping</td>
<td>Customer perceived value</td>
<td>Price</td>
<td>Price is important to me when I shop in-store.</td>
<td>Gallarza &amp; Cuadrado, 2017; Beldona et al., 2006</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Convenience</td>
<td>Convenience is important to me when I shop in-store.</td>
<td>Beldona et al., 2006; Carson et al., 2015</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Time</td>
<td>The time it takes to buy a product is important to meet me when I shop in-store.</td>
<td>Winsky, 2017</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Product quality</td>
<td>Product quality is important to me when I shop in-store.</td>
<td>Dongjin et al. 2008; Ryu et al. 2012; Kusumawati and Rahayu 2020; Boksberger &amp; Melsen, 2011; Putra et al., 2017</td>
</tr>
<tr>
<td>Customer expectation</td>
<td>Memory</td>
<td></td>
<td>My previous experiences of shopping in the store is important to me when shopping in-store.</td>
<td>Chen et al., 2015; Hsieh &amp; Yuan, 2021; Nicolae et al., 2013</td>
</tr>
<tr>
<td></td>
<td>Service quality</td>
<td></td>
<td>Service quality is important to me when shopping in-store.</td>
<td>O'Neill et al., 2022; Bonfanti et al., 2023; Ryu et al., 2021; Ojasalo, 2001</td>
</tr>
<tr>
<td></td>
<td>Information</td>
<td></td>
<td>The information I get about the product is important to me when shopping in-store.</td>
<td>Chen et al., 2015; Hsieh &amp; Yuan, 2021; Oh et al., 2022</td>
</tr>
<tr>
<td>Touch experience</td>
<td>Temperature</td>
<td>The temperature of the store is important to me when shopping in-store.</td>
<td>Hultén et al., 2009; Ballantine et al., 2015; Nell &amp; Cant, 2015</td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td>-------------</td>
<td>-----------------------------------------------------------------------</td>
<td>---------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Touch feasibility</td>
<td>The possibility to touch the products is important to me when shopping in-store.</td>
<td>Ringler et al., 2019; Zhang et al., 2014</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Material texture</td>
<td>The material texture of the product is important to me when shopping in-store.</td>
<td>Hultén et al., 2009; Ferreira, 2019; Klöcker et al., 2012; Iosifyan &amp; Korolkova, 2019</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Steadiness</td>
<td>The softness of the product is important to me when shopping in-store.</td>
<td>Hultén et al., 2009</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer satisfaction</td>
<td>Pleasure</td>
<td>To have a pleasant experience is important to me when shopping in-store.</td>
<td>Walsh et al., 2011; Khalid &amp; Helander, 2006; Söderlund, 2016</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Need</td>
<td>To have my needs satisfied is important to me when shopping in-store.</td>
<td>Jeyaraj et al., 2014</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Desire</td>
<td>To have my desires fulfilled is important to me when shopping in-store.</td>
<td>Gerson, 1993</td>
<td></td>
</tr>
</tbody>
</table>

Table 1. Operationalisation table (Own, 2023)
4.7 Data analysis method

4.7.1 Data coding

This paper uses IBM SPSS Statistics for data analysis. It is the most widely used computer software for quantitative data analysis by social scientists. The variables in the data need to be coded when using IBM SPSS Statistics in order to generate viewable views and the labels of each value are presented for subsequent analysis (Moore et al., 2017; Bell et al., 2019). Based on the questionnaire in this paper was designed and sent to the participants on Google Forms, so after the data were collected, the researchers of this paper still recorded the data in Google Forms. Google Forms allows the researchers to monitor the data online at the same time and keep the records at any time, which can effectively prevent the missing data. In addition, it is easy to convert into Excel table form, which is convenient for researchers to code the data.

In this paper, the control problem was first coded. Male was coded as “0”, female was coded as “1”, and other was coded as “2”. It is important to note that “0” represents a code rather than a value (Moore et al., 2017). Full-time student was coded as “1” and part-time student was coded as “2”. Work status was coded as “1-3”. Income status was also coded as “1-3”. Then, the questions in the questionnaire were coded. The questions on customer perceived value was coded as “CPV1”, “CPV2”, “CPV3” and “CPV4”. Customer expectation as “CE1”, “CE2”, “CE3” and “CE4”. Touch experience was coded as “TE1”, “TE2”, “TE3” and “TE4”. Customer satisfaction as “CS1”, “CS2” and “CS3”. Finally, these codes are transferred to IBM SPSS Statistics.

4.7.2 Descriptive statistics

Descriptive analysis can be a tool to help researchers understand the variation within a data set and make inferences to draw conclusions. It is a statistical description that reveals the significance of the distributional characteristics of the data through numbers and requires explanatory notes on the central and dispersion measures (Moore et al., 2017). For the central tendency measure, researchers need to measure the mean (\( \bar{x} \)), median (M), and mode. The mean helps the researcher to get an intuition of the general level of the observations in
general. It is the arithmetic mean of all observed values and is obtained by adding all values and dividing by the total number of all observations. However, when there are extreme observations, such as outliers, the average does not represent the true level of the total number of observations. This illustrates that the mean is not a resistant central measure. In addition, the median is the midpoint of the data distribution. The median is the middlemost number after arranging all observations in order from smallest to largest. When the total number of observations is even, the median is obtained by taking the average of the two numbers in the middle of the ordering. The median is more resistant than the mean, so when there are outliers the median can compensate for the mean and give the researcher a relatively true overall level of the observations. It follows that the mean and median are more specific to the overall picture of observations, while the mode is a response to local conditions, such as where they are more dense. The mode is that value that occurs most frequently in the observations (Moore et al., 2017; Bell et al., 2019).

