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**Unlocking the Potential of Gamification for Customer
Engagement: Perspectives from the Retail Industry in Sri
Lanka**

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Degree of Master of Business Administration in Information Technology

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Sri Lanka

August 2025

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The dissertation was submitted to the Department of Computer Science and Engineering of the University of Moratuwa in partial fulfilment of the requirement for the Degree of Master of Business Administration in Information Technology.

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ABSTRACT

With the changing face of digital and omnichannel retailing, gamification has emerged as an important strategy to enhance consumer experiences and behaviors. This study examines the impact of gamification features on customer engagement and purchase intentions in the contexts of Sri Lankan supermarkets and electronic commerce, with a particular focus on perceived enjoyment among Generation Y and Z consumers. Based on the theoretical underpinnings of Self-Determination Theory (SDT), Cognitive Evaluation Theory (CET), and the Theory of Planned Behavior (TPB), this study develops and empirically tests a conceptual model integrating gamification, perceived enjoyment, customer engagement, and online and offline purchase intentions. Data were collected through a structured questionnaire survey of 407 respondents and analyzed using Structural Equation Modeling (SEM) with SmartPLS 4.0. Results show that gamification has a strong positive impact on perceived enjoyment and customer engagement, and that customer engagement positively affects online and in-store purchase intentions. In addition, perceived enjoyment serves as a mediating but not moderating factor in the gamification-engagement relationship. This study underscores the strategic role of gamification in retail marketing and provides practical implications for promoting emotionally interactive and behaviorally effective consumer experiences. This study concludes by recognizing its limitations and making recommendations for future studies on expanding the applicability of gamification to diverse markets and consumer groups.

Keywords: Customer Engagement, Gamification, Perceived Enjoyment, Purchase Intention, Self-Determination Theory

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LIST OF ABBREVIATIONS

SDT	Self-Determination Theory
UGT	Uses and Gratifications Theory
CET	Cognitive Evaluation Theory
TPB	Theory of Planned Behavior
SEM	Structural Equation Modelling
CE	Customer Engagement
PE	Perceived Enjoyment
OPI	Online Purchase Intention
OFPI	Offline Purchase Intention
AVE	Average Variance Extracted
HTMT	Hetrotrait-Monotrait Ratio
CTA	Confirmatory Tetrad Analysis

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1. INTRODUCTION

1.1. Background

Within the modern digital age, consumer attitudes are no longer shaped by the price and quality of products alone but also by the nature of the interactions between consumers and brands. Businesses are embracing strategies that build customer engagement and establish long-term loyalty. One of the standout strategies of this kind is gamification, which involves using elements and mechanics of game design in non-game contexts to increase enjoyment, satisfaction, or engagement. Originally considered a niche concept within the field of user experience design, gamification has evolved to become a universally accepted business strategy deployed in many industries. Its use has amplified in sectors like education and exercise, going on to expand into industries like healthcare, finance, and more precisely, marketing and retail.

The importance of gamification is that it enhances both intrinsic and extrinsic motivators. People are naturally drawn to experiences with interactivity, reward, and pleasure. By incorporating game-like features within customer-focused platforms, companies create environments that not only draw customers in but are able to sustain customers over a long term. For instance, leaderboards create a competitive environment, point systems drive individuals to reach certain goals, and customized challenges enhance the sense of accomplishment. These strategies appeal to psychological needs for autonomy, competence, and social interaction that are fundamental to generating engagement and satisfaction within consumer psychology.

One of the core notions in gamified spaces is the concept of perceived enjoyment. This is a construct that implies the extent to which a person finds the interaction with the system to be inherently enjoyable; it acts as a mediating variable bridging gamified features and consumer behavior. Perceived enjoyment is more than emotional experience and plays a vital role in influencing attitudes and intentions toward behavior. If people enjoy interacting with a brand, they are more likely to form positive attitudes, revisit the web page, and engage in actions like purchasing, word-of-mouth

recommendations to acquaintances, and creating and sharing content. The link between enjoyment and future behavior is supported by evidence suggesting that perceived enjoyment is an important determinant of repeat purchases and continued customer engagement (Dhahak & Huseynov, 2020).

Within corporate circles, the principle of gamification has moved from its original function of encouraging customer loyalty; it is presently understood as a vital component of digital engagement strategy. Particularly, retailers have adopted gamified approaches to improve customer experience along both web and in-store shopping channels. Examples include tiered reward schemes, spin-the-wheel daily promotions, augmented reality treasure hunts, and point-based reward systems for transactions. These efforts not only make the shopping experience more engaging but are also increasing customer interaction time, inducing longer product exploration, and driving repeat visits. In many cases, gamified approaches have proven more effective compared to conventional methods of advertising, as they transition consumers from passive spectators to active participants in the brand experience.

The development of customer engagement, including emotional, cognitive, and behavioral aspects, is significantly supported by the deployment of gamification. An actively engaged customer possesses a higher tendency not just to make a purchase but also to be brand loyal, participate in community discussions, share their experiences on multiple social media sites, and provide constructive criticism. This higher level of engagement leads to a higher customer lifetime value and reduced attrition rates. The gamification mechanism supports this engagement through the inclusion of elements of challenge, progress, and feedback each playing a crucial role in deepening the consumer experience. As an example, the issuance of badges for product ratings or the distribution of points for quiz answering creates positive reinforcement mechanisms that strengthen the consumer-brand relationship (Rizano & Salehudin, 2023).

At the behavioral level, the introduction of gamification affects not just consumer engagement with brands, but also their purchase intention. Purchase intention is a strong predictor of likely consumption behavior and is influenced by different psychological and contextual variables, including enjoyment, perceived

trustworthiness, value, and perceived ease of use. Empirical research has proved that when gamification is perceived as enjoyable and beneficial, it generates a significant increase in purchase intention. The Stimulus-Organism-Response (S-O-R) model explains this process: gamified features act as environmental stimuli that influence the consumer's emotional and cognitive state (the organism), which in turn affect their behavioral reactions, namely their purchasing decisions (Abd Kadir et al., 2024).

Note that gamification caters to the hedonistic as well as utilitarian wants of consumers. This strategy not only introduces fun and creativity to the act of shopping, but it also helps individuals achieve specific goals, like earning rewards, tracking benefits, or unlocking premium content. The combination of fun and functionality makes gamification especially effective in driving consumer decisions and behavior. Store environments, especially those that leverage the digital space, reap significant benefits from this double-value proposition. Features like time-limited offers, accomplishment levels, and social challenges can induce a feeling of urgency, increase the rate of conversion, and facilitate brand shareability.

In the retail industry, large international brands have shown the economic viability of adopting gamification strategies. Companies such as Starbucks, Nike, and Sephora have launched successful reward programs that employ game mechanics to enhance customer retention and loyalty rates. In these systems, customers earn points, move through different levels, and receive personalized offers based on their level of engagement. These programs are complemented by analytics-rich data platforms and customer relationship management systems, supporting real-time personalization and feedback loops. The success of these platforms has encouraged several small and medium-sized businesses to adopt similar strategies, tailoring them to suit their unique brand personalities and target audiences.

In Sri Lanka, gamification integration is still in an infancy stage. However, the digital revolution is rapidly evolving as a result of several factors such as a rise in smartphone usage, increased trust in digital channels, and a population that is increasingly more technologically sophisticated. Sri Lankan retailers are starting to explore the potential that gamification holds to counter common issues like a lack of digital interaction,

fierce competition, and customer churn. By using simple gaming mechanisms such as digital punch cards, cashback offers, and referral contests, local businesses can promote stronger involvement and loyalty among consumers. These measures not only drive repeat purchases but also provide customers with opportunities to interact with the brand beyond the transaction process.

In addition, gamification offers unique advantages to industries experiencing digital disruption. Both an educational tool and a builder of trust, it enables consumers to adopt online shopping habits via engaging and non-threatening means. In Sri Lanka, where a high percentage of consumers are moving away from traditional retail to hybrid or digital channels, gamified platforms can enable this transition by making digital interactions more intuitive and rewarding. Lastly, culturally relevant design features—such as festival-themed challenges or region-based leaderboards can enhance the effectiveness and applicability of gamification.

It is important to note that gamification enables more extensive data gathering and consumer segmentation. Through the tracking of user interaction with various gamified elements, retailers are able to gain deeper insights into consumer interests, behaviors, and responses to incentives. This information can be used to inform marketing initiatives, customize promotions, and craft individualized engagement streams. For instance, understanding what kinds of game mechanics (e.g., competition or cooperation) work best for different segments can inform the creation of targeted campaigns intended to maximize results.

As the retail industry in Sri Lanka undergoes radical change, there is tremendous opportunity for the inclusion of gamification, not as a short-lived technological fad but as a driver of customer-led growth. The potential of such efforts, however, is wholly dependent on an in-depth appreciation of the psychological underpinnings of consumer motivation, as well as the coordination of gamified systems with the unique cultural and business context. The purpose of this research is to examine the processes through which aspects of gamification, when synchronized with the interests and behavioral theories of consumers, can increase perceived enjoyment and consumer involvement, ultimately impacting purchase intentions. Focusing on the retail sector of Sri Lanka,

this research contributes to a deeper understanding of how digital technology can stimulate consumer experience within the realm of emerging markets.

1.1.1. Industry Overview Global Retail Market

The global retail industry has witnessed significant changes over the decade, with the major drivers being improvements in digital technology, changes in consumer behavior, and a shift toward omnichannel retailing. For 2023, global revenues from e-commerce were expected to touch US \$5.8 trillion, with estimates putting this figure at over US \$8 trillion by 2025, reflecting a trend of double-digit growth (Statista, in Invesp, 2024; Shopify, 2023). By 2024, e-retail was projected to account for about 20.1% of all global retail sales, up from 18.6% in 2022 this trend was expected to reach 22.9% by 2028 (Oberlo, 2023).

The increased prevalence of digital technology is underpinned by improved internet and smartphone accessibility. Today, m-commerce accounts for nearly 60% of total online transactions, reflecting consumers' preferences for ease (Invesp, 2024). The speed with which this shift occurred was considerably accelerated by the COVID-19 pandemic, which accelerated global digitalization, temporarily bringing e-commerce's share of retail sales to more than 25% in countries like the UK (Reuters, 2024; Capital One Shopping, 2025).

Figure 1. 1
E-commerce Growth (Global)



Source: www.sellerscommerce.com

Despite the growth of e-commerce, conventional retail including supermarkets, department stores, and specialty shops continues to dominate, generating about 36% of the total worldwide retail sales in 2023 (eMarketer, 2024). Global giants such as Walmart and Carrefour are adopting hybrid models that combine the broad coverage of physical outlets with the convenience of online services. As an example, Walmart revealed that 18% of its overall revenue now comes from e-commerce thanks to investments in pickup, delivery, and automated fulfillment (Financial Times, 2025).

At the same time, digitally native businesses, including Amazon, have pushed into traditional retail through acquisitions (e.g., Whole Foods) and concept store openings, thus highlighting consumers' preference for integrated omnichannel experiences. In China, over half of all retail spending is happening online, with firms like Alibaba using "new retail" approaches that blend in-store, online, and delivery experiences.

The global retail market structure includes:

- Brick-and-mortar: supermarkets (36%), department stores, specialty chains.
- E-commerce: platforms, brand websites, online marketplaces—now ~20% of global retail.
- Omnichannel hybrids: firms combining physical and digital operations.

Leading markets (China, the US, UK, EU) account for ~70% of global e-commerce, but emerging markets—India, Southeast Asia, Latin America are growing fastest, with annual rates of 11–14% through 2027 (eMarketer, 2024; Trade.gov, 2023). India leads with a projected 14.1% CAGR, followed by nations in Latin America (13.6%) (Trade.gov, 2023). These trends reflect improved digital infrastructure, expanding middle classes, mobile-first consumer habits, and evolving payment systems.

Sri Lankan Retail Industry

Sri Lanka's retail industry is a critical economic sector marked by a blend of traditional formats and increasing digital adoption. Organized retail—including supermarkets and modern retail chains accounts for only ~8% of the total grocery market, projecting to

grow to USD 6.5–7.8 billion by 2034 (Arachchige, 2025). In contrast, traditional grocery shops and wet markets capture over 90% of food retail spend (Arachchige, 2025).

Supermarkets such as Keells, Cargills, Arpico, LAUGFS, and Odel play a major role in the organized retail market. In particular, Keells operates 135 stores nationwide and has a membership of over 2.4 million loyal customers (Wikipedia, 2024). Cargills Food City has a large market share, covering about 40–45% of the modern grocery market share (Arachchige, 2025), and both Arpico and LAUGFS have large store networks. The government-owned Lanka Sathosa has 441 stores and intends to offer basic goods at subsidized rates (Wikipedia, 2024).

Although there is a concentration of organized retail in urban areas notably in the Western Province Sri Lanka's organized retail penetration is comparatively modest in relation to its regional peers. Mobile internet penetration exceeds 60%, and initial signs of consumer uptake are present: nearly 43% of internet users have made an online purchase, with the Western Province accounting for half of those transactions (Trade.gov, 2023; Journal of Business, 2021).

Despite digital growth, e commerce contributes only ~8% to total retail spend far behind mature markets. Urban consumers increasingly favor hybrid shopping, blending online browsing with in-store pickup. Payment trust and logistics remain challenges, but adoption continues to rise, particularly among younger demographics and suburban populations (Sri Lanka Digital Outlook, 2023).

