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Navigating the influence of Product Types with Virtual Communities and Purchase Intention: Insights into the Modern Consumer Landscape.

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Abstract

E-commerce has prospered and redefined various industries in recent years. Simultaneously, customers behaviour is changing increasingly fast, resulting in a more complex customer journey across various touchpoints. It is considered crucial for managers to adapt to the digital era and continuously improve the customer experience in the sense that they provide customers with the information and knowledge they need to make informed purchase decisions. A quantitative case study has been conducted and the findings indicate that none of the studied product types (hedonic/utilitarian) moderate the strength of the link between customer engagement in virtual communities and purchase intentions. However, customer engagement and purchase intention is partly driven by the product type being either hedonic or utilitarian, with a stronger correlation with hedonic products. This is explained by previous research, implying that hedonic products are considered more fun and exciting, while utilitarian products are more task-oriented and less emotionally driven. This research paper concludes that companies with hedonic product offerings should focus more on engagement in virtual communities as a part of their marketing strategies. However, it is less important for utilitarian product categories. Demographic profiling variables, such as gender and age, provide deeper nuances to our findings and contribute to executive management by outlining key considerations to help navigate in the modern consumer landscape. In conjunction, these findings outline managerial implications through propositions with the purpose to improve the customer experience and to increase their purchase intentions.

Keywords

E-commerce, virtual community, customer engagement, social media, hedonic product, utilitarian product, purchase intention, customer journey and customer experience.

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1. Introduction

1.1 Background

The e-commerce industry has experienced remarkable growth, redefining various industries in recent years. This significant growth of e-commerce continues to generate new records of annual revenues (Vakulenko et al., 2019), and it is experiencing an annual growth rate of 15%, compared to less than 5% of overall US retail growth (Mu et al., 2021). Simultaneously, the market landscape is changing increasingly fast, and how customers obtain information have undergone significant transformations driven by enhanced information accessibility and shifts in shopping behaviour (Canhoto & Suárez, 2014). This contributes to the increasing complexity of the customer journey that is considered to eventually force companies to adopt new ways of targeting their customers (Vetvik, 2009). Notably, virtual communities have emerged as an integral part in shaping consumer perceptions and preferences (Canhoto & Suárez, 2014). As there is a growing e-commerce market, it is considered especially important to provide insights on how to succeed in this quickly evolving landscape (Chesbrough, H. W., 2003).

Santo et al. (2022) has found that consumers engage in purchases not solely for product acquisition but to fulfil their desires for exciting experiences. Virtual communities enable individuals to engage with the brand and each other by making voluntary contributions of time, effort, and knowledge (Laroche et al., 2013). Platforms, such as Instagram and Facebook, facilitate such interactions (Chen, et al., 2021). Through a comprehensive understanding of virtual communities, companies can more easily receive feedback and knowledge to understand what their customers want and co-create value to remain competitive (Chesbrough, H. W., 2003). Therefore, this research paper aims to navigate how to consider effective virtual community strategies by investigating the influence of product types with engagement in virtual communities and customer purchase intention.

In this study, different levels of customer engagement in virtual communities (virtual customer engagement) is measured, including the lowest level of engagement being *"following brands, ambassadors or organisations on social media platforms"* (Q2a in Table 1, Appendix). To understand how customer engagement in virtual communities differs across different product offerings, the nature of the product type is being taken

into account. It is considered as an important strategic consideration to evaluate the hedonic or utilitarian nature of the products (Arnold & Reynolds 2003). There are certain characteristics for hedonic and utilitarian products that underpin its relevance to investigate further within this field. Hedonic products are for example entertainment products, such as music, movies, but also high-quality products including designer clothes and specialty coffees. Utilitarian products on the other hand provide practical and functional benefits. For example, household and office products like washing machines, printers, but also basic groceries and other necessities. Moreover, hedonic shoppers are considered more emotionally driven in their purchase decisions, while utilitarian shoppers consider shopping more as work tasks (Scarpi, 2021), perceived to impact customer engagement in virtual communities. However, this study mainly focuses on the impact of products and services being either hedonic or utilitarian.

Vetvik (2009) states that companies will have to reconsider the effectiveness of marketing expenditures across the whole customer experience. As a starting point, companies should seek to understand the modern customer and their changing behaviours *"as an opportunity to be in the right place at the right time, giving them the information and support they need to make the right decisions"* (Vetvik, 2009). Therefore, it is necessary for companies to continuously improve their marketing efforts, where virtual communities are considered to provide companies with customer insights (Chesbrough, H. W., 2003). Without such a realignment of spending towards customers, companies could waste money because customers are not receiving the right type of information at the right time (Vetvik, 2009). Furthermore, marketers could seem out of touch with their customers, trying to push products on them rather than trying to provide information and the optimal experience so that they want to reach purchase decisions themselves.

To minimise potential risks, the purpose of this study is at large to provide insights into the modern consumer landscape. The research design integrates quantitative methodologies through a survey to investigate how virtual community interactions influence purchase behaviours, specifically focusing on the impact of different *"product types"* (hedonic versus utilitarian). Previous research is guiding this investigation, rooted in established theories concerning the influence of virtual customer engagement on e-commerce purchase intentions. Moreover, to ensure the reliability and validity of the data collected a pilot study was conducted to provide valuable insights for refining the

survey and methodology. Building upon the pilot study findings, the main study aims to delve deeper into understanding the nuances of virtual customer engagement and its interplay with purchase intentions, depending on product type.

1.2 Purpose and Contribution

Due to an increasing complexity in the customer journey (Canhoto & Suárez, 2014), and growth in e-commerce (Vakulenko et al., 2019), there has been a need to update the understanding of customer engagement in virtual communities and what shapes purchase intentions online. The purpose is to understand the modern customer journey and how customers shape their preferences on a product category level. The customer journey is a well-studied field at large. Furthermore, there is a considerable body of literature on customer engagement and purchase intention. However, there is a lack of studies on customer engagement in virtual communities depending on a product's characteristics, and its interplay with purchase intentions. The main contribution to this field is to add another layer to current research. Especially since hedonic motivations are considered to significantly impact online purchase intention and have become more important for attracting customers (Arnold & Reynolds 2003). Lastly, this study aims to provide actionable insights and recommendations to marketers and managers based on its findings on current trends. It is especially emphasising the role of social media usage and underscores the importance of adapting marketing strategies, such as virtual communities, to align with the digital era. By doing so the research is providing product category level insights and facilitates informed and efficient decision-making. This provides for effective virtual community strategies and prioritizations on how to engage with customers on social media platforms, while minimising the inherent risks to waste marketing expenditures or to seem out of touch with customers.

1.3 Research Question

To establish the purpose of the study, the following research question (RQ) has been formulated: RQ: "*How do hedonic and utilitarian product types influence the relationship with customer engagement in virtual communities and purchase intention, and what are the implications for community strategies targeting Gen Z consumers?"*

1.4 Delimitations

The research of this paper is delimited to capture and understand the modern consumer landscape and the digital customer journey. The first delimitation to our study is that we are investigating e-commerce, observing customer engagement in virtual communities on social media. Secondly, the investigation of product type being either hedonic or utilitarian, focusing on products or services being sold online. Our final and third delimitation is that we investigate Gen Z individuals since their shopping behaviour is assumed to have a strong online presence and shape other generations' behaviours (Yllka Azemi et. al., 2022).

2. Literature Review

The Literature Review describes and explains the existing literature on which this study is based. It aims to serve as a knowledge foundation of the subject, leading to the research gap that has been identified, which this study proposedly fills. The literature review is structured around three key subjects, (1) the Customer Journey, (2) Customer Engagement in Virtual Communities, and (3) the Influence of the Product Type. The purpose of using these specific areas is to understand how customer engagement in virtual communities shapes the customer experience, influencing customer preferences and purchase intentions. Moreover, the influence of product type provides a deeper understanding for how managers can maximise their effectiveness in virtual community strategies on a product category level.