Second, for the dispersion measure, researchers needed to measure the standard deviation (σ). The standard deviation is a measure of the distribution by looking at how far the observations are from their mean, that is, the average amount of variation around the mean (Moore et al., 2017; Bell et al., 2019). A larger standard deviation indicates that the data are more dispersed, while a smaller standard deviation indicates that the data are all around the mean and therefore less varied. Therefore, the standard deviation is calculated by taking the difference between the value of each observation in the distribution and the mean, and then dividing the total number of differences by the number of values (ibid.). The standard deviation is also affected by outliers, but it can counteract this effect by dividing by the number of values in the distribution, so it provides a more accurate picture for researchers (Moore et al., 2017; Bell et al., 2019). In addition, skewness and kurtosis can provide researchers with an intuitive description of any distribution shape influenced by the mean (\(\bar{x}\)), median (M) and mode. Skewness is to measure the equilibrium state of a distribution and is usually compared to a normal distribution, hence a 0 value. A distribution is positively skewed when the large values are relatively small and the tails are skewed to the right, that is, when the overall distribution state is shifted to the left; conversely, it is negatively skewed. Moreover, it is acceptable when the skewness value is in the range of -1 to +1, preferably closer to 0, otherwise there is a severely skewed distribution (Hair et al., 2018). Kurtosis
refers to the height of the distribution and also measures the shape of the distribution compared to the normal distribution. When the kurtosis value is positive, it indicates a sharper distribution, while when the kurtosis value is negative, it indicates a flatter distribution (Hair et al., 2018; Saunders et al., 2019).

4.7.3 Correlation analysis

Correlation (r) is a measure of the degree and direction of linear relationship between two variables (Moore et al., 2017; Pallant, 2020). For this paper, the intention was to explain how the relationship exists between each independent variable and the dependent variable. The correlation coefficient has a value between -1 and 1. A negative value represents a negative correlation, a positive value represents a positive correlation, and a value of 0 represents no correlation. This is because the positive and negative signs only represent the direction and not the degree of strength. The strength of the relationship is indicated by how close it is to -1 or 1. When r is close to -1 or 1 it means that the points in the scatter plot are close to a straight line, so when these points are exactly on a straight line, r = -1 or 1. Just like the mean and standard deviation, correlations are not resistant and are therefore subject to outliers (Moore et al., 2017). Whether the correlation coefficient is statistically significant depends on the size of the calculated coefficient and the size of the sample size. Therefore researchers must always check both the correlation coefficient and the level of statistical significance. For this reason Pearson's r can be used as a treatment (Bell et al., 2019; Pallant, 2020). Pearson's r is statistically significant when the correlation p-value is <0.05. Pallant (2020) also mentioned that the relationship is strong when r > 0.5.

4.7.4 Multiple regression analysis

Linear regression is a statistical analysis method used to determine quantitative interdependent relationships between variables, which models the relationship between interdependent variables and provides researchers with predictions and explanations (Hair et al., 2018). Moreover, when the problem under study involves considering one variable as the dependent (criterion) variable among the variables of interest and the other three and more variables are considered as independent (predictor) variables, multiple regression analysis is
appropriate as a method. That is to say the purpose of multiple regression analysis is to predict the effect of changes in these independent variables on the dependent variable (Pallant, 2020; Hair et al., 2018). Multiple regression allows researchers to examine how a set of independent variables predicts the dependent variable, as well as identify the best predictors among the independent variables. In addition, it can determine whether the predictor variables retain the ability to predict outcomes in the presence of other variables in the model (Pallant, 2020). Therefore, the researchers of the paper analysed how customer perceived value, customer expectations, and touch experience impacted customer satisfaction through multiple regression based on the purpose of the study.

Researchers have to focus on some important items when using multiple regression analysis. Coefficient of determination (R²) is a measure of how much of the variance of the dependent variable can be explained by the independent variable. It ranges from 0 to 1, with higher values indicating greater predictive power for the dependent variable (Hair et al., 2018). However, even if the independent variable is not a strong predictor of the dependent variable, the R² increases as the number of independent variables increases. Therefore, R² alone is not sufficient to indicate the true situation, which requires the adjusted coefficient of determination (adjusted R²). It is the R² value adjusted accordingly to the number of independent variables and sample size in the regression equation under consideration. If the explanatory power of the added independent variables is strong, then the coefficient of determination rises accordingly. Adjusted R² is acceptable when it is a more conservative measure than R², which means it is less than R² (Hair et al., 2018). A lower adjusted R² suggests that the extra input variables are not improving the model's performance. Standardised regression coefficient (β), known as the beta value, allows researchers to directly compare the relative explanatory power of the coefficients on the dependent variable (Hair et al., 2018). F-values are used in ANOVA (statistical hypothesis testing for variance) to test the overall effect of the model by examining whether a variable in the model makes an additional contribution to predictive accuracy beyond the existing variables (Hair et al., 2018). That is, the significance level of all variables combined to accept or reject null hypotheses. One can disregard the F-value if the null hypothesis is accepted. If the null hypothesis is rejected (due to a p-value lesser than the alpha value), the F-value is relevant for predicting the ratio of variation between and within subgroup means. A high score indicates
unequal means, indicating that for a hypothesis to be rejected, the F-value must be large and vice versa with a low score. Standard error is the result when estimating the standard deviation of a statistic from the data, and it facilitates researchers to check whether a coefficient is different from zero (Moore et al., 2017; Hair et al., 2018).

After performing multiple regression analysis, it is crucial to assess the validity of the hypothesis. Significance tests are used as a formal procedure to compare the observed data with the hypothesis that the researcher wants to assess its truthfulness (Moore et al., 2017; Hair et al., 2018). Significance level (α), known as the alpha value, represents the probability of rejecting the null hypothesis when it is actually true. Typically, a significance level of 0.05 is used. That is, the hypothesis is accepted when the significance level is less than 0.05 within a 95% confidence interval and rejected otherwise (Moore et al., 2017; Hair et al., 2018).

4.8 Quality criteria

4.8.1 Reliability

Reliability is about consistency of measurement. In other words, a measurement can be considered reliable if the same results are obtained using the same method in the same situation. Internal reliability is a measure of consistency between multiple indicators. Multiple indicators are used to demonstrate various dimensions of the concept (Bell et al., 2019). As examined in the independent variables presented in the previous content, measuring the consistency between indicators of internal reliability is done by generating coefficients via Cronbach's alpha. Not only is it used to see if the independent variables are correlated with the dependent variable, but also how they relate to each other. Cronbach's alpha results in a range between 0 and 1, an acceptable reliability score of 0.7 or higher (ibid.). Inter-rater reliability measures how well different participants assess the same thing (Bell et al., 2019). When researchers are involved in data collection and evaluation, they often bring in their own subjective judgments, especially when there are multiple researchers involved in the process, resulting in a lack of consistency in the final results (ibid.). Therefore, in this study, the questionnaire was designed with options of varying emotional intensity (1-7), a move that helped the researcher to count the respondents' attitudes and to
obtain the result data intuitively. In addition, the reliability assessment for this study will be based on the commonly used Cronbach's Alpha to see causality between variables, the results of which will be transparently presented in the subsequent sections.