Organized supermarkets offer diverse digital services: mobile apps, click-and-collect, and digital loyalty but these generally lack interactive or gamified features. Supermarkets like Keells provide online grocer services and utility payments through their Nexus loyalty program, which has 2.4 million members (Wikipedia, 2024). Nonetheless, most gamification remains experimental.

Sri Lanka's retail transformation is defined by:

- Limited organized retail amid dominance by traditional formats.
- Digital uplift, with e commerce surging yet still forming a small slice.

- Mobile-first consumer behavior, particularly online.
- Retailers experimenting with digital loyalty and customer interaction, especially supermarkets.

Gamification in Supermarkets & E-commerce

Globally, gamification has emerged as a core strategy for increasing customer engagement and loyalty in retail business, including supermarkets and e-commerce websites. Leading supermarket chains like Tesco and Walmart have introduced gamified loyalty programs, mobile app challenges, in-store interactive QR code treasure hunts, and point-based progression systems. These tactics are used to increase the perceived fun and participation levels (Wu & Santana, 2022).

E-commerce sites, especially in the Asian market, are fine examples of gamification elements integrated successfully. Shopee and Lazada use features like daily login, time-based events, mini-games within the application, and reward-based leaderboards to foster retention, increase engagement, and drive revenue. Alibaba's 11.11 annual sale uses gamified techniques to engage over one billion users, offering cashback rewards and user engagement-related rewards. These measures transform passive consumer behavior into active, reward-based shopping experiences.

Widely used basic elements of gameplay include:

- Progress bars & levels: visual progress motivates purchases.
- Badges & achievements: social recognition drives participation.
- Flash missions: time-sensitive tasks aim to upsell.
- Instant rewards like scratch cards and spinning wheels encourage spontaneous buying habits.
- Referrals: rewarding sharing accelerates user acquisition.
- Loyalty programs and upon competitions

These mechanisms leverage behavioral psychology principles such as feedback loops, ownership, and scarcity to maximize perceived fun and involvement, and finally to lead to a higher purchase intention (Abd Kadir et al., 2024; Dhahak & Huseynov, 2020). In Sri Lanka, gamification remains nascent. While supermarkets and platforms

like Daraz have dabbled with daily spins, referral rewards, and discount coupons, more advanced game frameworks remain unexplored. Local pilots are experimenting with features like digital punch cards, scratch coupons, and festive challenges, but adoption remains limited in scale and sophistication. Still, the potential is significant. The digitized consumer segment in Sri Lanka especially among young, mobile-based consumers has positive responses to interactive, rewards-based activities that support motivation and emotional attachment. Incorporating progression mechanics, achievements, and instant rewards can maximize engagement, retention, and purchasing behavior in both supermarkets and e-commerce sites.

1.1.2. Motivation

The motivation for the present study originates in the increasing worldwide reliance on gamification as the key approach to building customer engagement, coupled with the observable lag in its adoption in the retail segment of Sri Lanka. The international markets, particularly in North America, Europe, and major areas of Asia, have used game-based techniques in their customer relationship management practices. Sri Lanka is still in the relatively initial stages of realizing the large potential of gamification in its retail environment. Thus, the difference represents the huge potential to study the means of gamification's successful application within the local environment, especially since Sri Lankan consumers increasingly gain the skills to use digital technology and demand richer shopping encounters.

Furthermore, the heightened competition between online grocery retailers and conventional grocery stores has increased the need for innovative engagement strategies to ensure consumer retention and build long-term loyalty. As conventional marketing practices diminish their effectiveness, gamification presents a fresh and exciting strategy to engage consumers and shape shopping behaviors. Nevertheless, there is a significant knowledge gap regarding attitudes toward gamification elements and their ability to induce significant changes in customer behavior in Sri Lanka. This lack of context-specific knowledge highlights the value in undertaking a systematic scholarly research study.

Yet another important consideration is the recognition among researchers of the changing position of perceived enjoyment as an influencer of digital consumer behavior. Though this variable has been explored extensively in more advanced nations, its function as a mediator and moderator in the context of developing economies, including Sri Lanka, is little understood. This specific context offers a great platform to make theoretical contributions with regard to the enjoyment facet in enhancing the effectiveness of gamification-related features in the context of engagement and purchase intention. The current study attempts to bridge some of the key gaps in both theoretical and practical knowledge, in addition to simultaneously proposing practical solutions to retail business organizations in the form of an increasingly digitized environment. It is hoped that the study will provide valuable inputs for marketing professionals, platform developers, and researchers alike in the form of empirical findings on the adoption, use, and evolution of gamification in a culturally and economically diverse country like Sri Lanka.

1.1.3. Research Scope

This present study, titled “Unlocking the Potential of Gamification for Customer Engagement: A Retail Perspective from Sri Lanka,” seeks to examine the strategic adoption of gamification features in the Sri Lankan retail industry, specifically in supermarkets and online e-commerce sites. Gamification, the integration of game design elements into non-game contexts, has internationally received praise for enhancing user engagement, motivation, and behavior outcomes. In the context of this study, gamification is evaluated against its potential to affect customer engagement and its immediate link to purchase intentions. The study seeks to identify the way consumers in the Sri Lankan marketplace perceive the available gamified options and if these options create meaningful behavioral shifts.

The study is framed in the context of the Sri Lankan retail landscape, underpinned by profound change prompted by developments in digital technology and heightened consumer desire for personalized shopping experiences. Despite the dominant presence of traditional supermarket chains like Keells, Cargills, and Arpico within the traditional retail space, there has been a significant rise of online shopping, led by e-commerce sites like Daraz, Takas, and Wasi.lk. These online spaces are increasingly

incorporating interactive features and reward schemes to foster customer loyalty and create their distinctiveness within an increasingly competitive retail environment. Two sectors, supermarkets and e-commerce sites, are the central focus for this study because of their being representative of the most dynamic sectors under which gamification is being practiced or has the possibility to be practiced in the future. The dual-sector focus enables an exploration of a greater number of gamification approaches within retail, including tangible in-store experiences as well as digitally mediated engagement through apps.

A key theoretical building block of this research is the role of perceived enjoyment as it mediates and moderates the relationship between gamification mechanisms and customer engagement. As a mediator, it is argued that perceived enjoyment explains the cognitive mechanisms by which gamification influences consumer behavior; namely, consumers who find enjoyment from gamified features have a greater tendency to engage with the brand. As a moderator, it identifies the conditions under which gamification has a more significant or less significant effect on engagement. This double role of perceived enjoyment allows for an integrated examination that includes both direct and conditional effects, thus advancing our knowledge of consumer psychology in gamified retailing environments.

This study utilizes a quantitative approach to gather empirical data from Sri Lankan consumers who use supermarket services as well as online platforms. A carefully designed questionnaire will be used to gather information about users' experiences with gamified elements, their engagement levels, and the purchase intentions derived from these experiences. The quantitative nature of this study allows for the use of statistical methods like regression analysis, structural equation modeling, and mediation/moderation analysis to test the suggested hypotheses rigorously. The goal is to achieve results that are generalizable in nature, providing both theoretical contributions and practical recommendations to marketers and retail managers looking to apply or extend gamification efforts.

The parameters of this study are delimited by a number of important limitations. First, there is a geographical limitation in that the study focus is only on the retail sector in

Sri Lanka. Although the narrow focus allows for thorough local analysis, it limits the generalizability of the findings to other nations or regions. Secondly, there is an industry limit in that the research is confined to the retail sector, thus eliminating other sectors in which gamification may have significant implications, such as banking, education, and healthcare. Thirdly, there is a time limitation in that the study is a cross-sectional one; data are gathered at a single point in time, which makes it challenging to establish cause-and-effect relationships or to uncover longitudinal trends in consumer behavior. Lastly, data-related limitations, such as response biases, limitations within the sampling design, or the difficulty of obtaining reliable usage data, may affect both the scope and the validity of the empirical inquiry.

In demarcating the contextual boundaries, core themes, theoretical frameworks, research methodologies, and limitations of the present research, the current research provides an inclusive platform for examining the impact of gamification on consumer participation among retail businesses in Sri Lanka. The findings of the present research are expected to contribute to the existing literature by confirming or shaping current gamification models or frameworks, and by offering practical recommendations to retail businesses, thus empowering Sri Lankan retailers with actionable knowledge about nurturing customer relationships and purchasing patterns.

1.2. Research Gap and Problem Statement

1.2.1. Research Gap Analysis

A review of existing academic literature combined with real-world implementations reveals an inherent research gap in the context of gamification in the retail sector, particularly in Sri Lanka. This gap manifests in various forms at theoretical, empirical (literature-based), as well as practical levels, all pointing towards the need for further regionally focused, context-driven, and theoretically grounded investigation of gamification's impact on consumer interaction and buying behavior.

The conceptual insufficiency results from the limitations inherent in traditional behavioral models when extended to gamified retail contexts. Existing frameworks, like the Uses and Gratifications Theory (UGT) and the Theory of Planned Behavior (TPB), previously provided valuable insights into media use and human behavior.

UGT accounts for how people selectively use media or technology in order to satisfy specific informational and psychological needs (Chen et al., 2023), while TPB predicts behavior by encompassing attitudes, subjective norms, and perceived control over behavior. However, these models have voids when tested in the space of gamification, specifically in gamified e-commerce and retail applications. Gamification includes features of competition, reward, challenge, and advancement, fostering spontaneous behavior and responses instigated by feedback loops, which traditional linear models are not well-suited to model. For instance, gamification methods always foster intrinsic motivation and autotelic experiences, aspects for which these models are less well-suited. Alternative theoretical constructs like Self-Determination Theory (SDT) or Cognitive Evaluation Theory (CET) (Fonseka et al., 2024) are better able to articulate such aspects. These theoretical models place a premium on autonomy, competence, and relatedness factors that have greater resonance with consumer behavior within gamified contexts. Thus, the result is a theoretical shortcoming that calls for the extension of modified or hybrid models so as to better explain user experiences with gamified retail systems.

In spite of the rising research interest in gamification among different business industries, a significant gap can be seen in the literature, particularly with respect to its adoption in the retail business of Sri Lanka. Several studies undertaken in the last decade revealed the effectiveness of gamification in enhancing customer interaction, building brand loyalty, and shaping purchasing habits in advanced economies. However, most research activities are focused on Western or East Asian market contexts, with little scholarly attention given to South Asian economies, of which Sri Lanka is one.

A systematic review of the literature carried out by Mok (2024) revealed that while the body of literature on gamification in marketing is increasingly developing, it remains disconnected and is largely concentrated on product and service promotion in technologically advanced markets. This systematic review included 27 peer-reviewed articles published after 2010 and showed that gamification significantly enhances the engagement of customers; however, its effectiveness is heightened in digital environments compared to traditional retailing. Importantly, the review showed a

critical lack of wide-ranging studies relating to low-to-middle-income economies, thus limiting the knowledge of the ways in which gamification functions within the context of emerging retail systems (Mok, 2024).

Apart from this, Tong et al. (2022) conducted a systematic review of literature on the use of gamification in the context of online shopping for groceries. The analysis included 51 scholarly papers between the years 2013 and 2022 and found that even though gamified consumer behavior in e-commerce has been of interest to scholars, the studies are scattered and uneven. The authors suggested that most of the existing frameworks are too generic and do not show empirical adaptation to individual regional retail environments. This finding also points to the glaring lack of localized perspectives particularly ones from South Asia (Tong et al., 2022).

A significant observation is given by Sensuse et al. (2023), who carried out a systematic review targeting the uses of gamification in e-commerce. They surveyed 25 peer-reviewed articles ranging from the years 2016 to 2021 and found a steady upward trend in the domain of gamification research. Still, the most recurrent themes revolve mainly around customer loyalty, user behavior, and involvement in technology-augmented environments. The authors highlighted that interactive gamification features such as fantasy and avatar-based systems are on an increase; however, these components remain mainly contextualized in technologically aided retail environments, thus making developing economies underrepresented (Sensuse et al., 2023).

Conversely, the body of Sri Lankan research related to gamification in the retail industry is relatively scant and nascent. Rajumesh et al. (2023) posit that while some e-tailers in Sri Lanka have attempted gamified promotional practices, such practices are narrow in scope, are deficient in a comprehensive strategic vision, and have garnered minimal scholarly attention. Accordingly, Fonseka et al. (2024) found that, while some Sri Lankan websites adopted gamification practices during the COVID-19 outbreak, the rate of adoption has since declined, suggesting a stark lack of documented evaluations related to its effectiveness or applicability on a broad scale within the local context. These findings reflect a severe disparity between international

practices and local scholarly activity (Rajumesh et al., 2023; Fonseka et al., 2024). As such, the gap in the current literature as identified is twofold: it speaks to a geographical bias in previous research and to a thematic omission of gamification in the context of new retail markets. There is an urgent need for empirical studies that examine the interplay between gamification and local consumer sentiment, technological readiness, and retail systems in Sri Lanka. This gap must be filled in order to promote more inclusive and flexible models of digital consumer engagement that are representative of the diverse realities of retail environments worldwide. In the applied context, global retailers have incorporated gamification as an integral aspect of their customer relationship management (CRM) strategies; however, in contrast, investments and experiments have been minimal in the Sri Lankan market. For instance, global brands like Starbucks, Nike, and Sephora utilize gaming elements such as point systems, digital badges, referral rewards, and mobile app-based tracking of progress to encourage continuous engagement and brand loyalty (Chen et al., 2023). Such initiatives are enabled by sophisticated digital frameworks, data analytics, and marketing automation.