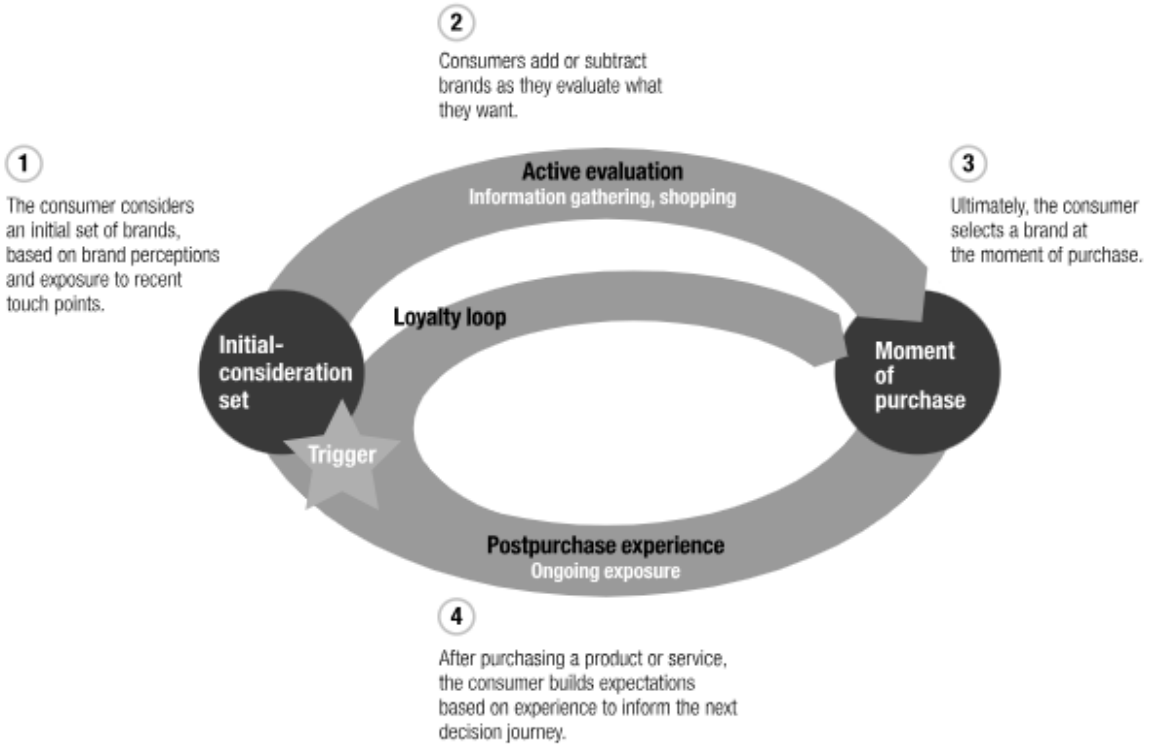
2.1 The Customer Journey

The wide-spread model of the customer journey is characterised as *"the complete process a customer undergoes, encompassing all stages and points of interaction, which collectively shape the customer's overall experience"* (Lemon and Verhoef, 2016). When analysing the customer journey, the primary focus lies in evaluating customer engagements across diverse touch points with the aim of enhancing the customer experience (Lemon and Verhoef, 2016b; Tueanrat et al., 2020). These touch points are described as *"distinct instances of direct or indirect contact with the brand"* (Baxendale et al., 2015), and they encompass all forms of one-way or two-way interactions between customers and businesses involving exchanges of information, including interactions between customers themselves (Herhausen et al., 2019).

These touch points collectively contribute to the holistic customer experience (Lemon and Verhoef, 2016).

The decision-making process is conceptualised as a cyclical journey comprising four distinct phases: initial consideration, active evaluation, closure, and post-purchase evaluation (Vetvik, 2009). During the "active evaluation phase", consumers engage in researching potential purchases, seeking information, reviews, and recommendations (Vetvik, 2009). Therefore, investing in consumer-driven marketing initiatives facilitating marketer-consumer interactions in this phase is vital to influence consumer decision-making.

Figure 1. The Customer Journey (Mckinsey, 2009).



Lemon and Verhoef (2016) underscore the evolution of the customer experience in today's landscape, characterised by multiple touchpoints and channels, underscoring its complexity. They emphasise the social nature of the customer experience, necessitating retailers to integrate diverse business functions to deliver satisfying experiences. Another recurring theme in Lemon and Verhoef's discourse is the pivotal role of emotional aspects in decision-making. Customers who feel they have an emotional connection to a brand make repeat purchases and recommend the brand to family and friends (Morgan, 2021).

The modern post-purchase behaviour, especially of Gen Z individuals, reveals certain characteristics (Beatty et al., 2011; Mohammed, 2014; McKnight et al., 2002). They exhibit a tendency to refrain from sharing their online purchases through digital platforms. Instead, offline discussions about their acquisitions are common, helping customers to make informed choices among their peers when they require similar products. It strengthens the perceived importance of social circles, including family and friends, in shaping final purchasing decisions. This behaviour is in line with previous research highlighting the role of social media celebrities and ambassadors in influencing the product perceptions (Southgate, 2017).

2.2 Customer Engagement in Virtual Communities

Various research has shown the importance of generating customer engagement via social media channels (Vohra, A., & Bhardwaj, N., 2019). The main motivator to engage in virtual communities is the knowledge exchange which gives value to the members, and in e-commerce communities, information sharing can lead to satisfaction which is a strong driver of purchase intention (Boon, Pitt & Salehi-Sangari, 2015). The underlying dynamics of customer engagement within online brand communities can be used to predict customer engagement behaviours, providing insights for e-commerce businesses seeking to leverage brand communities to drive business outcomes (Vohra, A., & Bhardwaj, N., 2019). Further, community factors can have a positive impact on consumers' perceived product value, which contributes to a higher purchase intention (Lin and Binqiang, 2023)

Members can be keen to exchange knowledge and support one another, contributing to the marketplace's overall success. Reciprocity strengthens the virtual community, as members are motivated by the social norm of helping those who have helped them, leading to a cycle of mutual benefit (Boon, Pitt & Salehi-Sangari. 2015). Social interaction is at the heart of an online community, including different types of social interaction structures (Spagnoletti et al., 2015). Moreover, virtual communities can be an important part of consumers' social networks and can affect their knowledge and attitudes toward products and brands, inclduing using social media platforms such as Facebook (Spagnoletti et al., 2015). Virtual customer engagement, as defined by Vivek et al. (2012), represents the intensity of an individual's participation and connection with an organisation's offerings or activities. It encompasses various forms of interaction, both purchase and non-purchase, across different media channels.

Although, focusing more on the community's instrumental role instead of the individual community members shows that a high virtual community quality can sometimes overshadow the e-commerce aspect, focusing more on social interactions instead of buying products (Boon, Pitt & Salehi-Sangari. 2015). However, customer engagement offers deep customer insights beneficial for strategic decision-making, feedback and new product ideas (Baldwin & Hippel, 2011), which have been highlighted by scholars as essential for community survival and success (Vohra and Bhardwaj, 2019).

2.3 Influence of the Product Type (Hedonic/Utilitarian)

Hedonic consumption is driven by the fun a consumer has using the product; impulse shopping is closely linked to hedonic consumption and sensory stimulation (Arnold & Reynolds 2003). Utilitarian shoppers generally prefer feasibility-related options and consider shopping as work, while hedonic shoppers are more affected by distant experts, like brand ambassadors, and like to shop for fun (Scarpi, 2021). Hedonic motivations are measured on a scale, both the direction and strength. "*Hedonic shopping motives are similar to the task orientation of utilitarian shopping motives, only the task is concerned with hedonic fulfilment, such as experiencing fun, amusement, fantasy, and sensory simulation*" (Arnold & Reynolds 2003). Emotions affect preferences and choice behaviour where hedonic shoppers pay more attention to the retailer´s attributes, which have a larger impact on the decision-making process. Moreover, research has shown that external environmental factors can influence individual emotion and cognition, thus promoting psychological and behavioural responses such as purchase intention (Lin, and Binqiang. 2023). Purchase intention is internally and externally affected by factors inducing consumers' self factors, community interactions and product factors, which is partly based on evaluations.