4.8.2 Validity

Another criterion in the research process is validity. Validity is concerned with the integrity of the conclusions drawn from a study and that the results are closely related to reality (Bell et al., 2019). Bell et al. (2019) suggest many different types of validity, the most relevant to this study are internal validity, external validity, and content validity. Internal validity is primarily related to causality, which determines whether the conclusion of a causal relationship between two or more variables is valid. And internal validity assesses the extent to which the independent variables can confidently produce the effects to be observed. Therefore, this study explains the effects of the three independent variables (CPV, CE, TE) on the dependent variable (CS) and how they relate to each other in the course of the study. If a causal relationship is found between the independent variables and the dependent variable during the analysis, the study can be considered to have internal validity. In contrast, external validity is concerned with whether the results of a study can be applied in areas outside the context of the study (Bell et al., 2019). This leads to the question of how individuals and participants are selected to become important. Non-probability sampling can affect external validity and bring it into question, as such a sample cannot generalise populations. To avoid this problem, the researchers in this paper chose to conduct an initial probability sampling of Linnaeus University students, which has high external validity. In other words, external validity reflects whether the results of a study can be applied to a wider range of settings. Often external validity requires a sufficient amount of theoretical support to highlight the importance of operationalisation. Therefore for the sake of transparency and operationalisation of the study, the researcher collated the theoretical concepts, indicators and questions from the questionnaire in the op-table (see chapter 4.5). Furthermore, content validity refers to the extent to which the measurement instrument provides adequate coverage of the survey questions (Saunders et al., 2019). There are a number of ways in which 'adequate coverage' can be judged during the research process, one being by carefully defining the study through the literature reviewed and discussing it with other researchers where appropriate; another is
by using a group of people to assess whether each question measured in the questionnaire is ‘necessary’ and ‘unnecessary’ (ibid.). This emphasises the importance of the pretest to the content validity of the questionnaire. Therefore, in this study, two pre-tests were done in order to enhance the content validity through valid and positive feedback (see chapter 4.4).

4.9 Ethical considerations

Focusing on human behavior in research requires a variety of considerations for research participants (Bell et al., 2019). When collecting large amounts of data, researchers must treat respondents with respect and take responsibility for conducting ethical and socially acceptable research. By doing so, the reputation of the individual conducting the research is enhanced. Data were collected through an Internet-based self-selected questionnaire that highlights the importance of ethical considerations in online research. The respondents all required access to the Internet, which is common due to the technological developments and increasing use of technological devices. However, society does not only consist of people who have this access, which must be considered when generalising to a whole population.

There are four main principles to consider when it comes to the integrity of the sample population. First, the researcher must ensure that participants do not suffer any harm, as problems arise when they are affected by negative participation (Bell et al., 2019). Internet-based sample collection will not cause physical harm, nor will it cause emotional harm because we have ensured that no sensitive or personal elements are included in the presentation. The second principle is about informed consent (Bell et al., 2019; Munhall, 1988). Respondents must agree to be part of the study and be in a position where they are responsible for consenting (ibid.). With this in mind, the sample was selected from university students, of whom had to be adults over 18 years old who had the ability to inform their consent without parental permission. The questionnaire was completely voluntary, as respondents could choose to leave the survey at any time and no responses would be saved until the survey was completed. The third principle is to ensure that potential participants should be involved in anonymous and confidential negotiations and agreements (Bell et al., 2019; Buchanan & Hvizdak, 2009), which is ensured in its quantitative nature. Respondents are not knowingly identified because there is no choice to reveal any personal information,
and confidentiality must also be ensured in terms of potential data leakage, and researchers must deal with cybersecurity tasks, especially through Google Forms. The fourth and final principle is about tools to prevent deception, referring to research that does not conform to reality (Bell et al., 2019; Buchanan & Hvizdak, 2009). The ethical nature of deception may steer future respondents away from the researcher, which will damage the reputation of their future research due to concealment and lack of trust (Bell et al., 2019; Mulhall, 1988; Lupia & Alter, 2014). Naturally, the nature of this study was thoroughly truthful and honest, reassuring that the data was not manipulated. Throughout the research process, all the considerations mentioned had to be taken into account before and after the study was conducted.

In addition, honesty and discipline between researchers and participants are also involved, and research ethics may also involve transparency in the procedures performed (Munhall, 1988; Lupia & Alter, 2014). Transparency in research is valued in production, as sources and supply chain processes must be available for replication. However, replicating data may raise issues regarding data security (Bell et al., 2019). This requires a focus on data protection and data security (Bell et al., 2019; as cited in Grinyer, 2002). Therefore, data access management is crucial for researchers to maintain credibility (Lupia & Alter, 2014).

4.10 Societal considerations

Potential social issues must be considered in the study (Bell et al., 2019; Lin, 2022). The first thing to consider is the generation of knowledge in the social world. The philosophy of research followed by the researchers in this study is based on a positivist epistemological and objectivist ontological stance. When generating valuable knowledge through observation and analysis of data, findings must be accurate and valid in order to generalize the results to the entire population (Bell et al., 2019). The second consideration is the transparency of the data in the study, which demonstrates the way the researchers in this study interpreted the data. In this way, the possibility of other researchers misinterpreting the way the data were analyzed or using them invalidly is minimized. At this point, it is important to consider the distribution and use of knowledge. Some researchers may re-analyze the results of this study, which also provides room for new interpretations (Bell et al., 2019). In this case, the impact of customer
satisfaction on the link between customer perceived value, customer expectations and touch experience may be considered by secondary analysts and reanalysed by new techniques, which are unforeseen. New directions may theoretically emerge and it must be taken into account that the data from this study may be questioned (ibid.). The third consideration emphasizes the importance of researchers reflecting on the social situation and the potential problems they encounter (Bell et al., 2019). For this study, the main issues relate to the social environment dimension and the offline shopping environment. Consumers may overconsume, which is unsustainable for the future and poses a threat to the environment (Håkansson, 2014). The overuse of goods and services usually occurs on a moral basis, which in turn affects consumers, society and the environment on an economic and psychological level (Håkansson, 2014). Economic development leads to increased consumer demand for products and services as a way to improve the quality of life (Belz & Peattie, 2012). Therefore, firms need to do their best to overcome overproduction and overconsumption. This takes the form of considering the potential damage to the environment caused by goods and services when pricing, extending the life of products, and reusing resources in production rather than ignoring them and causing waste (Crocker et al., 2018). The fourth consideration is the importance of physical and tangible stores. The impact of online shopping on society increases availability and efficiency, which may affect the accessibility of offline shopping. Inventory, staff management, and movement of goods and services become costs that businesses must spend (Li et al., 2022). This may lead to higher prices for goods and services at the social level and lower profit margins for businesses. Moreover, as online shopping is gradually used and relied on by more consumers, it makes offline shopping to face more new challenges. Therefore, brick-and-mortar stores need to revisit their business strategies in order to adapt to the demands of new trends.
5. Results