In stark contrast, the Sri Lankan retail environment—dominated by leading supermarket chains like Keells, Cargills, and Arpico, alongside e-commerce websites like Daraz and Wasi.lk has sporadically adopted aspects of gamification (Fonseka et al., 2024). While Daraz occasionally offers spin-the-wheel offers or flash coupons during prominent sales events, the range, frequency, and strategic purpose of such gamified engagements remain restricted. The lack of end-to-end digital strategies, marked by sharply defined key performance indicators (KPIs) and consumer behavior analysis, facilitates this practical deficiency. Furthermore, even in those cases where loyalty programs exist, these are simplistic and lack interactivity, personalization, or multi-channel integration. It follows, therefore, that gamification is well underutilized or poorly documented within the context of Sri Lankan retail practices, thus reflecting a gap between international best practices and local application. The three gaps viz., theoretical, empirical, and practical jointly highlight the necessity of undertaking a focused inquiry into gamification in the Sri Lankan retail context. These gaps indicate an urgent need to develop a research framework that resonates with the expectations

of local consumers, consolidates various theoretical models relevant to gamified digital environments, and provides actionable suggestions for market practitioners. Addressing these shortcomings is necessary not only for the improvement of scholarly knowledge but also for the strengthening of the competitive advantage and innovative potential of the regional retail sector.

1.2.2. Problem Statement

In global retail, the adoption of gamification has proved to be a hugely popular approach to increasing customer participation and stimulating purchase behaviors. Globally, retail and e-commerce businesses have incorporated gamified elements such as rewards, loyalty programs, and participatory experiences into their operating systems in an attempt to attract and retain customers. However, the usage of such strategies in the Sri Lankan retail sector is still significantly limited and inadequately developed. Leading local players like supermarkets and e-commerce websites have not as yet embraced gamification as a critical component of customer engagement.

The limited application of gamification gives rise to a question regarding its effectiveness and relevance in the Sri Lankan context. While international studies have shown that gamification enhances customer experience, it is unclear if similar returns can be achieved locally. Complicating this problem is the effect of perceived enjoyment the degree to which customers experience fun when using these platforms which would have a significant bearing on their engagement activities and purchase intentions. However, the dynamics among gamified experience, platform enjoyment, and consumer purchasing activity have yet to be investigated in the local context.

The research question examined here concerns a noted gap: Though gamification is heavily catered to retail strategies in global context, the application of the same is limited in Sri Lanka retail sector. Therefore, the use of gamification features and its impact towards the customer engagement is still questionable with the influence of platform enjoyment and how it directs towards purchase intention.

1.2.3. Research Objectives

According to the current study the research objectives are as follows.

1. To identify the current gamification practices adopted by supermarkets and e-commerce platforms to enhance customer engagement.
2. To examine the impact of gamification features on customer engagement within the Sri Lankan retail supermarkets and e-commerce platforms.
3. To investigate whether there is a mediating impact of perceived enjoyment in the relationship between gamification features and customer engagement.
4. To investigate whether there is a moderating impact of perceived enjoyment on the relationship between gamification features and customer engagement.
5. To investigate how consumer engagement influenced through gamified features would impact on online and in-store purchase intention of the customer.
6. To recommend actionable strategies for supermarkets and e-commerce platforms in Sri Lanka to optimize gamification strategies for improved customer engagement.

1.2.4. Research Questions

As per the above objectives, the following research questions developed.

1. What gamification practices are currently implemented by supermarkets and e-commerce platforms to attract and engage customers?
2. What gamification features influence customer engagement in the retail supermarket and e-commerce platforms in Sri Lanka?
3. To what extent perceived enjoyment would mediate the relationship between gamification features and customer engagement?
4. To what extent perceived enjoyment would moderate the relationship between gamification features and customer engagement?
5. How consumer engagement influenced through gamified features would impact on online and in-store purchase intention of the customer.
6. What strategies can supermarkets and e-commerce platforms adopt to enhance the effectiveness of gamification in driving customer engagement?

1.2.5. Research Significance

This study is of real theoretical and practical importance, especially as it looks at an important and not well-studied area at the interface of gamification, customer involvement, and consumer buying habits in Sri Lanka's retail environment. At a time when consumer demands are becoming more driven by technological advancements and engaging experiences, gamification has emerged as a strong tool to maximize user engagement. While foreign retailers and online stores have taken proactive steps to incorporate gamified elements to enhance customer experience, the role of such initiatives in Sri Lanka remains limited, poorly documented, and unexplored.

The current research offers an important theoretical contribution to the growing body of literature on gamification within marketing and consumer research by extending its scope to include a setting that is located in a developing market. Existing frameworks and models have largely been built on data obtained from technologically developed economies, often with the socio-cultural and infrastructural influences on consumer behavior in emerging markets such as South Asia being overlooked. Through an investigation of the relationships among gamification features, customer engagement, and purchasing intentions within the unique Sri Lankan context, the research presents localized empirical insights that have the potential to inform or challenge existing theoretical frameworks. In addition, the use of perceived enjoyment as a mediating and moderating variable extends the understanding of the psychological processes underlying the efficacy of gamification a research area that has, until now, been characterized by a notable lack of empirical inquiry. This study has important implications for industry stakeholders, most importantly retail supermarkets and online platforms operating in Sri Lanka. The study identifies and discusses current trends in gamification, thus creating a benchmark for current engagement strategies. Additionally, it provides empirical evidence on how these factors enhance consumer behavior, helping organizations to understand the motivational drivers that influence repeated use of platforms and the subsequent influence on purchasing behavior. Given the growing use of mobile apps, digital loyalty schemes, and holistic in-store experiences, it is imperative for retailers to develop an understanding of the strategic

evolution of gamification tools to achieve differentiation in an increasingly competitive environment.

In addition, the findings from this research are expected to contribute toward informed decision-making by providing actionable insights for improving gamified engagement strategies. By creating a direct causal link between gamification and consumer buying intentions both in brick-and-mortar and online environments the study offers practical avenues for driving customer retention, conversion rates, and brand loyalty. These insights are particularly relevant for Sri Lankan retailers that are adapting to post-pandemic shifts in consumer behavior and digital uptake. In addition, this research addresses a gap in the local scholarly literature, promoting further scholarly investigation and offering a basis for comparative studies in markets showing similar levels of digital maturity.

In summation, this research provides significant value since it makes an essential attempt to bridge the global and local fields of gamification studies in offering both theoretical and practical contributions. The research seeks to develop evidence-based solutions for Sri Lankan retailers, as it also attempts to contribute to the general understanding of how gamification can be tailored and developed within the environment of emerging digital economies.

1.2.6. Methodological Overview

The research approach taken in this research is essentially based on a positivist research philosophy, which requires the use of objective observation in combination with empirical data for the purpose of assessing hypotheses. This positivist paradigm assumes that reality is something to be measured and understood by means of measurable data, thus making it suitable for a study that seeks to clarify behavioral constructs like customer engagement, perceived enjoyment, and purchase intention in the given context of retail websites.

In line with this philosophical stance, the current study employs a deductive approach. This involves starting the research with established theoretical frameworks and concepts, namely gamification theory and theories of consumer engagement, followed by the development and testing of specific hypotheses in order to test these

frameworks. This logical progression from theoretical foundations to empirical verification ensures that the research is both theoretically grounded and methodologically sound.

The research method used here is a survey method, chosen for its effectiveness in the collection of standardized and large-scale data from a given population. Surveys allow the collection of measurable data from supermarket and online store customers in Sri Lanka, focusing on the experiences regarding gamification and related behavioral changes.

Based on the study objectives, the quantitative research approach has been adopted. Quantitative methods enable the numerical measurement of constructs, such as gamification components, perceived enjoyment, engagement metrics, and purchase intentions. These variables are measured through standardized questionnaires given to participants and thus enable statistical analysis of the relationships between them. The study utilizes a cross-sectional temporal design, where participants are surveyed at one point in time. The research design provides an immediate snapshot of the consumer attitudes and behaviors that exist at the time, hence making it highly relevant to the study of the modern use of gamification and its direct influence on consumer behavior in the Sri Lankan retail sector.

Finally, the data collected are analyzed via Structural Equation Modeling (SEM), a powerful multivariate statistical method well-suited for assessing complex relationships between latent and observed variables. Specifically, the current study applies the SmartPLS software system for Partial Least Squares Structural Equation Modeling (PLS-SEM). This software is particularly beneficial for exploratory research studies that involve multiple dependent relationships and constructs, since it enables the researcher to examine both direct and indirect effects, as well as the mediating and moderating effects of perceived enjoyment.

Finally, this methodological design provides a systematic and empirically sound framework for analyzing the relationship between gamification and consumer behavior in the vibrant retail environment of Sri Lanka. Combining positivist

philosophy, deductive logic, survey design, and SEM analysis ensures validity and reliability for achieving the study's aims.

1.2.7. Outline

The first chapter provides an in-depth overview of the research study. It begins by outlining the background and rationale for the research, highlighting the growing significance of gamification in the international retail industry, as well as analyzing its emerging but growing significance in the Sri Lankan scenario. A description of the local retail environment is presented, highlighting major stakeholders, changes in consumer attitudes, and patterns of digital transformation. The subsequent section states the research problem by highlighting the limited empirical evidence regarding the impact of gamification on customer participation and purchasing behavior in the Sri Lankan environment. A clearly stated problem statement initiates the investigation, followed by the stipulation of clear research goals. The chapter is ended by a clear summary of the methodology with the description of data collection procedures, rationales for the chosen measurement tools, and sample details and recognized limitations in relation to Sri Lanka's geographical and industrial background.

The second chapter outlines the literature review and the theoretical framework. It discusses key constructs central to the study, namely gamification features, customer engagement, perceived enjoyment, and purchase intention, in light of appropriate theoretical foundations such as the Uses and Gratifications Theory (UGT) and the Theory of Planned Behavior (TPB). While the application of these theoretical frameworks serves as a starting point for understanding, limitations of their ability to draw from knowledge on the dynamics of the Sri Lankan context are identified, thus placing value on the conduct of the study. This chapter provides a conceptual framework that outlines the hypothesized relationships between the variables, supported by a thorough review of extant academic literature. Review shows that despite gamification research in diverse foreign markets, there remains a huge literature gap on its application in emerging economies such as Sri Lanka, particularly in the retailing and e-commerce markets.

Chapter three defines the research methodology utilized in the present research. The chapter describes in a comprehensive and systematic manner the operationalization of concepts within the proposed framework, indicating each construct along with the related measurement indicators. The quantitative approach is adopted in the study, using a formal survey as the primary method for data collection. The chapter further describes the development and validation of the research tool, the sampling approach (sample size and demographic features), as well as data collection procedures. Moreover, it delineates the data management protocols together with the statistical analysis approaches employed, with specific reference to Structural Equation Modeling (SEM) using the SmartPLS software program. The chapter ensures methodological rigor by relating measurement methods to the conceptual framework and research hypotheses described in the study.

The fourth chapter presents the results and analysis of the empirical investigation. It begins with descriptive statistics, followed by model validation procedures including reliability, validity, and model fit assessment. The chapter then tests the hypothesized relationships using SEM techniques. The analysis evaluates both direct and indirect effects of gamification features on customer engagement and purchase intention, while also exploring the mediating and moderating roles of perceived enjoyment. This chapter provides deep insight into how gamified strategies are perceived and how they influence consumer behavior within the Sri Lankan supermarket and e-commerce environment. The fifth chapter concludes the inquiry with the integration of key findings with their respective implications. It formulates the theoretical contributions of this study, specifically in filling gaps in the literature concerning gamification in emerging markets. Practically, the findings offer implementable advice to retail managers and platform developers on the use of gamification tactics adhering to local consumer affinities.

2. LITERATURE REVIEW

2.1 Introduction

This chapter mainly seeks to find, analyze, and synthesize the existing research related to gamification features, perceived enjoyment, customer engagement, and their effects on online and offline purchase intentions. Based on a varied collection of peer-reviewed scholarly articles accessed from prestigious academic databases such as ScienceDirect, IEEE Xplore, ResearchGate, ProQuest, and Scopus, the review examines how the constructs were defined and utilized across industries with a focus on consumer behavior and contexts related to digital marketing. Beyond this, this chapter provides a critical overview of key theoretical and empirical contributions, highlighting research gaps, methodologies used, and results that are directly related to the research being undertaken in this study. Through this analysis, it develops a strong rationale for the research question presented in the previous chapter and assists in developing the conceptual framework of the study.