2.4 Summary and gap in research

Until this point, previous research has studied variables driving purchase intentions among customers. Lin and Binqiang (2023) state that community factors have a positive impact on consumers' perceived value, which leads to higher purchase intention. Moreover, Vohra & Bhardwaj (2019) investigate the mechanisms driving customer engagement in online environments and provide insights for e-commerce businesses to enhance customer relationships and drive business outcomes. Key research, including Wang et al., 2019 paper, investigates how the community experience affects brand attitude and purchase intention.

This provides insights into how social media communities influence brand perception and consumer behaviour, offering implications for effective marketing strategies on social media platforms. Spagnoletti et al (2015) further investigates how Facebook can be used as a marketing tool as a customer engagement tactic and how social media can be a competitive advantage in the digital age.

However, this research paper identifies a critical research gap in existing literature regarding the nuanced effects of virtual communities across different industries and product offerings. The distinct differences between product offerings being of hedonic or utilitarian nature being discussed by for example Arnold & Reynolds (2003). While prior studies have explored the relationship between customer engagement in virtual communities and purchase intentions, there is a lack of evidence of how these dynamics vary across certain product types and e-commerce industries. Therefore this research aims to provide insights tailored to managers, facilitating informed decision-making regarding community-centric sales strategies by using product type (hedonic/utilitarian) as a moderating variable. To provide a deeper understanding, a survey will be conducted to understand the nuances of how this moderator affects the strength of the relationship between the independent variable (customer engagement in virtual communities) and the dependent variable (purchase intention). These variables and their interdependence is considered to become significantly more relevant in this field of study, particularly given the exponential growth of e-commerce in recent years.

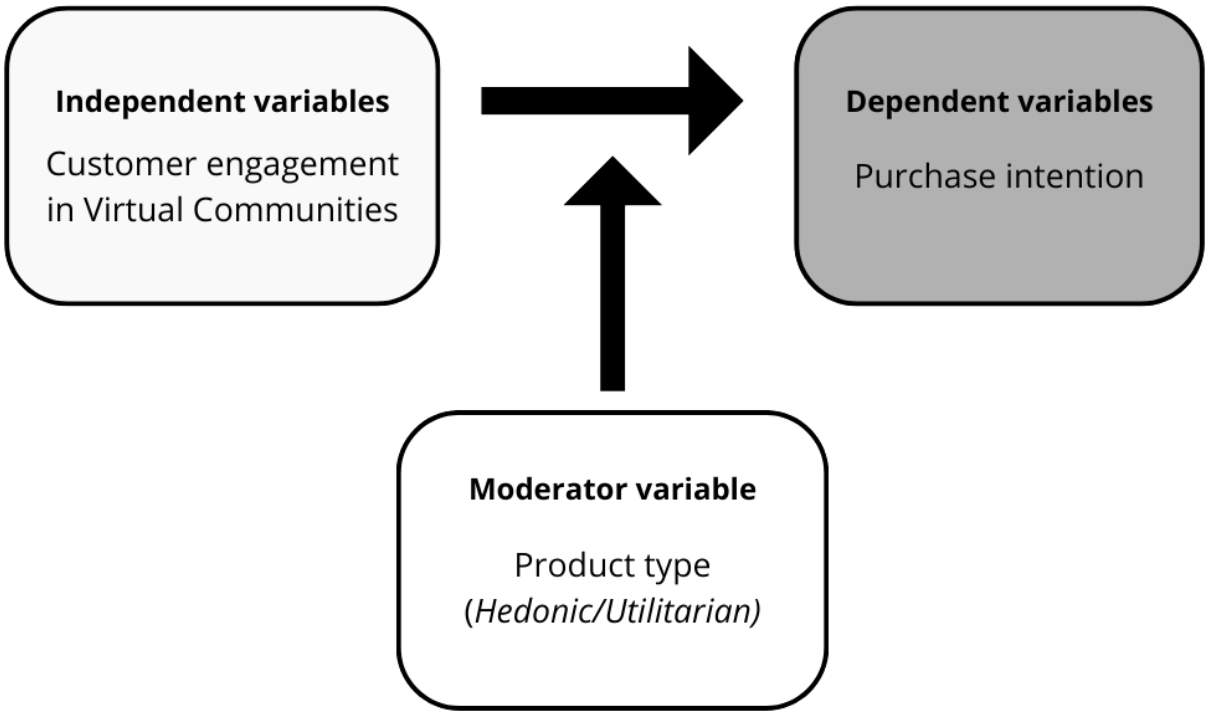
3. Conceptual Framework and Research Hypotheses

3.1 Conceptual Framework

This study aims to explore the influence of product types on engagement in the virtual community, and purchase intentions. One particular objective is to investigate if the product type serves as a moderator between the strength of the relationship between engagement in virtual communities and purchase intentions. The existing research implying a positive correlation between engaged customers, including virtual customer engagement, and increased purchase intention. The variables used are the independent variable being Virtual

Communities, and the dependent variable being purchase intentions, moderated by the products being either of hedonic or utilitarian nature.

Figure 2. The Conceptual Framework



This is investigated through a survey that seeks to observe customers and their engagement with virtual communities and different product types. We hypothesise that the effect of customer engagement within virtual communities on purchase intention will be moderated by the product type. Specifically, that the relationship between customer engagement and purchase intention will be stronger for hedonic products, characterised by their ability to provide a sense of enjoyment and excitement (Hirschman & Holbrook, 1982). Conversely, for functional products, which primarily serve utilitarian purposes are expected to be weaker or non-significant for the relationship between customer engagement and purchase intention.

3.2 Research Hypotheses

This study aims to explore the influence of product types on customer engagement in virtual communities and purchase intentions. One particular objective is to investigate if the product type serves as a moderator in the relationship between customer engagement in virtual communities and purchase intentions. Existing research suggests a positive correlation

between customer engagement, including virtual customer engagement, and increased purchase intention. The variables used in this study include the independent variable (Customer Engagement in Virtual Communities) and the dependent variable (Purchase Intentions), with product type (Hedonic or Utilitarian) as a moderating variable.

Hypothesis 1 - Product Type Correlation:

- **Hypothesis 1.a:** Increased customer engagement in virtual communities positively influences their purchase intentions, leading to higher purchase intention.

Hypothesis 2 - Product Type Moderating Effect:

- **Hypothesis 2:** The relationship between customer engagement in virtual communities and purchase intention is moderated by product type, with a stronger relationship observed for hedonic products compared to utilitarian products.

  Specifically, for hedonic products, the positive effect of customer engagement on purchase intention will be more pronounced, whereas, for utilitarian products, this effect will be weaker or non-significant. This hypothesis aligns with the notion that emotional and experiential aspects of hedonic products amplify the influence of customer engagement on purchase behaviours, while utilitarian products, being more functionally driven, rely less on engagement within virtual communities (Hirschman & Holbrook, 1982; Dhar & Wertenbroch, 2000).

These hypotheses are designed to be tested through a survey, examining how customer engagement within virtual communities interacts with different product types to influence purchase intentions. The study builds on existing literature, which suggests that customer engagement positively influences purchase intentions and that this effect may vary depending on the type of product being considered.

4. Methodology

The objective of this thesis is to investigate how product type as a moderator affects the relationship strength between customer engagement and purchase intention. Further, the impact of product types (hedonic or utilitarian) and the correlation between customer engagement in virtual communities and purchase intention is investigated. It is being

explored through both a qualitative research (pilot study) and a quantitative survey (main study). Before delving into the discoveries, this chapter elaborates on the methodological perspectives and procedures utilised in this study.

4.1 Research approach

The research approach combines theory testing with quantitative methods. It begins by establishing hypotheses derived from existing theories concerning the impact of virtual customer engagement on e-commerce purchase intentions that is mentioned in the literature review, with an emphasis on the influence of product types (hedonic or utilitarian). These hypotheses are empirically tested through quantitative analysis of survey data. This method allows for objective measurement and statistical validation, which is suited for examining the effects of virtual interactions on consumer behaviours. By integrating theoretical foundations with empirical evidence, the approach ensures that the findings are broad.