5.1 Respondent characteristics

The conducted questionnaire consisted of four control questions, which collected data about the respondent characteristics. The control questions regarded student status, gender, job status and monthly income as seen in Table 2, and the responses were coded as each option for the questions represented a number (see chapter 4.7.1). A total of 105 responses were collected from the questionnaire, in which all study at Linnaeus University, either full-time or part-time. There was also a third option for those who were not students at the university, and if they were not, they could not proceed to the next session. Out of the total amount of responses, a vast majority of 89.5% (94 respondents) were full-time students, and 10.5% (11 respondents) were part-time students. The second control question regarding gender resulted in a total of 58.1% (61 respondents) selected they were women, 37.1% (39 respondents) selected they were men, and 4.8% (5 respondents) selected they were other. The third control question regarded their job status. 12.4% (13 respondents) selected that they work full-time, 35.2% (37 respondents) selected they have a part-time/casual job, and a majority of 52.4% (55 respondents) had no job. Out of all 105 students, respondents had three options to select their income. A majority of the respondents, 53.3% (56 respondents) had an income less than 10,000 SEK. One third of the respondents, 33.3% (35 respondents), had an income between 10,000 SEK and 20,000 SEK, and 10.5% (14 respondents) had an income above 20,000 SEK.

<table>
<thead>
<tr>
<th>N=105</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Student status</strong></td>
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<td></td>
</tr>
<tr>
<td>Full-time</td>
<td>94</td>
<td>89.5</td>
</tr>
<tr>
<td>Part-time</td>
<td>11</td>
<td>10.5</td>
</tr>
<tr>
<td>No</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Man</td>
<td>39</td>
<td>37.1</td>
</tr>
<tr>
<td>Woman</td>
<td>61</td>
<td>58.1</td>
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Other  5  4.8

<table>
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</thead>
<tbody>
<tr>
<td>Full-time</td>
<td>13</td>
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<td>Part-time/casual</td>
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<td>35.2</td>
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<td>No</td>
<td>55</td>
<td>52.4</td>
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<table>
<thead>
<tr>
<th><strong>Monthly income</strong></th>
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<tbody>
<tr>
<td>&lt;10,000SEK</td>
<td>56</td>
<td>53.3</td>
</tr>
<tr>
<td>10,000SEK-20,000SEK</td>
<td>35</td>
<td>33.3</td>
</tr>
<tr>
<td>&gt;20,000SEK</td>
<td>14</td>
<td>10.5</td>
</tr>
</tbody>
</table>

Table 2. Respondent characteristics (Own, 2023)

5.2 Descriptive statistics

To observe the overall interpretation of the data, the researchers measured a measure of central tendency consisting of mean ($\bar{x}$), median (M), and mode, and the results are shown in Table 3 below. CPV4 and CS2 have the highest mean, both at 6.23. In contrast, TE1 has the lowest mean, at 4.83. CS2 has the highest median, at 7.00, while TE1 and TE4 have the In addition, TE1 has the lowest mode at 4, CE3 and CE4 have a mode of 6, and the rest are 7, the highest value in the range set. The researchers then measured the degree of dispersion as reflected by the standard deviation ($\sigma$), skewness and kurtosis. TE1 had the largest standard deviation of 1.695, which indicates that the data are more dispersed. The standard deviation of CPV4 is the smallest, 0.933, which indicates that the data are relatively dense. The skewness of all items is negative, which indicates that the data as a whole are asymmetric and negatively skewed, that is, they are all skewed to the right. This is because the skewness values are acceptable when they are in the range of -1 to +1, otherwise there is a severely skewed distribution (Hair et al., 2018). Therefore, the skewness of CS2 is -3.390, indicating the presence of a particularly significant and severely skewed distribution. In contrast, the skewness of CPV1, CPV2, CPV4, TE2 and CS1 is only slightly above the acceptable range. Furthermore, positive kurtosis values indicate a sharper distribution, while negative kurtosis values indicate a flatter distribution (Hair et al., 2018; Saunders et al., 2019). Thus, CPV1 has
the highest kurtosis value of 2.748, indicating the sharpest distribution, while CPV3 has the lowest kurtosis value of -0.710, indicating the flattest distribution.

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean (X)</th>
<th>Median (M)</th>
<th>Mode</th>
<th>Std. deviation</th>
<th>Skewness</th>
<th>Kurtosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPV1</td>
<td>5.92</td>
<td>6.00</td>
<td>7</td>
<td>1.158</td>
<td>-1.365</td>
<td>2.748</td>
</tr>
<tr>
<td>CPV2</td>
<td>5.93</td>
<td>6.00</td>
<td>7</td>
<td>1.227</td>
<td>-1.368</td>
<td>2.308</td>
</tr>
<tr>
<td>CPV3</td>
<td>5.32</td>
<td>6.00</td>
<td>7</td>
<td>1.650</td>
<td>-0.875</td>
<td>-0.710</td>
</tr>
<tr>
<td>CPV4</td>
<td>6.23</td>
<td>6.00</td>
<td>7</td>
<td>0.933</td>
<td>-1.199</td>
<td>0.975</td>
</tr>
<tr>
<td>CE1</td>
<td>5.50</td>
<td>6.00</td>
<td>7</td>
<td>1.507</td>
<td>-0.961</td>
<td>0.317</td>
</tr>
<tr>
<td>CE2</td>
<td>5.74</td>
<td>6.00</td>
<td>7</td>
<td>1.316</td>
<td>-0.827</td>
<td>-0.229</td>
</tr>
<tr>
<td>CE3</td>
<td>5.34</td>
<td>6.00</td>
<td>6</td>
<td>1.492</td>
<td>-0.910</td>
<td>0.332</td>
</tr>
<tr>
<td>CE4</td>
<td>5.42</td>
<td>6.00</td>
<td>6</td>
<td>1.433</td>
<td>-0.993</td>
<td>0.998</td>
</tr>
<tr>
<td>TE1</td>
<td>4.83</td>
<td>5.00</td>
<td>4</td>
<td>1.695</td>
<td>-0.426</td>
<td>-0.622</td>
</tr>
<tr>
<td>TE2</td>
<td>5.76</td>
<td>6.00</td>
<td>7</td>
<td>1.334</td>
<td>-1.286</td>
<td>1.619</td>
</tr>
<tr>
<td>TE3</td>
<td>5.68</td>
<td>6.00</td>
<td>7</td>
<td>1.369</td>
<td>-0.859</td>
<td>-0.079</td>
</tr>
<tr>
<td>TE4</td>
<td>5.38</td>
<td>5.00</td>
<td>7</td>
<td>1.382</td>
<td>-0.627</td>
<td>-0.188</td>
</tr>
<tr>
<td>CS1</td>
<td>5.98</td>
<td>6.00</td>
<td>7</td>
<td>1.135</td>
<td>-1.370</td>
<td>1.984</td>
</tr>
<tr>
<td>CS2</td>
<td>6.23</td>
<td>7.00</td>
<td>7</td>
<td>1.085</td>
<td>-1.390</td>
<td>1.602</td>
</tr>
<tr>
<td>CS3</td>
<td>5.83</td>
<td>6.00</td>
<td>7</td>
<td>1.139</td>
<td>-0.850</td>
<td>0.267</td>
</tr>
</tbody>
</table>