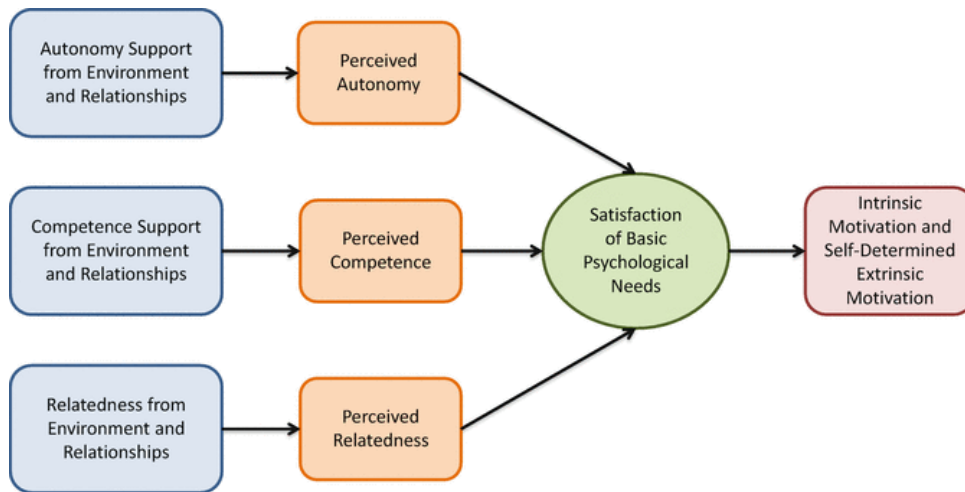
2.2 Theoretical Background

2.2.1 Self-Determination Theory

Self-Determination Theory (SDT) is a leading theory of human motivation. Developed by Deci and Ryan (1985, 2000), SDT maintains that people have an inborn tendency to develop, integrate experiences, and act autonomously. This internal motivational process is engaged by the fulfillment of three basic psychological needs: autonomy, referring to the feeling of control over one's actions; competence, which describes the experience of proficiency in one's efforts; and relatedness, reflecting the feeling of connection to others (Ryan & Deci, 2017). The fulfillment of these needs creates enhanced intrinsic motivation in individuals, which in turn improves motivation, persistence, and well-being. Alternatively, the blocking of these needs can lead to extrinsic motivation or a lack of motivation, ultimately resulting in low performance and satisfaction. The visualization of the theory is as follows.

Figure 2. 1

Self-Determination Theory (SDT)



Source: link.springer.com

Gamification, defined as blending the design elements of games in non-gaming contexts, has attracted much attention in marketing and customer experience design circles because it has the potential to maximize user engagement (Deterding et al., 2011). Based on Self-Determination Theory (SDT), gamification is most effective when it meets users' psychological needs. For instance, providing users with meaningful choices or the ability to customize the user experience promotes autonomy. Elements such as points, levels, and badges for achievements motivate feelings of competence through the provision of feedback and allowing users to track their progress. In addition, social elements such as leaderboards, joint tasks, or aspects that help facilitate peer-to-peer interaction fulfill the need for relatedness by connecting users with others in a shared experience (Xi & Hamari, 2022).

Recent empirical studies have corroborated the link between gamification and Self-Determination Theory (SDT). In the research conducted by Cai et al. (2024), the authors examined the effect of gamification on stimulating purchase intentions through the satisfaction of SDT needs. They theorized that gamified content, which addresses needs for autonomy and competence, led to increased perceived brand attractiveness and consumer involvement. The effect was most notable for consumers with time pressure, showing that gamified online spaces can effectively make up for the absence

of leisure shopping experiences by providing intrinsic rewards. Likewise, Zhou et al. (2024) showed evidence using the modeling of structural relationships and the examination of neural networks to prove that perceived enjoyment an intrinsic component of motivation under the SDT theory served as the key mediator of the relationship between gamified content and purchase intentions.

Customer engagement is widely recognized as a multifaceted phenomenon with emotional, cognitive, and behavioral aspects. The use of gamification features complemented by Self-Determination Theory (SDT) principles has the potential to maximize engagement levels. According to Xi and Hamari (2022), gamification that proactively engages users in activities that promote autonomy and increase competence develops deeper emotional attachments to the brand. This emotional connection then mediates behaviors like loyalty and purchase intentions. Liao et al. (2024) build on this theory by demonstrating that gamification does not limit itself to virtual environments. Their study supported that gamification contexts that meet the needs of users have the ability to enhance not just online buying intentions but also offline brand loyalty, thus emphasizing the role of SDT in explaining cross-channel consumer behavior.

Accordingly, this theory has not directly catered to gamified features and how those influence customers and their behaviors towards purchase intension. Thus the foundation has been taken across this theory, but the exact relationship couldn't be traced using the same in the retail context.

2.2.2 Cognitive Evaluation Theory

Cognitive Evaluation Theory (CET), developed by Deci and Ryan in 1985, is a sub theory of Self-Determination Theory that considers how external factors rewards, feedback, and deadlines can affect intrinsic motivation. CET suggests that intrinsic motivation is optimized when two psychological needs are met: competence, or the experience of efficacy concerning one's actions, and autonomy, or the feeling of volition and self-determination (Ryan & Deci, 2000).

One of the basic assumptions of Cognitive Evaluation Theory (CET) is the perceived locus of causality (PLOC). Where people see the source of their action as coming from within themselves (autonomous), there is greater scope for intrinsic motivation. Where behaviors are seen as controlled by external forces, intrinsic motivation can be lost (Ryan & Deci, 2000). It is important to note that CET distinguishes between informational and controlling external contingencies. Informational stimuli like positive feedback or optional reward are used to support competence and facilitate autonomy. Controlling stimuli like performance-contingent pressure or demands can lead to a loss of intrinsic involvement (Deci, Koestner, & Ryan, 1999).

In gamification, the Cognitive Evaluation Theory (CET) is a critical framework for understanding the way users respond to game elements like badges, points, leaderboards, and levels. If users understand these elements as providing informative feedback that facilitates self-determination and increases the sense of mastery of a person, they are likely to feel intrinsic motivation (Ryan & Deci, 2017). However, if users view these elements as applying coercive or manipulative pressures, these perceptions tend to undermine their sense of autonomy and eventually lead to disengagement in the long run.

These findings are supported through empirical studies. Xu et al. (2020) conducted a study on the use of gamified flash games in the e-commerce industry and found that participants' perceived enjoyment and buying intentions were significantly improved when they felt a sense of autonomy and competence through game-related incentives and engaging experiences. Crucially, these positive outcomes were only achieved when the game features were framed to encourage user agency and not to limit it. Similarly, Deci and Ryan (1985) found that expected material rewards often weaken intrinsic motivation when perceived as controlling; however, performance-related verbal feedback enhances intrinsic motivation when provided in a way that supports autonomy.

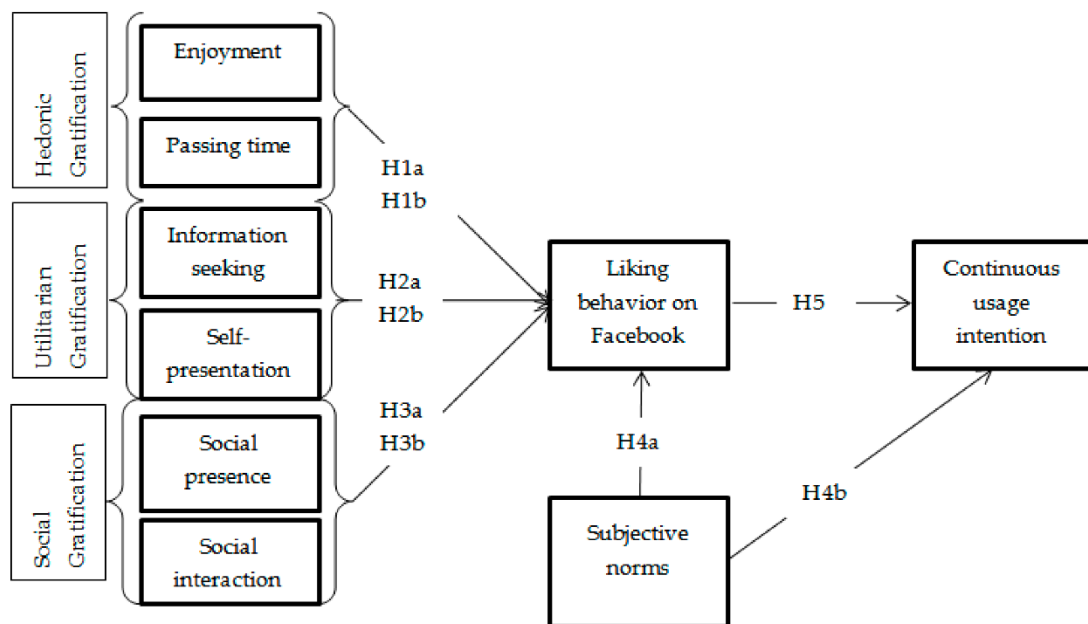
2.2.3 Users and Gratification Theory

The Uses and Gratifications Theory (UGT) forms a central theory in the communication field, discussing the intentional means by which people consume

media and content to fulfill certain psychological and social needs. The roots of UGT date back to the 1940s, while the major theorists in the 1970s were Katz, Blumler, and Gurevitch. UGT forms a departure from mainstream "effects-based" models by stressing the active role of audiences in media consumption. Rather than be viewed as passive receivers, people are seen as purposeful agents who choose content to meet the unique needs of entertainment, information seeking, personal identity, and social interaction (Ruggiero, 2000).

Figure 2. 2

Users and Gratification Theory



Source: www.mdpi.com

The Uses and Gratifications Theory (UGT) relies on a number of underlying assumptions. To begin with, media consumers are active agents with particular agendas informing their consumption habits. Next, they have a sense of their needs and make conscious choices of media that they expect to satisfy those needs. Finally, different users can derive different gratifications from the same content based on their respective motivations (Ruggiero, 2000). All these principles are particularly relevant in today's digital media environment, where interactive media offer personalized, user-driven experiences.

When it comes to gamification, the Uses and Gratifications Theory (UGT) forms a foundational theoretical framework for understanding the motivations that lead to users' engagement with gamified systems. Gamification involves the incorporation of game design elements points, badges, leaderboards, and challenges into non-game-related contexts with the aim of boosting user engagement and motivation. UGT explains that people intentionally use gamified features to achieve specific gratifications such as enjoyment, competition, achievement, and social connectedness (Gupta et al., 2024).

Points and badges, for example, cater to needs for achievement and recognition of status. Leaderboards and team-based challenges enable social interaction and competitive activity, while quests and narrative-driven activities encourage entertainment and a sense of escapism. In addition, the novel features of gamified systems can fulfill individuals' curiosity and need for novelty a reward that is increasingly important in technology-mediated environments (Gupta et al., 2024). As such, successful gamification approaches are crafted to appeal to these motivational drivers in order to enhance user satisfaction and long-term participation.

Empirical research offers further support for this theoretical relationship. Gupta et al. (2024) formulated a gamification framework for digital marketing based on the Uses and Gratifications Theory (UGT), which outlined six main gratifications information, entertainment, achievement, novelty-seeking, social interaction, and competition—as intrinsic drivers of user participation. Their findings show that by matching gamified content with these specific gratifications, designers can significantly enhance user experience and the success of marketing campaigns. Moreover, UGT provides insight into why some gamification efforts fail. If gamified features do not align with user motivations or if they overemphasize one type of gratification (e.g., competition) while neglecting others (e.g., social interaction or learning) users may disengage. Therefore, understanding and designing for multiple gratifications is essential to creating a holistic and compelling gamified experience.

2.2.4 Theory of Planned Behavior

The Theory of Planned activity (TPB), created by Ajzen in 1991, proposes that one's intention to do a specific activity is directly influenced by one's attitudes toward the behavior, subjective standards one perceives, and perceived ability to perform the behavior. These intentions are the best predictors of conduct, especially in situations where stakeholders have self-efficacy and are encouraged to engage in the action (Ajzen, 1991). For gamification, TPB offers a useful framework to explore how ubiquitous game elements like points, challenges, or status levels can impact these three dimensions of beliefs. For instance, when users have a favorable perception of a gamified system (attitude), encourage others to participate actively (subjective norms), and find clear ways to advance (perceived control), their purpose to use the application increases (Yazdi & Sarkhosh, 2022). Empirical research supports this connection: Yazdi and Sarkhosh (2022) confirmed that attitudes, norms, and perceived control are consistently strong predictors of the intention to implement gamified applications. Moreover, a recent study of gamification in e-commerce has shown that the incorporation of TPB constructs with gaming elements can effectively influence user behavior. Together, these findings imply that when gamification systems enhance the elements of TPB, they effectively promote user intentions and increase participation with the desired behavior.

2.3 Gamification and Gamification Features

Gamification has emerged as a critical tool in the arenas of digital marketing and consumer interaction, utilizing game elements to enhance user motivation and behavioral results. These aspects of the phenomenon have received extensive empirical attention from researchers; however, the difficulty of correlating gamification dimensions accurately continues to remain a major concern. A seminal contribution to the field is the development of the Gameful Experience (GAMEX) Scale by Eppmann, Bekk, and Klein (2018). This measurement instrument is empirically validated and includes six dimensions: enjoyment, creative thinking, activation, challenge, absence of negative affect, and dominance, which together form an overarching framework for measuring users' subjective experiences in gamified environments, making a significant contribution. The power of the GAMEX scale lies

in its multidimensional construction that avoids superficial measurement to capture the psychological richness of gamified experiences.

A series of studies has adapted these or similar dimensions to examine the application of gamification within online retail contexts. For example, Nobre and Ferreira (2017) highlight the potential of gamification to support brand co-creation, where consumers become deeply involved in the brand through interactive processes. They posit that characteristics such as personalization, tracking of progress, and social comparison enable emotional engagement, leading users to become brand ambassadors. However, a core limitation of this study is its lack of measurable indicators for gauging user engagement, making it theoretically rather than empirically oriented in its nature. This limitation is partially overcome by Hollebeek, Das, and Shukla (2021), who examine gamified loyalty programs and find that intrinsic rewards (e.g., enjoyment, autonomy) and extrinsic rewards (e.g., incentives) can greatly enhance the perceived value of customer engagement. Their study offers empirical support for the effectiveness of gamification; however, it is largely focused on immediate behavioral measures such as rates of participation, thus failing to capture a thorough examination of the long-term implications on loyalty or brand equity.