4.2 Participant Profile and Engagement Patterns

The primary sample used in the study is individuals defined as people born in 1997 - 2012 (Gen Z). According to research of Yllka Azemi et. al. (2022), Gen Z constitutes a significant market segment, characterised by being tech-savvy and driving digital consumer behaviour. To effectively engage Gen Z customers it is considered necessary for businesses to carefully consider specific social media platforms (Yllka Azemi et. al., 2022). Instagram stands out as the primary channel for initial engagement, while Twitter, TikTok, and Facebook are instrumental for product reminders. The participant profile of the study will mainly be focused on Gen Z since this group is expected to have a certain media usage that is considered to shape other generations shopping behaviour and media usage (Yllka Azemi et. al., 2022). Customer engagement is considered to be especially important for Gen Z individuals, and therefore is one of our main variables in this study. Gen Z maintains a strong online presence and therefore is quick to explore brand websites and online stores on their mobile devices, searching for new products and conducting extensive research for prospective purchases (Beatty et al., 2011; Mohammed, 2014; McKnight, Choudhury, and Kacmar, 2002).

4.3 Statistical methods

Cronbach's alpha is a statistic used to assess the reliability or internal consistency of a group of survey or test items. When these similar questions are grouped to form a single average score, or index, Cronbach's alpha helps determine how consistently these items measure the intended concept. A threshold value of greater than 0.6 is used to deem the reliability acceptable. The mean indexes that were created were Customer engagement from the questions 3a, 3b and 3c, also the mean index for product type from the questions 4b, 5a, 5b and 5c was created. In question 5b, the data was first recorded by reversing the order of the numbers, so that 1 now represents the highest level of utilitarian value.

4.3.1 Descriptive Analysis

Descriptive statistics were employed to quantify the distribution and central tendencies of collected data, involving the computation of minimum, maximum, mean, and standard deviation values. These statistics provided a foundational overview of the values of *"gender"*, *"following any community on social media"*, *"previously bought at least one product"*, *"customer engagement"*, *"hedonic products"* and *"utilitarian products"*.

4.3.2 Cross-Tabulation

Multiple response cross-tabulations were used to explore and understand relationships within virtual customer engagement and different reasons to engage in virtual communities. categorical data. This method allowed for the analysis of the frequency and distribution to provide insight into patterns and tendencies within the respondents.

4.3.3 Correlation Analysis

Bivariate correlation coefficients were calculated to evaluate the strength and direction of hedonic product and utilitarian products with customer engagement and purchase intention. A significance level (two-tailed) was determined for each correlation to assess statistical relevance, with values less than 0.05 typically considered significant. However correlation does not necessarily imply causality however in this study we investigate it from several aspects and multiple angles to test the hypothesised relationships.

4.3.4 Regression Analysis

Multiple regression models were developed to investigate the predictive relationships between a set of control variables, independent variables and intersection terms with a dependent variable of purchase intention. Adjusted R-squared values were reported to indicate the proportion of variance in the dependent variable explained by the independent variables collectively. Regression coefficients (Beta values) were evaluated at specific significance levels; models discarded predictors with significance values greater than 0.05 as they are less likely to contribute meaningful information.

4.3.5 Split File Analysis

Data were analysed separately for different demographic groups to determine whether patterns of relationships varied across genders. Frequency statistics were calculated for each gender within types of customer engagement.

4.3.6 Statistical Software

The analyses were conducted using SPSS, a statistical software package equipped with tools for managing and analysing large datasets. This software facilitated the robust examination of the data through its comprehensive data handling, and statistical analysis features ensured the reliability and validity of the results.

4.4 Pilot Study

The pilot study was conducted to ensure that the survey questions were clear and could be reliably understood by participants. This preliminary phase allowed us to test the effectiveness of each question and make any necessary adjustments to the survey design. It provided an opportunity to refine the questions and be better suited for accurately gathering data in the main study. Moreover, to see if the participants were actively interested and engaged in communities the pilot study focused on the virtual community on social media involvement, the insight was essential to confirm the relevance of the thesis to actually understand the respondents engagement and view of virtual communities. The feedback obtained during the pilot was helpful in confirming changes so that the survey would function as intended, effectively facilitating the theory testing of our hypotheses.

4.4.1 Pilot Study Design

The pilot study was designed as a small-scale of 30 respondents to preliminary test the evaluating of the effectiveness and the use of the result from the survey. Key objectives include assessing participant engagement with the content, particularly their interest in and interaction with community-related questions. The design is intentionally streamlined to focus on these elements, allowing for quick feedback.

The study limited the number of participants to 30 respondents, a more manageable group than was involved in the main study. This smaller scale made it easier to manage the data collection process and quickly implement changes based on immediate feedback. Data was collected through our network, which was selected for its ease of use and ability to reach participants who are actively engaged in online communities.

In this phase, the primary focus was on qualitative feedback to understand participant reactions and the overall user experience with the survey format. This is crucial for identifying any potential issues that could affect the reliability of the data in the main study. The pilot study was testing functional aspects of the survey process, such as the duration of the survey, the clarity of instructions, and the functionality of the online platform used for data collection.

4.4.2 Pilot Study Questionnaire Development

The survey begins with an introduction that explains the concept of 'community' as it relates to digital interactions with brands, products and brand ambassadors. This introduction aimed to give all participants a uniform understanding of the term, to elicit accurate and reliable responses. The initial version of the survey explicitly used the term 'community' to help participants think about their customer engagement with brands on social media.

Demographic questions came first, sorting participants by age groups such as 18-27, 28-35, etc. This was followed by questions about their engagement in what was termed online communities. For example, participants were asked if they were active in an e-commerce community, with references to brands like CAIA or PRIME to clarify the question. Based on their responses, participants either proceeded to more detailed questions if they answered 'yes'. The following question explored their social media usage, engagement types, motives

for following certain brands, and behaviours regarding hedonic products, customer engagement, and purchase intentions, or they were directed to the end of the survey if they answered 'no'.

This structured approach ensured that each stage of the questionnaire development was aligned with the study's core themes, allowing for targeted adjustments based on feedback from the pilot study.

4.4.3 Pilot Study Data Collection and Participants

The data collection for the pilot study was conducted using Qualtrics, an online survey platform that enabled efficient distribution and management of the survey. The survey was distributed to personal and professional contacts, providing a targeted yet varied sample for preliminary feedback. This approach helped to ensure the data's reliability by gathering insights from a familiar group.

The demographic profile of the participants showed that the majority, 24 out of 30 (80%), were in the 12-27 age range, showing a predominantly younger demography. Additionally, 5 participants (16.7%) were in the 28-35 age group, and 1 participant (3.3%) was in the 36-45 age bracket. Of the total participants, 21 were female (70%) and 8 were male (26.7%). When asked about their activity in online communities, 60% of participants (18 out of 30) indicated that they were active, which allowed them to continue with the remainder of the survey. Conversely, the 40% (12 out of 30) who reported they were not active in online communities had their survey end prematurely. This segmentation by activity level was crucial for focusing the survey on respondents whose experiences were most relevant to the study’s core themes.

4.4.4 Pilot Study Results

The results of the pilot study highlighted several key insights that led to informed modifications for the main study. A significant finding was that many respondents misunderstood the term 'community' as used in the survey. It became evident that while the survey defined a community as a company with active and engaged social media followers, respondents often associated virtual customer engagement with a high level of personal engagement. This discrepancy led to many respondents stating they were not part of any community, which resulted in 40% of the responses being deemed invalid as they did not read

the introductory text defining 'community'. This led to 40% of the respondents not answering the questions that we actually wanted to investigate.