Table 3. Descriptive statistics (Own, 2023)

5.3 Quality criteria

5.3.1 Reliability: Cronbach’s alpha

Cronbach's alpha is used to test the internal reliability to understand whether the variables are consistent (see Chapter 4.8.1). Typically, data over 0.7 is considered very reliable. As shown in Table 4 below, the values of CE, TE and CS are all above 0.7, which means that the data
are highly reliable. However, Cronbach's alpha of CPV is 0.578, which is obviously less than 0.7, so it can be considered that the internal reliability of CPV is weak.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cronbach’s Alpha</th>
<th>Number of items</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Perceived Value</td>
<td>0.570</td>
<td>4</td>
</tr>
<tr>
<td>Customer Expectations</td>
<td>0.736</td>
<td>4</td>
</tr>
<tr>
<td>Touch Experience</td>
<td>0.751</td>
<td>4</td>
</tr>
<tr>
<td>Customer Satisfaction</td>
<td>0.806</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 4. Internal reliability: Cronbach’s alpha (Own, 2023)

5.3.2 Validity: Correlation analysis

Correlation analysis was performed to test the validity criteria and to measure the relationship between the variables (see Chapter 4.8.2). As shown in Table 5 below, the minimum value is 0.170 and the maximum value is 0.616. Since Pearson's r has a range of values between -1 and 1 and is statistically significant when the associated p-value is < 0.05 (Moore et al., 2017). It can be seen that the value of 0.170 is outside the acceptable range and its correlated p-value > 0.05 is not statistically significant, so this value indicates a very weak or no correlation. This can also be seen in the Table 6 scatterplot, where the distribution of points is all scattered and a clear straight line cannot be seen, as the correlation is weak due to the influence of outliers. In addition, the other values in Table 5 are within the acceptable range and all correlated p-values < 0.01, so the correlation between CE, TE and CS is positive and statistically significant.
| Customer Satisfaction | 0.170 | 0.616** | 0.547** | 1 |

*p < 0.05, **p < 0.01, ***p < 0.001

Table 5. Internal validity: Correlation analysis (Own, 2023)

5.4 Multiple regression analysis

The most direct response to the study results is provided by the multiple regression table. The results of the multiple regression with customer satisfaction as the dependent variable are shown in Table 7 below. The relationship between the control variables (gender, job status, and monthly income) and the dependent variable (CS) is shown in Model 1. The relationships between control variables, independent variables (CPV, CE, and TE), and dependent variables (CS) are shown in Models 2 through 5. Researchers should always focus on Model 5, where the F-value is 15.707 and “***” represents a correlation p-value <0.001, which means that this regression model is statistically significant and that CPV, CE, and TE reliably predict CS. In addition, the maximum standard error is 0.114 and the smallest is 0.070, the overall standard error is small, which reflects the accuracy of the data. In Model 5, the R² is
0.490 and the adjusted $R^2$ is 0.459. When the Adjusted $R^2$ is smaller than the $R^2$, the data are considered acceptable, and it can be judged that CPV, CE, and TE have the ability to explain 45.9% of the CS.

<table>
<thead>
<tr>
<th></th>
<th>Exp. sign</th>
<th>Model 1 Control Variables</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5 (All model)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>5.598***</td>
<td>4.355*** (0.901)</td>
<td>2.802*** (0.569)</td>
<td>3.128*** (0.610)</td>
<td>2.453*** (0.696)</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>0.085 (0.168)</td>
<td>0.077 (0.167)</td>
<td>0.045 (0.133)</td>
<td>0.004 (0.143)</td>
<td>0.006 (0.124)</td>
<td></td>
</tr>
<tr>
<td>Job Status</td>
<td>0.069 (0.160)</td>
<td>0.068 (0.159)</td>
<td>0.068 (0.126)</td>
<td>0.087 (0.135)</td>
<td>0.081 (0.117)</td>
<td></td>
</tr>
<tr>
<td>Monthly Income</td>
<td>0.045 (0.157)</td>
<td>0.082 (0.158)</td>
<td>-0.054 (0.125)</td>
<td>0.008 (0.133)</td>
<td>-0.078 (0.119)</td>
<td></td>
</tr>
</tbody>
</table>

**Customer Perceived Value**

H1: Customer perceived value has a positive impact on customer satisfaction in offline shopping

<table>
<thead>
<tr>
<th></th>
<th>Exp. sign</th>
<th>Model 1 Control Variables</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5 (All model)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>+</td>
<td>0.177 (0.114)</td>
<td></td>
<td></td>
<td></td>
<td>-0.097 (0.090)</td>
</tr>
</tbody>
</table>

**Customer Expectations**

H2: Customer expectation has a positive impact on customer satisfaction in offline shopping