Hamid and Kuppusamy (2017) present an extensive review of gamification in the context of service marketing, highlighting prevailing gaps in literature, especially the lack of practical implementation frameworks and a strong theoretical base. They criticize many gamification initiatives for placing features ahead of the genuine needs of users to achieve below-par engagement outcomes. Likewise, Silva et al. (2023) suggested a conceptual model for gamification along the customer journey, detailing specific gamification opportunities at each level of interaction: pre-service (e.g., activities aimed at generating curiosity), core-service (e.g., feedback systems), and post-service (e.g., incentive systems). While this model is comprehensive, its empirical validation across various industries or demographic segments is yet to be established, thus limiting its potential for universal applicability.

From a methodology viewpoint, gamification elements are often measured through metrics like points, badges, leaderboards, levels, progress bars, and social sharing

features. These elements are crafted to satisfy users' psychological needs with regard to competence, autonomy, and relatedness. Points and levels, for instance, are indicators of accomplishment; badges are signs of mastery; and leaderboards enable social comparison each of which could, in theory, be measured through survey measures or behavioral observation techniques (Eppmann et al., 2018). However, in spite of the availability of measurement frameworks like GAMEX, empirical studies point to differences in measurement practices. Many studies use ad-hoc items or fail to validate their constructs, thus precluding cross-study comparisons and the synthesis of meta-analytic conclusions.

Gamification has become a central concept in the fields of digital and services marketing, especially as companies seek new ways of enhancing customer engagement and brand interaction. The concept entails the application of game design elements into contexts that are not necessarily gaming-related, with the view to promoting certain behaviors and enhancing emotional connections. According to Sigala (2015), gamification revolutionizes customers' roles in the value co-creation process, as consumers can take an active role in the development of brand stories.

Hollebeek et al. (2021) present empirical support for gamification's effectiveness through gamified loyalty programs, noting that both intrinsic (fun, autonomy) and extrinsic (rewards) motivators increase customer engagement value. The study also suggests gamification fosters emotional attachment, which is crucial for long-term loyalty. This supports earlier conceptualizations from Calder et al. (2016) who proposed that consumer-brand engagement emerges through both cognitive processing and experiential immersion.

Methodologically, the most widely cited gamified experience assessment instrument is the Gameful Experience Scale (GAMEX) developed by Eppmann et al. (2018). The scale measures psychological aspects of gamified experience such as enjoyment, creative cognition, and challenge, and has been validated in various marketing situations. Within retail settings involving mobile apps, Hofacker et al. (2016) showed that aspects of gamification, such as tracking of progress and social reward, enhance the pleasure from shopping experiences and consumer engagement. Mora et al. (2023)

performed an extensive literature review in a similar study, acknowledging mechanics of reward loops, goal-directedness, and competitive aspects as basic elements of gamified retail systems.

However, the effectiveness of gamification changes drastically from one context to another. Hermawan and Tjhin (2023) noted that while sites like “Shopee Tanam” can maximize user participation through early interactive elements, the impact declines if the elements are not frequently updated or do not align with users' beliefs. This finding aligns with Brouwer and Neher (2022), who argue that gamification fatigue—when users disengage through overuse or poor design is a commonly neglected limitation among current literature.

Another relevant observation is made by Brox et al. (2019), who investigated the use of gamification for sustainability marketing. From their results, flow states of full immersion in gamified processes were crucial for generating positive behavioral outcomes. The researchers call for gamified efforts to focus on personal relevance and include meaningful feedback to ensure continued user engagement. The online retail environment presents unique challenges. Högberg et al. (2020) illustrated that successful online gamification requires balancing simplicity and stimulation: overly complex systems deter occasional users, while too simple features may fail to engage frequent users. In addition, Kunz et al. (2021), within their conceptual framework, advocate for the use of gamification approaches that are personalized across the customer journey, recognizing the differences in motivational drivers in the pre-purchase and post-purchase stages.

2.4 Customer Engagement

Customer engagement (CE) is a multifaceted construct that captures the cognitive, emotional, and behavioral commitment that consumers demonstrate during interactions with different brands (Hollebeek et al., 2014). CE goes beyond only transactional exchanges because it includes persistent attention, emotional attachment, and proactive actions such as posting reviews, word-of-mouth referrals, and loyalty (Hollebeek et al., 2011). In their pioneering study, Hollebeek, Srivastava, and Chen (2014) define CE as “a customer’s motivationally driven, volitional investment of

operant resources (cognitive, emotional, behavioral) into brand interactions” (p. 4). Such active engagement characterizes a deeper relationship with the brand and acts as a primary driver in enhancing long-term value creation.

The deployment of gamification approaches increases Customer Engagement (CE) through interactive and immersive experiences. The distinctive attributes of gamification, such as points, badges, leaderboards, challenges, and feedback loops, engage psychological motivators like autonomy, competence, and relatedness that align with Self-Determination Theory and Cognitive Evaluation Theory (Ryan & Deci, 2000; Suh et al., 2018). Empirical research affirms the effectiveness of gamification; for example, Hollebeek et al. (2021) proved that gamified loyalty schemes strongly enhance emotional as well as cognitive engagement, and Hofacker et al. (2016) described that gamification through mobile apps increases engagement through immersive shopping experiences. Notably, Punwatkar and Verghese (2025) determined that gamification has a pronounced indirect impact on CE, which in turn promotes brand loyalty and purchase intentions in marketing contexts.

Consumer engagement (CE) is strongly related to purchase intention and serves as a behavioral precursor. Xi and Hamari (2019) illustrated that emotional engagement triggered by gamification can predict repurchase behaviors in e-commerce scenarios. At the same time, evidence provided by Punwatkar and Verghese (2025) confirms CE as a significant mediator between gamification and both brand loyalty and customer buying intentions. Similarly, a study by Xu et al. (2020) showed that gamified incentives and autonomy support increase perceived enjoyment and CE, thus having a positive influence on online purchase intention.

Measurement of CE spans surveys, behavioral tracking, and qualitative methods. Hollebeek et al. (2014) introduced validated Likert-scale instruments capturing cognitive immersion, emotional passion, and activation behaviors. In mobile retail, Hofacker et al. (2016) blended self-report and usage data (session lengths, re-visits) to capture engagement. Qualitative interviews, such as probe deeper, revealing ethical tensions and long-term motivations behind engagement. However, a noted limitation across studies is the reliance on cross-sectional designs and short-term engagement

data, countered by calls from Brox et al. (2019) and Brouwer and Neher (2022) for longitudinal research to understand sustained engagement and novelty effects (Rodrigues et al., 2022).

Despite the positive results, considerable challenges remain. For instance, Hermawan and Tjhin (2023) claimed that social gamification tools, like Shopee Tanam, suffer from reduced effectiveness over time without continuous updating. Brouwer and Neher (2022) warn against brand fatigue, where too much proliferation of gamified elements leads to disillusionment among users. In addition, Hogberg et al. (2020) noted that poorly designed or misaligned gamification approaches can alienate non-gaming or casual user segments. As Hollebeek et al. (2021) contend, effective gamified engagement is highly context-dependent and user-centric, highlighting that there is no one-size-fits-all solution.

Accordingly, CE is a critical determinant of purchase intention in both digital and traditional retail environments. Gamification enhances CE by structuring interactions that resonate with users' psychological needs, but its success depends on continuous value provision, context-appropriate design, and measurement rigor. Future research should incorporate longitudinal data, multi-method measurement, and dynamic adaptation strategies to fully realize enduring customer engagement and its commercial impact.

2.5 Perceived Enjoyment

Empirical studies confirm that the perception of enjoyment is one of the strongest predictors of engagement in gamified marketing frameworks. Huang and Cappel (2005) demonstrated that enjoyment of gameplay has a stronger impact on attitudes and behavior intentions than functional or utilitarian considerations. Moreover, Kim et al. (2002) identified enjoyment as a key driver for users in entertainment and serious gaming settings alike (turn0search5). These findings are in line with the work of Suh et al. (2018), confirming that perceived enjoyment is an important mediator between the characteristics of gamification and the achieved user engagement levels.

Gamification employs reward mechanisms, interactive elements, and challenge-based structures to maximize the pleasure experience (Deterding et al., 2011). These features

trigger hedonic reactions needed to sustain user engagement. For example, Adidas Runtastic and Ant Forest's competitive and co-operative features facilitate engaging and enjoyable interactions that motivate users to participate in these platforms beyond functional benefits (Hofacker et al., 2016). Customer engagement (CE) involves the emotional, cognitive, and behavioral components of a person's experience with a brand (Hollebeek et al., 2014). Enjoyment increases this experience by creating psychological engagement. Specifically, gamification promotes enjoyment, allowing for engaging experiences and emotional connection with the brand (Hsu, 2016).

Suh et al. (2018) illustrated that game-like elements' intrinsic satisfaction is a predictive measure of engagement levels, which are measured through metrics like application usage frequency, sharing activities, and cumulative time spent. This contention is also supported by Punwatkar and Verghese (2025), who found a substantial indirect effect of gamification on brand loyalty, mediated by customer engagement, thus placing enjoyment as the pivotal driver. Such mediating mechanisms reinforce customer engagement and offer explanatory reasons for users' movements from interest to sustained participation.

Enjoyment also significantly influences purchase intention. Xu et al. (2020) found that gamified features increase perceived enjoyment among e-shoppers, which in turn enhances the likelihood of purchase. Similarly, Izzuddin Abd Kadir et al. (2024) extended the Stimulus–Organism–Response (S–O–R) model to demonstrate that perceived enjoyment mediates gamification's effects on online purchase intention, with impulse buying tendency as a moderator.

Another study on Indonesian e-commerce platforms revealed that gamification-induced enjoyment raised both initial purchase intent and continuance intention, especially when perceived value was high. These findings show that enjoyment's hedonic boost can lower purchase resistance, spur impulsive buying, and strengthen consumer loyalty. Perceived enjoyment acts as a mediator and a moderator in gamification effects. In broadcast gaming contexts, enjoyment's impact on performance is moderated by the perceived hedonic and social values; as users find more enjoyment in the interactive elements, their purchase intention grows. In

addition, Rodrigues et al. (2022) reported a novelty effect for engagement: whereas perceived enjoyment is at its peak when launched, it could then fade unless gamification features are frequently updated. This means that pleasure adds effect to gamification if the game elements are new and align with intrinsic motivation; however, poorly updated gamified systems can suffer from decreased effectiveness due to diminishing novelty.

The importance of perceived enjoyment emphasizes its theoretical applicability as a motivator in digital engagement models. It is a root factor in theories like Self-Determination Theory (Ryan & Deci, 2000), where enjoyment aligns with intrinsic motivation and flow both critical factors of engagement and intention. However, research highlights the need for more investigation. Longitudinal studies are rare; the interaction between the novelty effect and long-term enjoyment is still poorly understood (Rodrigues et al., 2022). Additionally, most studies rely on self-reported data, which are subject to limited behavioral validation, such as methods like clickstream analysis or eye-tracking. Finally, studies on comparing online and offline pleasure within hybrid shopping environments are equally lacking.

2.6 Purchase Intension

Purchase intention is the intentional direction or tendency of consumers to buy a product or service, which is acknowledged as one of the most important predictors of consumer behavior. It includes both cognitive judgments and emotional readiness to engage in a purchasing process. In this field, scholars make a distinction between online purchase intention (OPI) and offline purchase intention (OFPI) in order to explain the differences in consumer behavior between different contexts. OPI is characterized by the tendency to buy through online channels, triggered by such factors as convenience, quality of user interface, trust, and online involvement (Hollebeek et al., 2021). In contrast, OFPI refers to buying in offline retail stores, which are heavily influenced by face-to-face interactions, senses, and the physical environment (Calder et al., 2016; Brodie et al., 2011).

The relationship between customer engagement (CE) and purchase intention—both online and offline has been firmly established within modern marketing scholarship. CE is described as a multifaceted, intricate construct involving emotional, cognitive, and behavioral participation in brand interactions (Hollebeek et al., 2014). Within online settings, CE is driven mostly by features that promote interactivity, involve gamification, enable social sharing, and provide personalized experience. Such features provide a sense of participation and psychological attachment, which eventually lead to a rise in online purchase intention (OPI). For example, Xi and Hamari (2019) showed that CE has a significant effect on online consumption behaviors, where interactions with gamified brand apps increase users' trust and emotional attachment, thus strengthening their OPI.

Further evidence from Suh et al. (2018) confirms that emotional involvement in mobile commerce environments often gamified leads to increased Online Purchase Intent (OPI). This is largely driven by the enjoyment perception, meaning that when shoppers realize hedonic gains from interacting with a brand online, their likelihood of completing a purchase increases. These results are in line with Hofacker et al. (2016), who found that Customer Engagement (CE) components in the form of instant feedback, loyalty rewards, and membership in a community not only enhance the engagement experience but also its conversion into online purchasing behavior.

In the offline purchase intention domain, the function of consumer engagement (CE) continues to hold importance but through different mechanisms. Offline engagement often rests on the experiential benefit of tangible interactions, sensory stimulation, and social bonding. According to Calder et al. (2016), immersive retail environments driven by aspects such as music, store aesthetics, employee interactions, and events within the store have the capacity to strengthen emotional bonds and reinforce offline purchase intentions (OFPI). A study by Punwatkarn and Verghese (2025) explored the idea of gamification in-store, finding that interactive installations and engaging activities hugely enhanced customers' emotional and cognitive involvement, promoting them to make in-store purchases. Consumer engagement in this regard is measured not on satisfaction with digital platforms but on the quality of the physical experience.