To address this, the survey design was adjusted for the main study. The specific question that allowed respondents to skip remaining questions if they answered 'no' was removed. Instead, the survey included more open questions that could be answered by all respondents, regardless of their level of engagement, to gather more comprehensive data. Additionally, the pilot study indicated the need for clearer and more relatable language to reduce ambiguity. In the main study, the wording was revised to ask if participants *"follow any company ambassadors, companies, and/or other organisations on social media"*. This adjustment aimed to use everyday language familiar to the respondents, enhancing the intuitiveness and relevance of the questions and ensuring more accurate responses.

4.5 Main Study

This section explains the full-scale method of developing the main survey that investigates if the hypotheses are accepted or rejected. Drawing on the modifications and enhancements identified during the pilot phase, the main study incorporates survey adjustments and methodology to more accurately capture and analyse the behaviours and preferences of Gen Z individuals.

4.5.1 Main Study Design

The main study was designed to expand upon the insights gathered from the pilot study, with a broader scope to explore customer engagement in virtual communities and its relationship to purchase intentions, particularly examining the distinctions in purchase intention between hedonic and utilitarian products. The aim was to deepen our understanding of how virtual community interactions influence consumer preferences and decision-making processes throughout the customer journey. The study design was structured not only to replicate aspects of the pilot but to introduce new variables leading to more complex analyses.

For this phase, the participant was significantly increased to ensure a more reliable data set that could provide generalizable and significant results with 253 responses. This larger scale allowed for a more detailed exploration of diverse consumer patterns and the potential variability in responses based on different demographic segments.

In the main study, the emphasis shifted from qualitative insights in the pilot study to gathering data for a quantitative analysis, focusing on the collection of numerical data that could assess correlations and causations. Learnings from the pilot study were applied, particularly in survey design and data collection techniques, to optimise the survey process. This included changes in question phrasing and the removal of ambiguous concepts that had previously led to confusion, such as the term 'community', which had caused many to respond negatively in the pilot phase. Further refining the survey questions for clarity, adjusting the layout for easier navigation, and ensuring that the instructions were straightforward in order to minimise respondent fatigue and maximise the accuracy of the data collected.

4.5.2 Main Study Questionnaire Development

The questionnaire (Table 1, Appendix) for the main study was designed to build on the insights gathered from the pilot study, refining questions and structuring the survey to effectively capture the intricate relationship between virtual customer engagement, product type (hedonic vs. utilitarian), and purchase intention. Each question was developed with a focus on aligning with theoretical constructs and best practices in survey methodology to ensure clarity, relevance, and engagement from respondents. The questionnaire is based on previous research within the topic, using previous research papers by Vohra, A., & Bhardwaj, N. (2019), Wang et al (2019) & Colliander (2023).

The survey starts with a brief introduction, grounding respondents in the context and purpose of the research which is built upon survey standards. This was followed by demographic questions, such as *"age"* and *"gender"*, which help segment the data for analysis of different consumer profiles (Wang et al., 2019). Specifically, question 1b allows respondents to specify their *"age"* in numbers, enabling precise grouping for detailed analysis.

A binary question (2a) asked respondents *"if they follow any company ambassadors, companies, or organisations on social media"*, determining the subsequent path of the survey. Affirmative responses led to detailed questions about the nature of their engagement, such as question 2b and 2c, using multiple-choice formats that allow for understanding of respondent behaviour (Wang et al., 2019).

Slider scale questions, used in questions 3a, 3b, and 3c, were designed to measure the strength of respondents' agreement or disagreement on various statements related to customer engagement (Vohra, A., & Bhardwaj, N. 2019; Wang et al., 2019). These questions are effective in capturing varying degrees of engagement and emotional responses, contributing to a nuanced understanding of consumer behaviour.

The inclusion of questions 4a, 4b, and 4c on type of offer insights into *"preferences for product and community"*, using slider scales to mature the intensity of preferences (Colliander, 2023). These are complemented by questions 5a and 5c, which explore the *"hedonic versus utilitarian appeal of products and services"*, providing a basis for indexing responses for deeper analysis.

The survey concludes with questions on purchase intentions, like 6a and 6b, assessing the likelihood of purchasing based on social media influence (Wang et al., 2019), followed by a control question (7) to ensure respondent attentiveness. This question verifies that respondents understood the survey, enhancing data reliability.

4.5.3 Main Study Data Collection and Participants

Data collection for the main study was conducted using online survey platforms, including Facebook, LinkedIn, and Instagram, which provides efficient distribution and management of the survey. This broader approach allowed for the collection of responses from a more extensive network, reaching a more diverse group of participants for better feedback. The survey was completed by 253 individuals, but the sample was refined to ensure the reliability and relevance of the data.

The demographic profile of the initial respondents varied widely, but the dataset underwent several exclusions to refine focus and enhance data quality. Responses were excluded for several reasons: incorrect answers to the attention control question (*"What was this survey about?"*), incomplete surveys, and demographic mismatches with the study's focus on Gen Z individuals, specifically those aged 18-27. Additionally, respondents identifying as 'other' under gender were excluded due to the small size of this group, which was not comparable for statistical analysis. After these exclusions, the final dataset comprised 172 valid responses, with a mean respondent age of 22.7 years. Among these, 64% were female.

5. Results and analysis of the study

5.1.1 Results Overview

In accordance with the method, a total of 81 respondents are filtered out to be able to ensure the quality of our data with 172 valid responses. The number of responses from the the females and males groups are large enough to provide conditions for comparable results (N>30). However for the *"other"* gender, which has a significantly lower response rate and therefore excluded from the study (1 respondent). The distribution of gender showed that 110 (64%) of the respondents are females and 62 (36%) are males.

5.1.2 Descriptives

To provide an understanding of the respondents' variety, a descriptive table (Table 1) displaying the minimum, maximum, mean, and standard deviation is presented. This overview covers respondents' answers regarding control variables such as *"age", "gender"*, *"following company ambassadors on social media"*, *"Bought at least one product"* and the independent variables of *"customer engagement"*, *"hedonic and utilitarian products"*. For instance, *"age"* was quantified numerically, while *"gender"* was binary, with 0 representing females and 1 representing males. The mean value of 0.36 slightly favouring females. To understand respondents' purchasing behaviour regarding brands they follow on social media, the frequency of purchases from virtual communities was collected. With only two answer options (1 for yes and 0 for no), the mean of 0.81 suggests that the majority of respondents have previously purchased products from brands they follow on social media.

Turning to the independent variables, *"customer engagement"*, *"hedonic products"* and *"utilitarian products"*, these were assessed through sets of related questions. *"Customer engagement"* questions employed a 1-10 scale, where higher scores indicate greater engagement. Both hedonic and utilitarian product types had a scale of 1-10, whereas the mean score for *"hedonic products"*, 7.01, indicates a strong preference for such products. The mean *"Virtual customer engagement"* score of 4.68 suggests a moderate to low level of engagement among respondents.

Table 1: Descriptive table (N: 172)

	Min	Max	Mean	SD
Age (Gen Z)	18	27	22.66	1.542
Gender (0 = female, 1 = male)	0	1	0.36	.482
Follow any community on social media (0 = no, 1 = yes)	0	1	0.98	.151
Bought at least one product (0 = no, 1 = yes)	0	1	0.81	.39
Virtual customer engagement (Scale 1-10)	1	10	4.68	2.11
Hedonic product (Scale 1-10)	1	10	7.01	2.03
Utilitarian products (Scale 1-10)	1	10	5.302	2.44

5.1.3 Virtual Customer Engagement in Virtual Communities cross-table

The results from Table 2 explore why respondents choose to *"follow virtual communities on social media"* and how this relates to their *"level of engagement"* within those communities. The table shows that the predominant reason for following these communities is because of the *"products or services they offer"*; this holds true across all levels of engagement. Following closely, the "*influence of specific personalities*" is the second most common reason for following, noticeable across various engagement levels. Conversely, actively engaged users, who *"exchange information"*, are driven by the product/services they sell (24) a specific person (16), a statement (20) or knowledge exchange (20).