<table>
<thead>
<tr>
<th></th>
<th>Exp. sign</th>
<th>Model 1 Control Variables</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5 (All model)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>+</td>
<td></td>
<td>0.627*** (0.070)</td>
<td></td>
<td></td>
<td>0.500*** (0.074)</td>
</tr>
</tbody>
</table>

**Touch Experience**

H3: Touch experience has a positive

<table>
<thead>
<tr>
<th></th>
<th>Exp. sign</th>
<th>Model 1 Control Variables</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
<th>Model 5 (All model)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td>0.551*** (0.073)</td>
<td>0.356*** (0.072)</td>
</tr>
</tbody>
</table>
impact on customer satisfaction in offline shopping

<table>
<thead>
<tr>
<th></th>
<th>0.012</th>
<th>0.042</th>
<th>0.394</th>
<th>0.306</th>
<th>0.490</th>
</tr>
</thead>
<tbody>
<tr>
<td>R²</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>-0.018</td>
<td>0.003</td>
<td>0.369</td>
<td>0.279</td>
<td>0.459</td>
</tr>
<tr>
<td>Std. Error of the Estimates</td>
<td>0.95896</td>
<td>0.94906</td>
<td>0.75497</td>
<td>0.80744</td>
<td>0.69919</td>
</tr>
<tr>
<td>F-Value</td>
<td>0.400</td>
<td>1.086</td>
<td>16.223***</td>
<td>11.039***</td>
<td>15.707***</td>
</tr>
<tr>
<td>Df</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>6</td>
</tr>
</tbody>
</table>

* p < 0.05, ** p < 0.01, *** p < 0.001, N = 105

*Standard Error is presented within parenthesis for each of the independent variables, following below the Beta value.*

Table 7. Multiple regression analysis (Own, 2023)

When the significance level (alpha) < 0.05, the hypothesis is accepted, otherwise it is rejected. As can be seen from Table 8, the p-value for customer perceived value is a significance level (alpha) of 0.226, which is much greater than 0.05, so H1 is rejected. The same approach was used to judge H2 and H3, it is found that both hypotheses are acceptable.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Sig.</th>
<th>Accept/Reject</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1: Customer Perceived Value</td>
<td>0.226</td>
<td>Reject</td>
</tr>
<tr>
<td>H2: Customer Expectations</td>
<td>&lt;0.001</td>
<td>Accept</td>
</tr>
<tr>
<td>H3: Touch Experience</td>
<td>&lt;0.001</td>
<td>Accept</td>
</tr>
</tbody>
</table>

Table 8. Hypothesis testing (Own, 2023)
6. Discussion

6.1 Control variables

The control variables in this study are gender, job status and monthly income. According to the results of Model 5 in Table 7, the $\beta$-value (-0.078) of monthly income is negative, and its p-value > 0.001, which means that there is no relationship between monthly income and customer satisfaction. The $\beta$-value of gender (0.006) and the $\beta$-value of job status (0.081) are positive but both p-values > 0.001, so there is also no significant difference. This shows that there are no significant differences between gender, job status, monthly income and customer satisfaction. Therefore there is an absence of any data throughout the regression model that would suggest that the control variables affect the independent variable in explaining the dependent variables.

6.2 Hypotheses

As mentioned earlier, the F-value in Model 5 is 15.707 and the p-value < 0.001, which is significant. According to Hair et al. (2018), the adjusted $R^2$ is 0.459 less than the $R^2$ of 0.490, so it is acceptable. This also indicates that 45.9% of the variation in the dependent variable (CS) can be explained by the three independent variables together. Therefore, the hypotheses H1, H2 and H3 set out in this paper will be analysed step by step.

The Cronbach's alpha for customer perceived value in Table 4 is 0.570, which is less than 0.7. This indicates that the internal reliability of customer perceived value is weak. Table 5 shows that only the correlation coefficient (Pearson's r) between customer perceived value and customer satisfaction is outside the acceptable range and its correlation p-value > 0.05, so the correlation between customer perceived value and customer satisfaction is very weak or not. In this regard, the researchers further observed the points using a scatter plot (Table 6) and found that the distribution of the points are scattered and difficult to converge to a straight line due to the outliers. This further indicates that the relationship between customer perceived value and customer satisfaction is extremely weak. This new finding conflicts with the findings of Hultén et al. (2009); Boksberger and Melsen (2011); Chang and Wang (2011);
Mencarelli and Lombart (2017); Dongjin et al. (2008). In addition, as seen in Model 5 in Table 7, customer perceived value is not marked with “*”, indicating that the results shown for customer perceived value in the multiple linear regression are not significant. In Model 2, the adjusted R² of customer perceived value is 0.003, which means that customer perceived value can explain 0.3% of customer satisfaction, and this effect is almost insignificant. Moreover, it can be seen from Model 5 that the β-value of customer perceived value is -0.097 and the p-value is 0.226 is greater than 0.001, the sign is not consistent with the hypothesis, so hypothesis 1 is rejected.

From Table 3, it can be seen the mean (x̄) of product quality (CPV4) is the highest at 6.23 in the whole descriptive statistics table, which is a clear extreme value, indicating that customers are most concerned about product quality. Price (CPV1) and convenience (CPV2) have almost the same mean (x̄) and are both above 5.90. The mean (x̄) for time (CPV3) is also only slightly lower compared to these three at 5.32, but is also very high in the entire Table 3. This indicates that all items consistently measure customer perceived value, with product quality (CPV4) playing the largest role, but they do not affect customer satisfaction. In order to figure out which of the specific customer perceived value items were problematic, the researchers ranked and measured each of the four items and found that Cronbach's alpha was still less than 0.7, which indicated that these four items were indeed problematic. Then the researchers examined the theories related to these four items to try to find out the reason for this result. Customer perceived value is the total evaluation of the usefulness of a product or service (Boksberger & Melsen, 2011; Chang & Wang, 2011). When customers assess value, their perceptions are usually influenced by preferences (Chang & Dibb, 2012). Also, the value of various attributes varies and affects the way customers perceive value (Belso na et al. 2006; Boksberger & Melsen, 2011; Koller et al. 2011; Iyanna et al. 2012; Ryu et al. 2012; Kusumawati & Rahayu, 2020; Campos & Nóbrega, 2009). Customer perceived value can lead to customer sacrifice or benefit (Lapierre, 2000; Chang & Dibb, 2012; Boksberger & Melsen, 2011). For example, the price value mentioned by Gallarza & Cuadrado (2017 ); Beldona et al. (2006 ) is considered as a sacrifice, but for high consumers, the price of luxury goods is acceptable to them and they also perceive value, so the price is not a sacrifice for them. In contrast, for the general consumers, buying luxury goods is a sacrifice of price value. This shows that different people have different perceptions of perceived value, so the
level of answers to the questions in this study's questionnaire has great variation, which leads to the lack of reliability and validity of the data. Therefore, the four items selected for this study are not applicable to measure the situation of all customers. Therefore, customer perceived value does not significantly impact customer satisfaction in a positive way in offline shopping. This paper rejects H1.