Notably, efforts at engaging consumers through one channel can have a considerable impact on their purchase intentions through other channels. Hollebeek et al. (2021) found that the engagement created by digital loyalty programs not only increased online purchase intentions but also led to a spillover effect of increased traffic to physical stores. Additionally, such a dual effect was supported by Suh et al. (2018), who showed that consumers engaged through mobile apps often converted interest into purchases in offline stores, particularly when incentive systems covered both digital and offline spaces.

The impact of customer engagement (CE) on purchase intention depends on a range of contextual moderators. In digital contexts, privacy and trust concerns can lower the CE-OPI relationship (Liao et al., 2024). On the other hand, a higher perceived control and personalized online experience can strongly support engagement, resulting in higher purchase intention likelihood. In physical retail environments, factors such as the time available, the store environment, and service quality are highly pertinent. Brodie et al. (2011) suggest that even in situations where CE levels are high, poor service or over-stimulating environments have the capacity to lower purchase intention.

2.7 Summary

The literature review that currently exists analyzed the interrelated roles of gamification, perceived enjoyment, customer engagement, and purchase intention in the context of contemporary marketing and consumer behavior research using peer-reviewed articles retrieved from ScienceDirect, Scopus, IEEE, and ResearchGate.

The review began by defining gamification as the incorporation of game-like elements (like points, leaderboards, and challenges) into non-game contexts, in order to enhance user motivation and engagement. The dominant scholarly literature uniformly admits that gamification enhances user experience through triggering intrinsic motivators of competence, autonomy, and relatedness. Studies reveal that the use of such game elements in e-commerce and service marketing environments considerably heightens consumer attention, prolongs platform persistence, and impacts behavioral reactions. Different aspects of gamification like reward systems, immediate feedback,

personalized experiences, and social competition act as empirical measures to assess its influence.

The gamification concept of perceived enjoyment is closely tied to the theoretical construct of hedonic pleasure or intrinsic satisfaction people derive from engaging in an activity. The review highlighted that perceived enjoyment not only serves as a mediator but also as a moderator for the situation of the relationship between gamification and several psychological outcomes. The enjoyment facet enriches the emotional value of game like interactions and promotes higher cognitive engagement. Self-Determination Theory and Cognitive Evaluation Theory form the building blocks for the premise that people who find activities enjoyable and self-directed are more likely to experience cognitive engagement and emotional investment. Platforms that combine gamification and effectively stimulate perceived enjoyment have stronger effects on user satisfaction, brand awareness, and return visit behavior.

The concept of customer engagement (CE) has become a central relational concept that bridges gamification and enjoyment with concrete consumer action. CE is defined as consumers' emotional, cognitive, and behavioral engagement when they interact with brands, acting as a mediating factor in brand loyalty formation and decision-making processes in purchasing. Virtual experiences enhanced by gamification, especially in mobile and e-commerce situations, facilitate increased CE through active and instant experiences. In offline retail environments, CE is enhanced by sensory stimulation, in-store gamification, and face-to-face service interactions. Empirical studies identify that higher levels of CE repeatedly result in more powerful behavioral intentions across channels. In summary, the purchase intention concept, both online purchase intention (OPI) and offline purchase intention (OFPI), has widely been studied. The findings demonstrated that customer engagement (CE) is a key indicator for both OPI and OFPI. In online settings, CE driven by aspects like gamification, mobile apps, or loyalty programs is associated with high levels of OPI. In contrast, in physical store settings, CE driven by experiential factors or gamification in stores is linked with high OFPI. Further, the influence of CE is also augmented by enjoyment and personalization. Cross-channel effects were additionally observed, where activities undertaken in one channel often trigger purchasing actions in the other

channel. In summary, this literature review provides a systematic model demonstrating how gamification increases perceived enjoyment, thus enhancing customer engagement, which, in turn, leads to high purchase intentions both in the online and offline environments. The findings highlight the importance of developing holistic, emotionally appealing, and contextually sensitive gamified approaches to influence consumer behavior in different types of retail environments.

3. RESEARCH METHODOLOGY

In the previous chapter, a comprehensive literature review was undertaken, leading to a critical analysis of theoretical frameworks and conceptual relationships between the main variables of this research gamification features, perceived enjoyment, customer engagement, and purchase intention. Relying on proven theories like Self-Determination Theory (SDT), Cognitive Evaluation Theory (CET), Uses and Gratifications Theory (UGT), and the Theory of Planned Behavior (TPB), the previous chapter carefully reviewed empirical studies and recognized serious gaps in relation to both online and offline shopping environments.

Building on this initial framework, the current chapter outlines methodological approaches used within this research project. This section details the construction and rationale for the conceptual model underlying the research, including the development of hypotheses informed by established theoretical constructs. The chapter also offers operational definitions for all variables to preserve conceptual coherence and consistency with the broader scholarly literature.

The next section of the methodology is an operationalization table showing measurement indicators used for each construct, as drawn from the available scales in peer-reviewed sources. Subsequent to this is an explanation for the chosen research design, including the research approach, the data collection method, and the measurement method. A thorough discussion on the sampling process is also included, explaining the target population, the sampling approach used, and the considerations for sample size. Accordingly, this chapter outlines the data analysis plan, including the statistical tools and methods to be utilized in testing hypotheses and model evaluation. The data collected will be thoroughly analyzed and explored in the next chapter.

3.1. Conceptual Framework

In line with the findings obtained from the current body of academic literature, the present study investigates the impact of gamification factors on consumers' buying intentions, where customer participation and perceived enjoyment serve as mediating variables. The suggested model captures the complex and multi-faceted relationships

involved, based on both theoretical backgrounds and empirical evidence from previous research.

The independent variable of this study, Implementation of Gamification Features, consists of three main dimensions: Immersion, Achievement, and Social Interaction. These dimensions have been identified as essential experiential factors that make gamified contexts effective in the retail industry (Xia & Hamari, 2020; Yang et al., 2018). Immersion involves factors such as narrative engagement, profile customization, and interactive features. Achievement includes elements such as milestone rewards, point-based systems, and level advancement. Social interaction involves features that create competitive challenges, cooperative tasks, and social sharing opportunities. Measurement of these features is done through items that measure the frequency of consumers' interaction with gamified features using a 7-point Likert scale.

The suggested model assumes that the characteristics of gamification directly influence Customer Engagement (H1). This is supported by previous literature, which has shown that gamification can indeed increase both emotional and cognitive levels of engagement in online consumption contexts (Hollebeek et al., 2014; Kamboj et al., 2020). Hypothesis 2 (H2) suggests that gamification leads to an increase in Perceived Enjoyment, a psychological state related to hedonic satisfaction that consumers derive from pleasurable interactions. As defined by Yang et al. (2018), enjoyment results from the varied, exploratory, and rewarding experiences induced by gamified online shopping situations.

Hypothesis 3 (H3) suggests that perceived enjoyment is a determinant in increasing customer engagement. The literature suggests that people who find enjoyment using gamification systems are more likely to develop a strong bond with both the brand and its platform (So et al., 2014). By contrast, Hypotheses 4 and 5 suggest that perceived enjoyment is a mediator of both the direct and indirect effects of gamification on engagement, as supported by theoretical models based on Self-Determination Theory (Deci & Ryan, 2000).

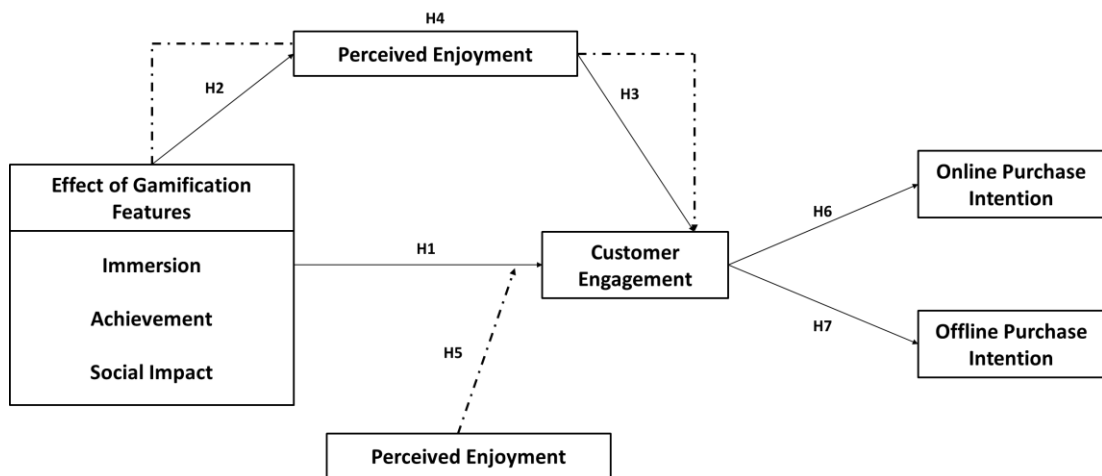
The relationship between customer engagement and shopping intention in online settings (H6) and offline settings (H7) reflects the tendency of consumers to convert their engagement into effective behaviors across both digital and physical consumption spaces. The online setting examines consumers' willingness to shop from gamified sites like Daraz or AliExpress, while the offline setting examines consumers' willingness to shop at physical stores that adopt gamification features (Rodriguez & Fernandez, 2015; Anderson et al., 2014). These dimensions are measured with well-known multi-item scales that have been tested on a 7-point Likert scale.

Accordingly, the theoretical framework articulates seven hypotheses that link the independent, mediating, and dependent variables. The proposed linkages are supported by theoretical justification and conceptual processes drawn from modern academic literature. In short, the model seeks to explain how gamified shopping experiences create psychological enjoyment and engagement, and how these variables affect purchasing behaviors in both online and offline retail environments.

Accordingly, the developed conceptual framework is as follows.

Figure 3. 1

Conceptual Framework



Source: Author Developed

As per the justifications provided in the above section, the hypothesis developed are mentioned below.

H1: The effect of Gamification Features positively impacts on the Customer Engagement.

H2: The effect of Gamification Features has a positive impact on Perceived Enjoyment of Customer.

H3: The Perceived Enjoyment positively impact on Customer Engagement.

H4: The Perceived Enjoyment is positively mediating the relationship between effect of Gamification Features and Customer Engagement.

H5: The Perceived Enjoyment is positively moderating the relationship between effect of Gamification Features and Customer Engagement.

H6: The customer engagement with gamified features positively impacts on the online purchase intention of customer.

H7: The customer engagement with gamified features positively impacts on the in-store purchase intention of customer.

3.2. Operational Definition

In this research it is consist with four concepts, Gamification Effects (Independent Variable), Customer Engagement, Purchase Intention (Dependent Variable), Perceived Enjoyment (both Mediator and Moderator). In the process of defining these concepts different authors have been carried various definition indifferent perspectives.

Table 3. 1

Operational Definitions

Variable	Definition
Gamification Features	The application of game-like elements within non-game contexts with the aim of stimulating user

	<p>motivation and engagement. In the context of digital shopping, the features attempt to replicate the engaging nature of gaming, thus creating customer engagement, satisfaction, and impacting behavioral outcomes. Drawing on the seminal work of Xia and Hamari (2020) and Yang et al. (2018), the current study defines gamification features through three main dimensions: immersion, achievement, and social interaction. Immersion involves elements such as narratives and world-building, personalization of user profiles, and adaptive environments aiming to provide an immersive and engaging experience for the user. Achievement involves reward structures such as mechanisms like badges, level-up systems, and point systems, all leading to increased feelings of progress and competence. Social interaction focuses on community-oriented features, such as leaderboards, team-based competitions, and peer reviews, that, when combined, enhance user motivation through social channels. Together, these dimensions impact the way users perceive and interact with gamified platforms.</p>
Consumer Engagement	<p>Customer engagement can be described as a multifaceted psychological state that includes the emotional, cognitive, and behavioral dedication of a customer to interactions with a brand. It represents more than merely transactional behavior and reflects the degree to which consumers are engaged, participatory, and affiliated with the brand over time. In the setting that involves gamification, engagement could be demonstrated through patterns such as repeat usage, engagement with particular features, or</p>

	<p>affective ties established with the brand narrative or reward system. Hollebeek, Glynn, and Brodie (2014) emphasized that customer engagement is both a predictor and an outcome of meaningful brand experiences, particularly in digital settings where consumers contribute to value creation. Therefore, engagement takes on a central position in this model in its role as a mediator that translates psychological and experiential effects of gamification and perceived enjoyment into actual behavioral outcomes.</p>
Perceived Enjoyment	<p>The extent to which users find inherent delight in using a system in the absence of any external reward or consequence. It is a construct linked to hedonic benefits inherent in the process of interaction itself, thus reflecting intrinsic motivation and affective satisfaction. Within the context of the present study, perceived enjoyment plays a dual role: it is not only an immediate psychological consequence of gamification but also a mediator within the relationship between gamification and customer engagement. It has been described by Davis, Bagozzi, and Warshaw (1992) and Moon and Kim (2001) as a central construct in technology acceptance and user engagement models, which suggests that those who find enjoyment in systems are more likely to spend time and engage in repeated interactions.</p>
Online Purchase Intension	<p>The online purchase intention concept is understood to describe an individual's perceived likelihood of purchasing products through digital means, such as websites and mobile devices. This measure incorporates behavioral inclinations in the online</p>

	<p>medium and is influenced by diverse factors such as platform configuration, interactivity, trust, and user engagement. For gamification-based systems, factors like loyalty rewards, individualized challenges, and interactive interfaces have a strong impact on the likelihood of a user finalizing a transaction. Anderson et al. (2014) argued that hedonic and utilitarian motivations were core drivers in the decision-making process underlying online consumption, especially in situations where users find pleasure and also exhibit active engagement.</p>
<p>Offline Purchase Intension</p>	<p>Purchase intention in physical retail contexts is linked to consumers' desire to experience tangible shopping. This desire is driven chiefly by sensory engagement, social connectedness, and environmental stimuli in the retail environment. In offline contexts subject to the influence of gamification, where gamification techniques are implemented such as experiential retail outlets with interactive kiosks, promotional contests, or immersive zones purchase intention can be significantly influenced by the novelty and richness of the shopping experience. As suggested by Rodriguez and Fernandez (2015), consumer tendencies toward offline shopping are reinforced when there is a unifying linkage between online behavior and the physical shopping environment, particularly when loyalty programs or game-based rewards span both realms.</p>

Source: Author Developed

3.3. Operationalization Table

The operationalization table of content is as follows.