Table 2: Types of Virtual customer Engagement in Virtual Communities and Corresponding Motives (N=172)

		Reasons for virtual community engagement					
		Becuase of the products or services they sell	Because of a specific person or influencer	Because of what they stand for	Because of knowledge exchange	Becuase I got recommended or have friends that follows them	Other
Virtual community engagement	I only follow but don't interact with them	42	38	14	24	6	6
	I look at the post but don't interact with them	82	72	28	28	20	4
	I like/dislike their posts	68	66	38	38	18	2
	I comment on the posts	24	22	18	18	16	0
	I exchange information with other followers	24	16	20	20	12	2

5.1.4 Gender Differences

The regression in Table 3 distinctly highlights the central role of customer engagement in driving *"purchase intention"* for both *"genders"*, with a stronger impact observed among males compared to females. For males, the data shows that *"Virtual customer engagement"* is a highly significant variable of *"purchase intention"*, with a beta coefficient of 0.657 ($p < 0.001$). This high beta value indicates a strong positive relationship; as *"Virtual customer engagement"* increases, so does the likelihood of *"purchase intention"*.

For females, while *"Virtual customer engagement"* remains a significant factor (beta = 0.446, $p < 0.001$), its impact on *"purchase intention"* is relatively less pronounced than in males. This still substantial beta value reflects the importance of engagement in influencing *"purchase decisions"*.

Table 3. Regression Analysis of Factors influencing Purchase intention by Gender

	Males (adjusted R2: .470)		**Females (adjusted R2: .365)**	
	Beta	Sig.	Beta	Sig.
Follow company ambassador on social media	-.019	.843	-.431	<.001
Bought at least one product	-.121	.213	-.153	.070
Virtual customer engagement	.657	<.001	.446	<.001

Dependent variable: Purchase Intention

5.2 Correlation Comparison Between Hedonic and Utilitarian

A correlation analysis was conducted to see if *"hedonic products"* had a correlation with *"Virtual customer engagement"* (.469) and *"purchase intention"* (.508), both where statistically significant ($p<0.001$). The results indicate that *"hedonic products"* have a slightly stronger correlation with "*purchase intention*" than *"customer engagement"*.

Table 4: Correlations Among Hedonic Product and Virtual customer Engagement (N: 172)

		Hedonic Product	Virtual customer Engagement
Hedonic Product	Pearsons Correlation	1	.469
	Sig. (2-tailed)		<.001

Table 5: Correlations Among Hedonic Product and Purchase Engagement (N: 172)

		Hedonic Product	Purchase Intention
Hedonic Product	Pearsons Correlation	1	.508
	Sig. (2-tailed)		<.001

The correlation analyses presented in Tables 7 and 8 reveal a non-significant relationship between *"Virtual Customer Engagement*" and "*Utilitarian Product*", with a beta of -0.021. The correlation between "*Purchase Intention*" and *"Utilitarian Product"* shows also to be non-significant, with a beta of 0.146.

Table 6: Correlations Among Utilitarian Product and Virtual Customer Engagement (N: 172)

		Utilitarian Product	Virtual customer Engagement
Utilitarian Product	Pearsons Correlation	1	-.021
	Sig. (2-tailed)		.788

Table 7: Correlations Among Utilitarian Product and Purchase Intention (N: 172)

		Utilitarian Product	Purchase Intention
Utilitarian Product	Pearsons Correlation	1	.146
	Sig. (2-tailed)		.057

5.3 Results - Theory Testing Hypotheses

To further analyse if *"Product type"* functions as a moderator for the relationship between *"Virtual Customer Engagement"* and *"Purchase Intention"* a regression analysis with *"Purchase Intention"* as dependent variable was performed with three different versions (Table 8). Version 1, focusing solely on control variables such as *"Age"*, *"Gender",* "*Following ambassadors"* and *"Post purchase behaviour"*, accounted for 25.1% of the variance in *"Purchase Intentions"*.

The introduction of independent variables like *"Product type"* and *"Virtual Customer Engagement"* in the second model improved, capturing 54% of the variance. Here, *"Virtual Customer Engagement"* emerged as strong positive predictors of *"Purchase Intentions"* with a beta .329 ($p < .001$), underscoring its individual importance (testing hypotheses 1).

The third model incorporated the moderating effect by the interaction term between *"Virtual Customer Engagement"* and *"Product type"* to test for moderation effects (testing hypotheses 2). However the interaction term were not statistically significant ($p < .790$). This indicates that the effect of *"Virtual Customer Engagement"* on *"Purchase Intentions"* does not vary by the level of *"Product type"* interest, suggesting that product type preferences do not moderate the relationship between *"customer engagement"* and *"intention to purchase"*.

Table 8. Regression Analysis of Hedonic Products and Utilitarian Products as a moderator of customer engagement and purchase intention (N: 172)

	Version 1 (adjusted R2: .251)		**Version 2 (adjusted R2: .541)**		**Version 3 (adjusted R2: .539)**	
	Beta	Sig.	Beta	Sig.	Beta	Sig.
Age	.139	.046	.212	<.001	.211	<.001
Gender	-.292	<.001	-.292	<.001	-.293	<.001
Follow company ambassador on social media	.238	<.001	.254	<.001	.255	<.001
Bought at least one product	-.273	<.001	-.174	.002	-.173	.002
Product type			.329	<.001	.300	.015
Virtual Customer Engagement			.329	<.001	.257	.350
Customer engagement x Product type (Moderator)					.088	.790

Dependent variable: Purchase Intention

5.4 Summary of the Hypothesis Table

	Hypotheses	Results
H1	Increased customer engagement in virtual communities positively influences their purchase intentions, leading to higher purchase intention.	Supported ($p<0.01$)
H2	The relationship between customer engagement in virtual communities and purchase intention is moderated by product type, with a stronger relationship observed for hedonic products compared to utilitarian products.	Not supported ($p>0.05$)

6. Discussion

The following section of the discussion presents relevant results from our quantitative survey contrasted by the literature, serving as a framework. It is divided based on presented findings in the results together with areas that are considered to be important, including that the product type (hedonic/utilitarian) was not significant as a moderator in the relationship between virtual communities and purchase intention. Moreover, how the hedonic and utilitarian products influence the variables of customer engagement in virtual communities are compared. Lastly, the social nature of the virtual community and the customer journey is being discussed, and how to provide the right knowledge at the right time across the genders.

6.1 Product Type: A Non-significant Moderator?

Despite our initial hypotheses, the results indicate that the variable product type (being either hedonic or utilitarian) did not significantly moderate the relationship between virtual customer engagement and purchase intention as hypothesised. The hedonic product interaction was anticipated to show a stronger, positive moderation effect due to the nature of hedonic products, which is tied to emotional feelings that are often amplified by social interactions and peer influences in virtual communities. Previous studies, such as research by Arnold & Reynolds (2003), have highlighted that hedonic products are considered as fun and exciting, which aligns with the desire to engage with time and effort in social media driven

communities. However, our findings did not support this, as the moderating effect for hedonic products was statistically non-significant.

Excitement derived from hedonic product type does not appear to equal customer engagement in virtual communities. There is a correlation, but there could be other variables having a larger impact on customer engagement than mere product characteristics. Further, there could have been weaknesses with the definition of hedonic products in the survey that diminished important nuances to make the moderating effect significant. Another potential explanation for this could be the overwhelming presence of brands in virtual spaces, which might lead to consumers having negative emotions towards marketing efforts that attempt to leverage social engagement for hedonic products. Additionally, the emotional aspects of hedonic products might be poorly communicated through virtual platforms, which can diminish the impact of virtual customer engagement on purchase intention.

Regarding utilitarian products, the expectation was that these practical and function-driven products would show little to no moderation by virtual customer engagement, as the decision to purchase these items is typically influenced more by task-oriented product attributes and less by social influence or customer engagement in virtual communities. This aligns with Boon et al., (2015), who noted that consumers are increasingly making purchasing decisions based on information and support that aid them in practical decision-making, rather than being influenced by customer engagement. These insights indicate that the impact of virtual communities might be more complex, with factors such as community quality, brand presence, and consumer's online behaviour playing crucial roles.