**H1: Customer perceived value has a positive impact on customer satisfaction in offline shopping**

The results of customer expectations in linear regression are highly significant due to the fact that “***” indicates a strong significant relationship between the independent and dependent variables. This implies that in an offline shopping environment, customers have higher satisfaction when their expectations are met (Kim, 2012; Hult et al., 2019). In Model 3, the adjusted R² of customer expectations is 0.369, which means that customer expectations as an independent variable explains 36.9% of customer satisfaction. Moreover, it can be seen from Model 5 that in the β-value of customer expectation is 0.500 and the p-value < 0.001, the sign is consistent with the hypothesis. This situation indicates that hypothesis 2 is acceptable. Meanwhile the β-value of customer expectation (0.500) is the largest among the three independent variables, indicating that customer expectation has the most significant effect on customer satisfaction when the three independent variables act on it. This is in line with Nicolae et al. (2013) and Bonfanti et al. (2013) that customer expectations have a major impact on customer satisfaction. In addition, it can be seen from Table 3 that service quality (CE2) has a higher mean (x̄). This implies that when shopping offline customers are more concerned about the quality of service provided by the company and that high quality service makes customers more willing to establish a long-term relationship with the company (O'Neill et al., 2022; Ryu et al., 2021; Ojasalo, 2001). More notably, the mean (x̄) of the four components of customer expectation, memory (CE1), service quality (CE2), information (CE3) and certainty (CE4), all remained above and below 5.50, which indicates that there were no significant extreme values. This indicates that all four items play an equal role in measuring customer expectations. When the actual situation is highly consistent with customer expectations, customers produce more positive behaviors and thus have high satisfaction (Hsieh & Yuan, 2021; Oh et al., 2022). In summary, the expected results of the researchers are consistent with the measured results and the measured results are positive.
This means that this paper accepts H2, which states that customer expectations have a positive impact on customer satisfaction in offline shopping.

**H2: Customer expectation has a positive impact on customer satisfaction in offline shopping**

There is also a significant relationship between touch experience and customer satisfaction. This means that customers who prefer offline shopping prioritize touch (Levin et al., 2005; Kim et al., 2019; Senthil et al., 2012; Nägele et al., 2020; Hultén et al., 2009). The β-value of touch experience from Model 5 is 0.356 with a p-value < 0.001, indicating that it is significant and its sign is consistent with the hypothesis, so this paper accepts H3. Therefore, this study built on the study of Mustikasari et al. (2009) and further argued that the act of touch during shopping positively affects customer satisfaction level. In addition, this paper further analyses how the touch experience positively affects customer satisfaction by using the mean values in Table 3. Only the mean (x̅) of temperature (TE1) is relatively low at 4.83, while all other items have high mean values. This indicates that different customers have different levels of acceptance of temperature in the same store (Nell & Cant, 2015). Although some care and some ignore, the results suggest that a larger majority of customers still care about the in-store temperature. Therefore, brick-and-mortar stores still need to focus on controlling the in-store temperature because when customers suddenly become aware of the temperature, in most cases they already feel uncomfortable. Uncomfortable temperature can cause customers to leave immediately due to dissatisfaction (Ballantine et al., 2015; Nell & Cant, 2015). Customers care about touch feasibility, the material of the product and the stability of the product in offline shopping. This is because customer dissatisfaction manifests when the touch feasibility is hindered (Ringler et al., 2019). The material of the product and the steadiness of the product help to increase the interaction and enjoyment of the customer while shopping, so brick-and-mortar stores should focus on actively allowing customers to touch and feel the products (Hult et al., 2019; Ferreira, 2019; Klöcker et al., 2012; Iosifyan & Korolkova, 2019; Zhang et al., 2014). In summary, this paper accepts H3 and further indicates the degree of influence, based on the existing relevant literature, that the touch experience has a positive impact on customer satisfaction in offline shopping.

**H3: Touch experience has a positive impact on customer satisfaction in offline shopping**
7. Conclusion

This paper examines the effects of customer perceived value, customer expectation and touch experience on customer satisfaction in offline shopping. It is found that customer perceived value has a very weak or no impact on customer satisfaction, and H1 is rejected. Both customer expectation and touch experience have significant positive impact on customer satisfaction, and the impact of customer expectation is the most significant, so H2 and H3 are accepted. Therefore, based on the new findings, this paper modified the conceptual model (see chapter 3.4) and kept the concept of acceptable assumptions as the new model (Figure 2). This new model also contributes as a theoretical implication on an offline, in-store basis.

![Diagram showing the accepted model of impact on customer satisfaction](Figure 2. The accepted model of impact on customer satisfaction (Own, 2023))
8. Implications, limitations and future research

8.1 Implications

Previous research has shown that customer perceived value, customer expectation and touch experience are factors that influence customer satisfaction (Armstrong et al., 2019; Johnson et al., 2001; Hultén et al., 2009). However, they have not been tested in the context of offline shopping. Based on the existing related literature, this paper creates a conceptual model that assumes that customer perceived value, customer expectation and touch experience have a positive impact on customer satisfaction, respectively. After analysing the collected data through SPSS, it was found that the correlation between customer perceived value and customer satisfaction was weak or non-existent. The results of the linear regression of customer perceived value were not statistically significant. Therefore, this paper concludes that customer perceived value has no positive impact on customer satisfaction. The reason for this situation may be that customers of different consumption levels have different perceived values, which leads to the fact that the four items chosen for this study, namely price, convenience, time and product quality, are not sufficient to measure customer satisfaction. Therefore, the data collected did not meet the accepted Cronbach's alpha value and was not statistically significant after performing the correlation and regression analysis, which clearly lacked reliability and validity. Both customer expectation and touch experience are analysed in this paper and shown to have a positive impact on customer satisfaction. This is consistent with previous research findings and also provides theoretical implications for measuring customer satisfaction in offline shopping.