Table 3. 2

Operationalization Table

Variables	Dimensions	Measurement Indicators / Questions	Instrument	Source
Use of Gamification Features	Immersion	Frequency of interacting with: <ul style="list-style-type: none"> • Using or updating my shopper profile in the store app • Selecting personalized offers or rewards • Reading or interacting with storytelling content in-store (e.g., origin of products, brand stories) 	7-point Likert scale	(Xia & Hamari, 2020; Yang et al., 2018)
	Achievement	Frequency of interacting with: <ol style="list-style-type: none"> 1. Earning badges, stamps, or milestone 	7-point Likert Scale	

		rewards for purchases 2. Collecting or spending virtual supermarket currency or points 3. Tracking shopping progress using progress bars or status indicators 4. Advancing through levels or tiers in the loyalty program 5. Viewing personal rank on store-wide leaderboards 6. Completing increasingly difficult shopping challenges 7. Participating in time-limited missions or campaign goals		
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	Social Interaction	Frequency of interacting with: <ol style="list-style-type: none"> 1. Participating in group/team-based shopping activities 2. Engaging in friendly competition via the store app 3. Sharing or discussing shopping experiences or rewards with others 	7-point Likert Scale	
Customer Engagement	Customer Engagement	<ol style="list-style-type: none"> 1. Whenever I shop online or use a retail mobile app, I usually engage with its gamified features. 2. I am passionate about shopping experiences that include game-like features such as progress tracking, daily rewards, or 	7-point Likert Scale	(Kamboj, Rana & Drave, 2020; Hollebeek et al., 2014; So et al., 2014)

		<p>interactive challenges.</p> <p>3. I love using e-commerce or retail platforms that make shopping fun through game elements like spin-to-win offers, point systems, or virtual coins.</p> <p>4. I feel excited when I interact with gamified elements in a retail or shopping app, such as unlocking a new tier, reaching a goal, or winning a prize.</p> <p>5. I feel proud when I reach higher loyalty levels or earn exclusive rewards through gamified shopping apps.</p>		
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Perceived Enjoyment	Perceived Enjoyment	<ol style="list-style-type: none"> 1. Gamified retail and e-commerce activities make me feel happy. 2. Gamified retail and e-commerce activities are vivid and engaging. 3. Gamified retail and e-commerce activities spark my curiosity and make me want to explore more. 	7-point Likert Scale	(Yang et al., 2018)
Purchasing Intention	Online Purchasing Intention	<ol style="list-style-type: none"> 1. I have a strong intention to buy consumer goods through online platforms that include gamification features. 2. I choose, without any doubt, to purchase consumer goods via online stores that offer 	7-point Likert Scale	(Rodriguez & Fernandez, 2015)

		<p>engaging experiences such as rewards, challenges, or points.</p> <p>3. I have the intention to continue buying consumer goods online from platforms that provide interactive and gamified shopping environments.</p> <p>4. I intend to buy consumer goods using online channels like Keells, Daraz, AliExpress, or Temu when gamified elements are available.</p>		
	In-store Purchasing Intention	1. I am likely to continue shopping at a physical retail	7-point Likert Scale	(Anderson <i>et al.</i> , 2014)

		<p>store that offers gamified experiences such as in-store challenges, reward points, or spin-the-wheel promotions.</p> <p>2. Participating in gamified activities at a physical retail store is something I would do before or during a purchase.</p> <p>3. I can see myself purchasing consumer goods from a physical retailer that I engaged with through in-store gamification features.</p>		
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Source: Author Developed

3.4. Research Design

Research philosophy is a set of assumptions and beliefs relevant to the collection, analysis, and use of data on an event or phenomenon. Among the main research philosophies, two overriding frameworks recognized are Positivism and Interpretivism. Malhotra (2003) states that Positivism is based on the argument that knowledge is obtained through empirical data and quantitative information, stressing the accuracy of measurements. Further, in the positivist research philosophy paradigm, a deductive approach is adopted whereby data collection and analysis are carried out in an objective fashion. Myers (2008), on the other hand, defines Interpretivism as a paradigm stressing the interpretation of research elements from a human perspective. This approach follows an inductive approach, using interviews and observations to gather data. As such, since the said study largely focuses on attribution theory and the Attachment-Aversion model and is also backed by the literature previously reviewed and a strong conceptual framework, the study is conducted as a knowledge-driven study in its entirety. Therefore, the present research project takes a positivist stance.

In addition, two main methodologies are recognized in this branch of study: the inductive and deductive methodologies. The inductive methodology is marked by beginning the research process with observations, eventually culminating in the development of a new theory (Slideshare, 2016). In contrast, the deductive methodology begins with the formation of a hypothesis, finishing with the verification or falsification of that hypothesis (Locke, 2007). Therefore, this current research project has been begun based on these theoretical models, and due to its construction of a hypothesis to be tested, it takes a deductive methodology.

From the research methodology perspective, Bhandari (2020) believes that researchers must focus on three different paradigms: qualitative, quantitative, and mixed methods (Creswell, 2003). Quantitative research deals with inquiries carried out in controlled settings, with a focus on established phenomena. In addition, quantitative investigations normally go hand-in-hand with the deductive approach, under which traditional methods of collecting numerical information are applied and later evaluated using statistical analysis (Harris, Gleason, Sheean, & Boushey, 2009). This approach holds several benefits, including the ability to conduct large-scale studies, the

collection of closed-ended information, the efficiency of quick and easy data collection, and general economic effectiveness (Mander, 2017). On the contrary, the qualitative paradigm focuses mainly on an inductive approach, with emphasis on revealing the varied meanings given by individuals to their experiences. The main aim of this research is to collect and analyze qualitative data to clarify concepts, identify alternatives, and as already mentioned, gain a full understanding of the subject while supporting the emergence of new ideas (Bhandari, 2020). In qualitative research, data collection is generally conducted through means such as interviews, observations, and focus groups, which allow for immediate interaction between the researcher and the participants. As recognized in previous research, Pathak, Jena, and Kalra (2013) state that qualitative research seeks to understand a research problem from humanistic and idealistic perspectives. This type of research has numerous benefits, such as flexibility in research design, the ability to collect data within real and natural contexts, the ability to uncover in-depth explanations, and the development of new ideas; however, it also has some disadvantages, such as issues related to reliability, subjectivity of data, and issues related to the generalizability of findings (Bhandari, 2020). Therefore, as the present research investigates the effect of gamification factors on consumer involvement and purchase intention, with consideration of the mediating and moderating roles of perceived enjoyment, the research aim remains the same. Additionally, the current research employs existing research and theoretical frameworks as reference points to base its findings upon. Data collection will be conducted through the administration of survey questionnaires, which will then be analyzed through statistical software, thus placing the research within a quantitative methodological approach.

The research process may be defined as a series of methodologies, frameworks, and procedures utilized in the course of research activities. It is basically identified as the different strategies adopted by researchers in the course of a research investigation (Goundar, 2019). There are various research methodologies available based on the aforementioned research approach. These methodologies are known as data collecting techniques by means of which information related to certain research questions can be collected. There is various research methods recognized, including interviews, survey

questionnaires, observations, existing documents, and focus groups, each with their specific research strategy (Ainsworth, 2020). Survey questionnaires are primarily involved in quantitative research, whereas interviews and observations are more typical in qualitative research. In addition, survey questionnaires are utilized solely for the collection of quantifiable data, as opposed to qualitative data. As a result, since the present study is following a quantitative research framework and requires systematic analysis of data through statistical tools, the collection of quantifiable data is a must. Therefore, the present study follows survey questionnaires as its main research tool.

The unit of analysis can be defined in a number of different ways. As identified by Silverman and Solman (1998), the unit of analysis is the level at which data is used to represent a single data point within an analytical model. However, a unit of analysis can also be identified as a meaningful entity that the research is attempting to investigate and expound upon through the study (Yin, 2003). Within research carried out at the academic level, the unit of analysis can occur in several different forms, including individuals, groups, artifacts, geographic locations, and social interactions (William, 2020). For instance, the current study is focused at the individual level in data collection, with the response from each participant being incorporated into the statistical software used. The unit of analysis to be used for the study is therefore designated as the individual.

According to Malhotra N K (2003), research design classification can be defined in two ways. They are Exploratory and Conclusive research design. The objective of exploratory 46 research designs is to provide insights and understanding. Normally this design follows an unstructured and flexible process where the primary data analysis follows qualitative. On the other hand, Conclusive research design work with the objective of testing specific hypothesis and identifying the relationship. Basically, Conclusive research design comes in two designs which are Descriptive and Causal designs. Descriptive designs are two forms. They are cross-sectional, which collects data from a single sample of the population once during the research, and longitudinal, which collects data from a fixed sample over time. This study, which examines the impact of gamification features on consumer engagement and purchase intention, aims

to test particular hypotheses in an identified context utilizing a population sample. As a result, this study will ultimately use a cross-sectional research methodology.

3.5. Process of Data Collection

Data collection is the cornerstone of data analysis in any research project. Data can be obtained using any number of methodologies, which can essentially be classified into two broad categories: primary and secondary data (Sources of Data, 2013). Primary data is information gathered directly by the researcher to meet the particular study objectives. On the other hand, secondary data is information obtained from existing materials; it is data that has been gathered using available resources. A certain amount of secondary data will be utilized in this research in the literature review and industry context parts; however, data collection for this study will largely rely on primary data sources. The research tool used in the collection of primary data is the survey technique, which is based on questionnaires to draw information from each respondent. The questionnaire is structured in terms of 38 questions based on measurement indicators that have been pre-tested and validated by previous researchers in different contexts specific to each of the concepts under study, thus ensuring the face validity of the instrument. In addition, the questionnaire is divided into five parts to draw respondents' honest views within a logical and understandable structure, with an expectation of completion of about 5-6 minutes per respondent. Before deploying the survey questionnaire, the instrument was pilot tested using a group of 20 respondents who represented the sample to determine any possible areas of concern related to the use of technical terms in the instrument. The questionnaire was then administered on a sample of 400 respondents who represent the larger population.

3.6. Sample Procedure

The demographic factors of the study involve Sri Lankan consumers who are actively involved in the procurement of goods and services through supermarkets and e-retail websites, focusing especially on Generation Y (born between 1981 and 1996) and Generation Z (born between 1997 and 2012). Both of these generations are characteristically distinguished by their intense consumption patterns, both in conventional retail settings and in online outlets. In 2024, the population of Sri Lanka

stands at about 22 million, out of whom about 10.1 million use the internet—representing almost 47% of the population meaning that there is huge market potential for e-retail websites (Peter & Rathnayake, 2021). Moreover, there are almost 6.4 million active social media users in Sri Lanka, making it a necessary platform to reach digital consumers (Rathnayake & Jayasinghe, 2023).

The growth of e-commerce in Sri Lanka has witnessed considerable development over the latest years with market analyses uncovering that over 50% of the population engage in online shopping activities totaling up to approximately 11 million active digital shoppers (eMarketingEye, 2022). At the same time, conventional supermarket shopping remains largely prevalent, with Keells Supermarket registering over 2.4 million active users in its Nexus rewards plan, thus indicating the widespread presence of brick-and-mortar stores (Keells, 2023).

Among the diverse range of demographic segments, Generations Y and Z are the most prominent cohorts in retail consumption. Generation Z, who are often described as “digital natives,” show a distinct receptiveness to e-commerce platforms, social media influences, and gamified virtual experiences. Industry reports establish that Gen Z consumers contribute to almost 40% of digital transactions in Sri Lanka, showing high impulsivity in their consumption patterns around 25% of them are impulsive in their buying behavior, and 46% are directly influenced by social media ads and marketing campaigns (LMD, 2022). Generation Y, in contrast, shows a strong inclination toward omnichannel retailing, with 63% of them preferring online shopping for its convenience, but they also enjoy physical retailing for product evaluation and confidence-building purposes (Wijesundara & Pushpakumari, 2022).

The combination of these findings indicates that there are about 6 to 7 million Gen Y and Z consumers in Sri Lanka who engage in e-commerce, with at least 3 million regularly using supermarket channels. This demographic breakdown and behavior serve as a sound and valid basis for the current study, focusing on these generation groups as the key drivers of contemporary consumer behavior in both offline and online retail spaces.

3.7. Sampling Method

The sample approach used in the current study is known as Multi-Stage Mixed sample. The researcher first defined the sampling frame for the study based on specific interests. The sampling frame for this study was determined within the boundaries of the Western Province, and geographic sites were chosen using judgmental sampling procedures. Three important districts were investigated: Colombo, Gampaha, and Kalutara, in accordance with the Western Province's urbanization pattern. The sample was then chosen using a random sampling procedure, with each district receiving a proportional weight.