Moreover there is an inherent risk of oversimplification when investigating relationships between variables. There are other variables influencing the relationship strength between engagement in virtual communities and purchase intention that may have more influence than the product type (hedonic/utilitarian). Moreover, it could be variables such as brand image, consumption trends and content strategies that the study did not take into account. Consumer decision making is multifaceted and underscores the complexity of the customer journey and the need for comprehensive strategies that consider various factors influencing consumer behaviour that can be investigated further in future research.

6.2 Product Type and Online Communities

The positive correlation identified between hedonic products and customer engagement in virtual communities is consistent with prior literature. Arnold & Reynolds (2003) posited that hedonic fulfilment, particularly the experience of fun, increases the likelihood of customers engaging voluntarily and investing time and effort in virtual communities. Hedonic shoppers are more susceptible to the influence of distant experts, such as brand ambassadors, and are attracted to the intrinsic enjoyment of the shopping process, which aligns with the voluntary nature of participation in virtual communities. Our findings reinforce the relationship between hedonic products and customer engagement. Conversely, the analysis of utilitarian products revealed a non-significant relationship with customer engagement, indicating no significant correlation. This outcome aligns with the theoretical understanding that utilitarian goods, which are primarily need-based and emphasise practical considerations, may not elicit the emotional engagement necessary for active customer participation in virtual communities. It is important to note that while this study tests the product type (hedonic vs. utilitarian), it does not account for the shopping experience itself (hedonic vs. utilitarian), which could potentially be more directly related to customer engagement in virtual communities and purchase intention.

Given the relatively lower customer engagement with utilitarian products as compared to hedonic ones, brands selling utilitarian products might consider investing heavily in building online communities as not being as beneficial as it is for companies selling hedonic products. This aligns with the results suggesting that hedonic products, due to their emotionally driven factors and positive shopping associations, typically generate more interaction and engagement. Nevertheless, while hedonic products may benefit more from community-focused initiatives aimed at fostering emotional connections, utilitarian products still present opportunities for enhancing customer interaction and boosting purchase intentions. However, the correlation does not automatically mean that the change in hedonic nature of the variable is the cause of the change in the values of customer engagement and purchase intention. On the other hand, causality is supported by the literature framework.

In addition, there is a huge question regarding if community investments are profitable. Therefore, the survey captured if respondents previously had purchased from brands they follow on social media, the results showed that most of them have, indicated by its clear

correlation, and presumed causality. The literature amplifies that purchase intention can be influenced by emotions and cognition (Lin, and Binqiang. 2023) which also relates to our results that show an even stronger correlation between hedonic product and purchase intention than with customer engagement. However there is of course a risk with focusing on building a strong virtual community when it does not contribute to an increase in purchase intention and sales, but it seems in general like people follow brands that they could be a potential customer of. On the other hand, our results also show that engaged customers increase purchase intentions, however, it is difficult to track how this directly transfers to direct sales.

6.3 The Social Nature of the Customer Experience

The previously mentioned correlation indicates the role of hedonic products in presumably driving customer engagement and purchase intentions. Specifically, the correlation between hedonic products and customer engagement highlights the perceived effectiveness of pleasure-oriented products in engaging consumers within virtual communities. One way to enhance engagement and relationship building with customers is through brand ambassadors. Ambassadors on social media is an efficient way to build a virtual community and attract potential customers, as our results show that one of the predominant reasons for following communities is because of the influence of specific ambassadors. This is in line with the literature, which suggests that ambassadors are effective in deepening customer relationships with brands (Southgate, 2017), thereby increasing purchase intentions and potentially leading to higher revenue. This minimises risks to waste money on marketing or provide the wrong information. Moreover, customer engagement itself could enhance the customer experience further since it provides deep customer insights so that companies can more easily understand their customers, co-create value and stay competitive in the market. Therefore, data collection and analysis should also be considered.

Another recurring theme is the pivotal role of emotional aspects in decision-making. Customers who feel they have an emotional connection to a brand make repeat purchases and recommend the brand to family and friends, which has a strong influence on purchase intention (Morgan, 2021). This indicates that information, reviews and recommendations are very important in the searching phases of the customer journey. This approach facilitates informed choices among their peers when they require similar products. However, the virtual

community does not seem to be equally important for the post-purchase phase to share your opinion about the product with others (Baldwin Hippel, 2011). Although, offline discussions about their acquisitions are common, providing a platform for seeking feedback and offering advice about purchased products. The social nature of the customer experience is emphasised, necessitating retailers to integrate diverse business functions to deliver satisfying experiences.

However, when considering utilitarian products, the scenario might shift. Our results show a weaker correlation, i.e. presumed causality, between customer engagement and purchase intentions for utilitarian products, which may suggest a different dynamic. Utilitarian products may not benefit as significantly from the emotional engagement strategies employed by ambassadors. While ambassadors may be crucial for marketing hedonic products, their role in promoting utilitarian products could be less impactful. Companies might not experience the same return on investment in customer engagement efforts for utilitarian products, as these items do not align as closely with the emotional and experiential marketing approaches that ambassadors typically embody.

6.4 The Customer Journey and Virtual communities

The virtual community emerges as an important touch point during the active evaluation phase of the customer journey, where consumers actively seek information, reviews, and recommendations to inform their purchasing decisions. Moreover, the main motivation for people to engage in virtual communities is the knowledge exchange and information sharing. This desire for engagement is a strong driver of purchase intention (Wang et al., 2019). Therefore, it is important to consider how to facilitate knowledge exchange through integrating interaction and engaging content to enhance the customer experience and help customers make the right decisions. This is considered to contribute to the company's overall success. However, our results reveal a notable trend among Gen Z consumers who show a tendency to avoid sharing their online purchases on digital platforms. Instead, they prefer to follow and view without interacting, or engage by liking posts. This suggests a shift in the post-purchase behaviour where digital platforms are used more for consumption of content rather than active sharing or discussing purchases.

While companies might anticipate that customers will share their experiences and information with each other, our findings suggest that there are higher expectations on the

company itself to provide relevant and timely information, including efforts to engage their followers. This is crucial not only for enhancing the customer experience but also for helping them in making informed purchasing decisions. Therefore, companies need to strategically consider what media to use and what types of information are most demanded by their customers. Employing a circular customer journey model that incorporates sufficient feedback loops could prove beneficial, especially as community members are motivated by social norms to help those who have helped them (Boon et al., 2015).

Given these distinctions, it is evident that companies need to not only provide information but also consider how the information is framed and delivered. Our results emphasise the importance of aligning virtual community strategies with the engaging attributes of the product being marketed. For hedonic products, companies should focus on creating and sharing content that enhances the sensory and emotional appeal, which can effectively increase engagement and, subsequently, purchase intentions. For utilitarian products, the focus should shift towards providing clear, concise, and straightforward information that assists in the decision-making process. Moreover, the demographic data from our survey reveal different engagement preferences between genders. For instance, our results show how the beta values between genders indicate that when males do engage slightly more in virtual communities, engagement is highly correlated positively with purchase intentions.

7. Conclusion

7.1 Managerial implication

The purpose of this section is to provide clear and concise managerial implications and in total five distinguished propositions on how to consider virtual communities with a starting point in Gen Z customers due to their significant characteristics and strong online presence.

1. *Managers should* consider that product type (hedonic/utilitarian) may not significantly moderate the relationship between customer engagement and purchase intention, suggesting the need for a nuanced understanding of consumer behaviour in virtual spaces, taking other variables into account due to increasing complexity of the customer journey in the digital era.

2. *Managers should* focus on hedonic products in virtual communities to increase customer engagement and purchase intentions. The effect is not as prevalent for utilitarian products. However as discussed, results show that there might be a point in marketing online communities even though the products are purely functional.
3. *Managers should* invest in brand ambassadors to provide information, knowledge and attract potential customers, especially for hedonic products as they play a crucial role in building virtual communities, similar to brand recommendations to family and friends, which has a strong influence on purchase intention.
4. *Managers should* focus on delivering their own highly relevant and engaging content, along with incorporating a circular customer journey model with robust feedback mechanisms that can enhance decision-making support and effectively drive purchase intentions.
5. *Managers should* engage in virtual communities non-dependent on their target audience's gender. Even though the gender differences are small, there were some differences in our findings suggesting that males who are more engaged with a brand through virtual communities are more inclined to consider purchasing.