In addition, the results of the current study can be used in practice and provide recommendations for companies that want to improve customer satisfaction in offline shopping environments, such as brick-and-mortar stores. Based on the new findings of this study, brick-and-mortar stores should aim to enhance customer expectations and touch experience in order to satisfy customers. Specifically, the satisfaction of customers' offline interactions with brick-and-mortar stores depends on the memory of their previous in-store shopping, so brick-and-mortar stores should strive to leave customers with a strong impression and a good memory. Moreover, offline shopping needs to satisfy customers by improving the quality of service, such as the attitude of the staff that customers feel while
being served. Providing customers with clear and sufficient information will help them understand the products better and even make them want to come back. Besides, this study also found that the temperature in the store is not a concern for customers, but it is also something that needs special attention in brick-and-mortar stores, and needs to be adjusted to a suitable temperature for the human body. In addition, physical stores should try to give customers the opportunity to touch the products, so that customers can better feel the products, to maximize customer satisfaction.

8.2 Limitations

The purpose of quantitative research is to generalise the findings to the population of interest, so an adequate sample size is required to draw valid conclusions. However, the total sample size for this study was 105, and the lower sample size prevented the researchers from adequately identifying significant relationships in the data, due to the fact that a lower sample size can significantly increase the risk of sampling error. The respondents who participated in the questionnaire in this study were Linnaeus University students, those who were not Linnaeus University students were not given the opportunity to participate in the survey, thus creating a non-coverage bias. Moreover, the age of university students is 18 years or older, which means that the results will be skewed towards specific age groups and populations, and one-sidedly generalise to the entire population, resulting in insufficient diversity, thus reducing the reliability and validity of the results when generalised to the entire population.

8.3 Future research

First, this study found that customer perceived value is not enough to positively impact customer satisfaction, in other words this study only proved that customer perceived value has no positive impact on customer satisfaction, but it is not sure if there is a negative impact or no impact. This can be further investigated in future studies. Secondly, there are various methods that can be used in future research, such as interviews and observations to understand customer behavior and satisfaction levels, giving respondents the opportunity to expand their responses and opinions. This may allow researchers to have a clearer perception
of customers' experiences while shopping offline and further expand to contribute to the field. In addition, this paper only examined the touch experience among sensory experiences, so future research could argue how other sensory experiences impact customer satisfaction in the context of offline shopping. Finally, the choice of target groups for future research could be different consumer groups, such as young or old, as they will value offline shopping to different degrees. It could also be possible to select a certain geographical area for the study.
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Appendix

Spotlight on the factors affecting customer satisfaction in offline shopping

We are three students part of the Marketing programme at Linnaeus University, Växjö, Sweden. As we are currently conducting our Bachelor Thesis, we are interested in explaining how customer perceived value, customer expectations, and touch experience have an impact on customer satisfaction in an offline shopping context.

The questionnaire consists of a few questions regarding satisfaction when shopping offline, and it will take less than 5 minutes to complete. Your answers are fully anonymous and are only used for the purpose of research.

Thank you for your participation, it is highly appreciated. If you have any inquiries, do not hesitate to contact us via email and we will answer your questions.

Best regards,
Isabel Emma Burch, ib222pm@student.lnu.se
Bo Fei Lu, bi222je@student.lnu.se
Yi Hui Ren, yr222az@student.lnu.se

I am a student at Linnaeus University *

- Yes, full time
- Yes, part-time
- No
Please continue 😊

I am a *

- Woman
- Man
- Other

I have a current job *

- Yes, full time
- Yes, part-time/casual
- No

How much is your monthly income? *

- <10,000 SEK
- 10,000 - 20,000 SEK
- >20,000 SEK
Q1. Price is important to me when I shop in-store. *
Please select the option that applies best to you, only one option can be selected.

1  2  3  4  5  6  7
Strongly disagree  ○  ○  ○  ○  ○  ○  ○  Strongly agree

Q2. Convenience is important to me when I shop in-store. *

1  2  3  4  5  6  7
Strongly disagree  ○  ○  ○  ○  ○  ○  ○  Strongly agree

Q3. The time it takes to buy a product is important to me when I shop in-store. *

1  2  3  4  5  6  7
Strongly disagree  ○  ○  ○  ○  ○  ○  ○  Strongly agree

Q4. Product quality is important to me when I shop in-store. *

1  2  3  4  5  6  7
Strongly disagree  ○  ○  ○  ○  ○  ○  ○  Strongly agree
Q5. My previous experiences of shopping in the store is important to me when shopping in-store.

1  2  3  4  5  6  7
Strongly disagree  ○  ○  ○  ○  ○  ○  ○  Strongly agree

Q6. The service quality is important to me when shopping in-store.

1  2  3  4  5  6  7
Strongly disagree  ○  ○  ○  ○  ○  ○  ○  Strongly agree

Q7. The information I get about the product is important to me when shopping in-store.

1  2  3  4  5  6  7
Strongly disagree  ○  ○  ○  ○  ○  ○  ○  Strongly agree

Q8. The feeling that I can rely on a store to be the same as always is important to me when shopping in-store.

1  2  3  4  5  6  7
Strongly disagree  ○  ○  ○  ○  ○  ○  ○  Strongly agree
<table>
<thead>
<tr>
<th>Question</th>
<th>Rating Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q9. The temperature of the store is important to me when shopping in-store.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td></td>
<td>Strongly disagree</td>
</tr>
<tr>
<td>Q10. The possibility to touch the products is important to me when shopping in-store.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td></td>
<td>Strongly disagree</td>
</tr>
<tr>
<td>Q11. The material texture of the product is important to me when shopping in-store.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td></td>
<td>Strongly disagree</td>
</tr>
<tr>
<td>Q12. The softness of the product is important to me when shopping in-store.</td>
<td>1 2 3 4 5 6 7</td>
</tr>
<tr>
<td></td>
<td>Strongly disagree</td>
</tr>
</tbody>
</table>
Q13. To have a pleasant experience is important to me when shopping in-store. *

1 2 3 4 5 6 7
Strongly disagree      Strongly agree

Q14. To have my needs satisfied is important to me when shopping in-store. *

1 2 3 4 5 6 7
Strongly disagree      Strongly agree

Q15. To have my desires fulfilled is important to me when shopping in-store. *

1 2 3 4 5 6 7
Strongly disagree      Strongly agree

Thank you for your participation! :)
Description (optional)