7.2 Limitations and Suggestions for Future Research

The results of our study indicated that neither hedonic or utilitarian product types significantly moderated the relationship between customer engagement and purchase intention as expected. This may be due to limitations in our independent variables or the design of our survey questions, which might not have fully captured this complex relationship. Despite improvements from the pilot study, the complexity and length of the survey could lead to respondent exhaustion, potentially affecting the quality of data towards the latter sections of the questionnaire. The exclusion of certain demographic groups and incomplete responses may lead to a loss of valuable data, potentially making the results less reliable or overlooking significant trends within these segments. The primary focus on Gen Z individuals may limit the results for not including to older age groups who may interact differently with virtual communities and e-commerce platforms. This demographic concentration, while useful for in-depth analysis of this group, may not reflect broader consumer behaviours or preferences. Broadening the scope to include a wider demographic beyond Gen Z would provide clearer insights into different consumer engagement patterns.

The reliance on self-reported data through surveys introduces potential biases, such as social desirability bias, where respondents may provide answers they believe are more socially acceptable rather than reflecting their true behaviours or preferences.

Moreover, this study provides valuable insights into the relationship between product type (hedonic vs. utilitarian) and customer engagement in virtual communities, while it does not consider the nature of the shopping experience itself—whether hedonic or utilitarian. This oversight may limit the scope of our findings, as the emotional and experiential aspects of the shopping experience could play a significant role in influencing customer engagement and purchase intention. Future research should explore the impact of the shopping experience, in addition to product type, to gain a more comprehensive understanding of the factors driving engagement in virtual communities. Moreover, examining the interplay between product type, shopping experience, and other moderating variables such as social influence could further clarify the dynamics of customer behaviour in online environments.

Future research could address these gaps by refining the survey questionnaire or exploring different methodologies to better understand how product types influence customer behaviours. Incorporating qualitative methods like interviews or focus groups would deepen our knowledge of consumer motivations. Examining new e-commerce models such as social shopping and livestream shopping would help understand how these formats are changing e-commerce interactions and shopping experiences. Further research on the role of brand ambassadors, especially in marketing utilitarian products, and the influence of technological advancements like augmented reality and artificial intelligence, would be crucial. These efforts would refine engagement strategies and ensure they align with the evolving demands of the digital marketplace.

Future research should employ studies to track customer behaviour and engagement in virtual communities over time, assessing the enduring impacts of marketing strategies. Research should also analyse the effects of less-studied social media platforms like LinkedIn and emerging ones like Discord to understand their specific roles in consumer behaviour. Experimental designs that manipulate variables such as content type, engagement strategies, and the role of brand ambassadors could directly determine the factors driving consumer behaviour and purchase intentions.

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9. Appendix

Table 1. Survey questions

Heading	Question	Type of questions	Answer alternatives
(1a) Demographic	*"What gender do you identify with?"*	Multiple choice (allow one answer)	Female (1), Male (2), Other (3)
(1b) Demographic	*"What is your age?" (Write in numbers)*	Text entry	Single line
(1c) Demographic	*"How much time in total do you spend on social media usage, such as Instagram, Tiktok, Facebook?" (Answer roughly)*	Multiple choice (allow one answer)	10h or more per day (1), 6-8 h per day (2), 3-5 h per day(3), 1-2 h per day (4), less than 1 h per day (5).
(2a) Customer engagement in virtual communities	*"Do you follow any company ambassadors, companies and/or other organisations on social media?"*	Multiple choice (allow one answer)	Yes / No

(2b) Customer engagement in virtual communities	*"How do you engage with the companies, ambassadors and/or organisations that you follow?"* (select all relevant alternatives)	Multiple choice (allow multiple answers)	I only follow but don't interact with them (1), I look at the posts but I don't interact with them (2), I like/dislike their posts (3), I comment on the posts (4), I exchange information with other followers (5).
(2c) Customer engagement in virtual communities	*"Why do you follow ambassadors/companies/organisations?"* (Select all relevant alternatives)	Multiple choice (allow multiple answers)	Because of the products or services they sell (1), because of a specific person or influencer (2), because of what they stand for (3), because of knowledge exchange (4), because I got recommended or have friends that follow them (5), other (6).
(3a) Customer engagement	*"I feel a strong connection with the ambassadors/companies/organisations I follow on social media"*	Sliders	Strongly disagree (1) to Strongly agree (10)
(3b) Customer engagement	*"I exchange information and opinions with the other followers of ambassadors/companies/organisations I follow on social media"*	Sliders	Strongly disagree (1) to Strongly agree (10)
(3c)	*"I collect information*	Sliders	Strongly disagree (1) to

Customer engagement	*through the ambassadors/companies/organisations I follow on social media"*		Strongly agree (10)
(4a) Type of offer (Community)	*"I am more likely to follow ambassadors/companies/organisations that provide me with a sense of enjoyment"*	Sliders	Strongly disagree (1) to Strongly agree (10)
(4b) Product type (Hedonic)	*"I am more likely to follow ambassadors/companies/organisations that provide me with products or services that give me a sense of enjoyment"*	Sliders	Strongly disagree (1) to Strongly agree (10)
(4c) Type of offer (Product)	*"I am more likely to follow ambassadors/companies/organisations because I like the products or services they sell"*	Sliders	Strongly disagree (1) to Strongly agree (10)
(5a) Product type (hedonic)	*"I am more likely to browse on accounts of ambassadors/companies/organisations if they show products or services that bring me joy or a sense of inspiration"*	Sliders	Strongly disagree (1) to Strongly agree (10)
(5b) Product type (utilitarian)	*"I am more likely to follow ambassadors/companies/organisations that show and/or sell functional*	Sliders	Strongly disagree (1) to Strongly agree (10)

	products or services"		
(5c) Product type (hedonic)	*"I am more likely to engage with ambassadors/companies/organisations that offer a wide range of unique products or services that provide a sense of enjoyment"*	Sliders	Strongly disagree (1) to Strongly agree (10)
(6a) Purchase intention	*"I would likely buy products or services that are showcased or used by ambassadors/companies/organisations that I follow on social media"*	Sliders	Strongly disagree (1) to Strongly agree (10)
(6b) Purchase intention	*"Have you bought at least one product or service from ambassadors/companies/organisations that you follow on social media?"*	Multiple choice (allow one answer)	Yes / No
(7) Control question	*"What was this survey about?"*	Multiple choice (allow one answer)	Cars (1), Ambassadors/companies/organisations on social media (2), Art (3), Horses (4)

Table 2: **AI Disclosure**

In the preparation of this thesis, artificial intelligence (AI) tools have been utilised to assist in various stages of the research process. Specifically, AI technologies have contributed in the following ways:

1. **Literature Review**: AI-powered search engines and databases were used to identify relevant academic articles, books, and other sources. Additionally, AI tools were employed to summarise large volumes of literature to highlight key themes and findings.
2. **Writing Assistance**: AI-based language models were used to suggest improvements in wording and structure, and checking for grammatical and stylistic errors. All content generated by AI has been thoroughly reviewed and edited by the authors to ensure accuracy and coherence with the overall research objectives.
3. **Data Analysis**: AI tools were employed for data processing and analysis. The interpretations and conclusions drawn from these analyses have been carefully validated by the authors.
4. **Editing and Proofreading**: AI-driven software was used to assist in the final stages of editing and proofreading, helping to identify and correct typographical, grammatical, and formatting errors.

It is important to note that while AI tools have provided assistance in the production of this thesis, the intellectual contributions, interpretations, and conclusions presented are the sole responsibility of the authors. The authors have exercised critical judgement in reviewing and integrating AI-generated content and ensuring the originality and integrity of the research work. The use of AI in this thesis is intended to enhance the quality and efficiency of the research process, and it has been implemented in compliance with ethical guidelines and academic standards.