3.8. Data Analysis

In the context of data analysis, this study defines the analytical framework using Structural Equation Modeling (SEM). SEM has been established as a widely acknowledged technique for analysing multivariate data (Haenlein and Kaplan, 2004). The SEM technique uses two distinct approaches to data analysis: covariance-based (CB) and partial least squares (PLS) structural equation modeling. CB-SEM is frequently used by researchers to test ideas, validate models, and evaluate competing theories. This study, however, uses PLS-SEM for data analysis because it is exploratory and seeks to identify essential 'driving' constructs. The analysis will be conducted out using Smart PLS statistical software, using the PLS-SEM approach.

PLS-SEM has been selected as the best method for analyzing and interpreting results, particularly in this type of research. The data analysis will take place in two stages: the measurement model and the structural model. The first phase, measurement model analysis, focuses on discriminant and convergent validity tests to determine the structural model's validity and reliability (Lewis, Templeton, & Byrd, 2005). The reliability and validity measures for this study will be calculated using Smart PLS statistical software, with Cronbach's Alpha as the reliability measure (Jöreskog, 1971), and Average Variance Extracted (AVE) and Composite Reliability (CR) values allowing for validity analysis. The structural model analysis will next offer the route analysis of the constructed model, allowing for hypothesis testing relevant to the inquiry.

4. DATA ANALYSIS

In this chapter, the researcher conducts a thorough examination of the data acquired from the structured questionnaire described in the preceding chapter. The analysis process encompasses the entire data life cycle, beginning with preparation and review and ending with hypothesis validation. Statistical analysis was carried out using SmartPLS 4.0 software, with Partial Least Squares Structural Equation Modeling (PLS-SEM) serving as the primary analytical strategy. After a thorough data cleaning process that included removing incomplete responses and entries with repeated and erroneous patterns, a total of 407 legitimate responses were kept for further analysis. Descriptive statistics, including an assessment of the sample profile and demographic factors, were performed using SPSS. Thereafter, an evaluation of the measurement model and the structural model was carried out through SmartPLS to assess the reliability, validity, and hypothesized relationships among the variables in question.

4.1. Preparation of Dataset

According to the previous chapter, the main source of data collection has been proceeding with survey questionnaires distributed via a google form by the researcher herself. A total no of 420 questionnaires has been distributed covering the sample selected from the Western Province weighting to three districts mainly. Form the distributed questionnaires 407 questionnaires been collected and coded them all once before entering them into the analysis software. A comprehensive reviewing process handled in order to identify incomplete and extreme cases. During that process, 8 questionnaires has been rejected due to extreme cases and 5 questionnaires has been rejected due to incomplete responses given. Altogether 407 questionnaire responses were entered which can be identified as an effective responsive rate of 97% in to the data base of the analysis software after handling missing values of several identified questionnaires.

4.1.1 Handling Missing Values

Data analysis normally consists with entering data and handling missing values. It is very important to handle missing values within your data sheet, so it would be able to generate effective outcomes at the end of the analysis (Kasture, 2020). If not, the

researcher may not get what he/she expects to generalize through the exploratory research. There are many ways to handle missing values in any data set. Here the researcher herself done a comprehensive review on collected data and has been identified 8 responses which are consisting missing values by mistakenly kept when providing answers for the respective questions. The researcher here has adopted a recommended imputation technique to handle those missing values. Here the adopted technique is Hot Deck Imputation for handling nonresponses or missing values. Under this method, the researcher replaced those missing values with another collected response from an identified similar unit without making any defects. Hence, all the 8 missing values in respective rows were paired with suited responses already available through the data set.

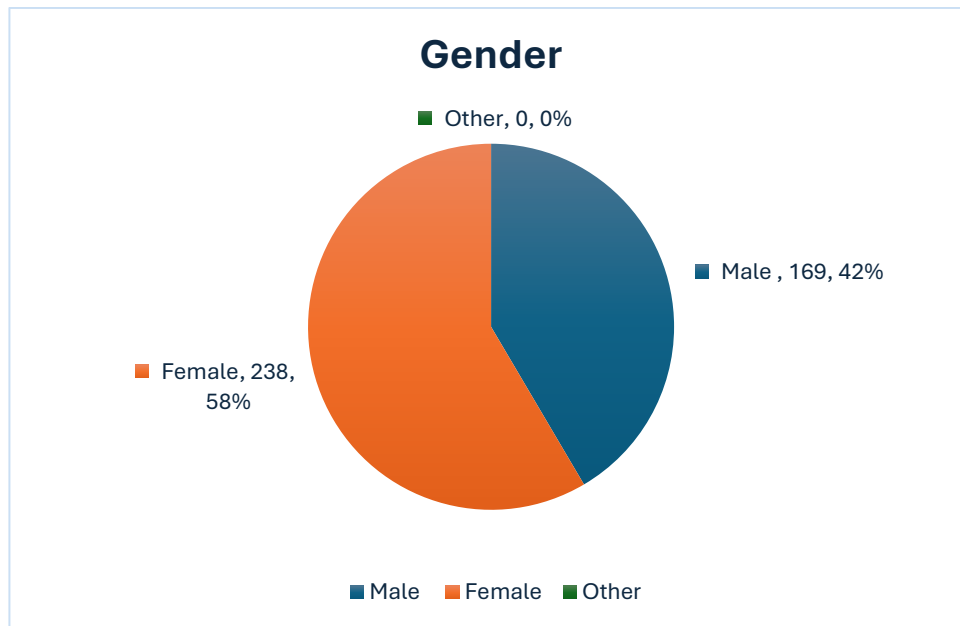
4.2 Sample Profile

Demographic characteristics of the respondents are highly considered when conducting research. Because through demographic variables of the sample it can generalize its outcomes in the form of the population by identify the behavioral factors and market conditions the context and the whole population (Hughes, Camden, & Yangchen, 2016). Further, using demographic variables is essential to configure that the researcher collecting information form the right sample, right person who is eligible to respond to the research. So here the research has focused on collecting demographic information of the respondents via several factors including gender, age, income level, lifestyle and district. Within the questionnaire, section E has been designed to bait the respondents to provide their demographic details and here descriptive analysis done for all the demographic information collected to summarize the different characteristics of the sample.

The information gathered from a sample of 407 subjects reveals gender to be the most important demographic factor measured through the questionnaire. The pie chart shown here displays a wide gender difference between the respondents. The female respondents make up the majority and number 238, which is equivalent to 58% of the overall sample. On the other hand, the male respondents numbered 169, equivalent to 42% of the sample. In addition, there were zero responses in the "Other" gender category, equivalent to 0% of the whole.

Figure 4. 1

Gender



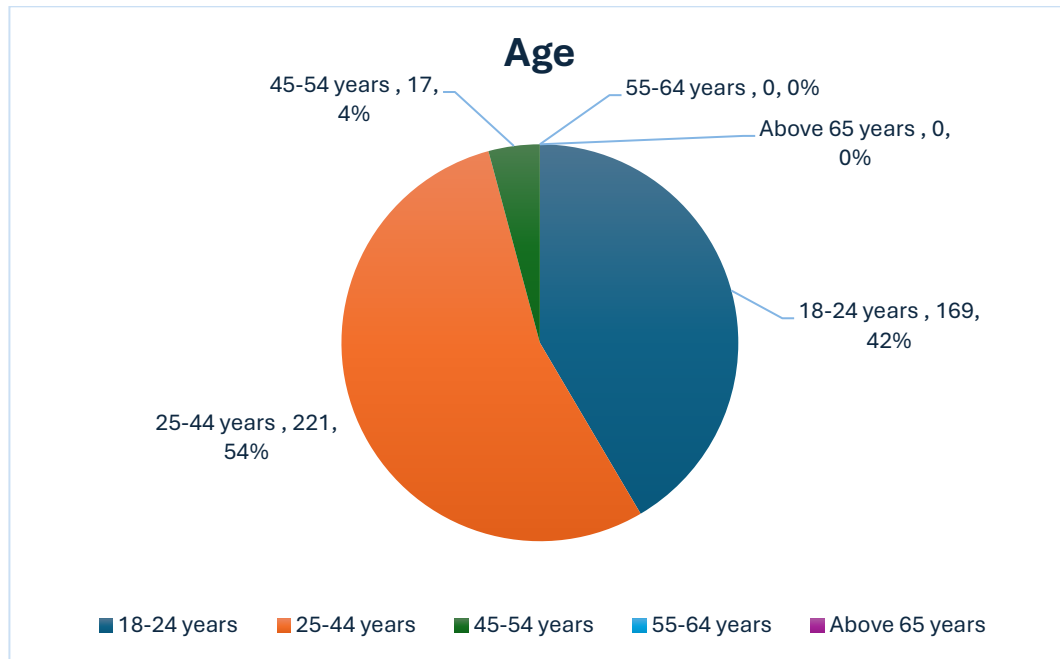
Source: Survey Data, 2025

The sample's gender breakdown displays a significant weight towards female respondents. The proportion discrepancy suggests the response rate among females exceeds that of males by 16%. This can be attributed to demographic factors of the targeted population or suggest differential response behavior between genders. In addition, the evidence presented in the pie chart supports this observation, as the orange slice (female respondents) takes up a much larger space against the blue slice (male respondents). Overall, the distribution of the sample's gender reveals a more weightage towards females.

The second main demographic variable derived from the survey related to age. Examining trends along age is important in determining online consumer behavior since age often acts as a determinant of particular preferences and levels of technological competence. The study divided participants into five age groups: 18–24 years, 25–44 years, 45–54 years, 55–64 years, and those aged 65 years and older.

Figure 4. 2

Age



Source: Survey Data, 2025

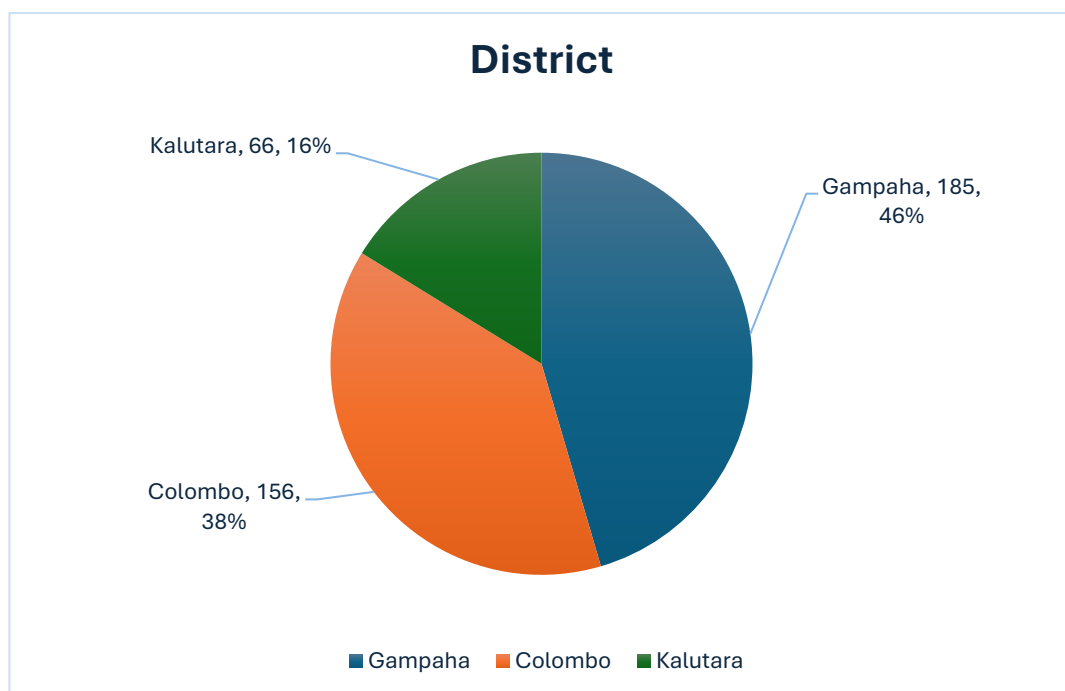
The information presented in the chart shows that the largest cohort of respondents is aged 25–44 years, with 221 participants and representing 54% of the overall sample. This age group is generally considered a prime age group of the labor force and is predominantly characterized by a strong preference for online retailing websites. The second largest age group is the 18–24 years age bracket, comprising 169 respondents, which is 42% of the sample. Together, these two age groups represent a vast majority (96%), indicating that the sample largely consists of young and middle-aged individuals, mainly representing Generation Z and young Millennials.

On the other hand, the age group 45 to 54 includes only 17 subjects (4%), and there were no respondents between the age groups of 55 to 64 and above 65. This observation clearly shows a lack of responses from the older age groups, which may suggest either lowered awareness of online shopping platforms or lower response rates among these groups. The results reflect a high degree of receptiveness towards online shopping among the 18 to 44 age group, which is consistent with mainstream observations made regarding e-commerce.

The third demographic variable examined in this study, the spatial distribution of participants across districts, was included to achieve geographic representation among the respondents. Knowledge of regional participation is vitally important in the understanding of consumer behavior in the particular local markets. The data shows that the largest number of respondents, at 185 individuals, is from the Gampaha district, representing 46% of the total sample. This is followed by Colombo, where there are 156 respondents, which equates to 38%, while Kalutara has 66 participants, representing 16% of the total.

Figure 4. 3

District



Source: Survey Data, 2025

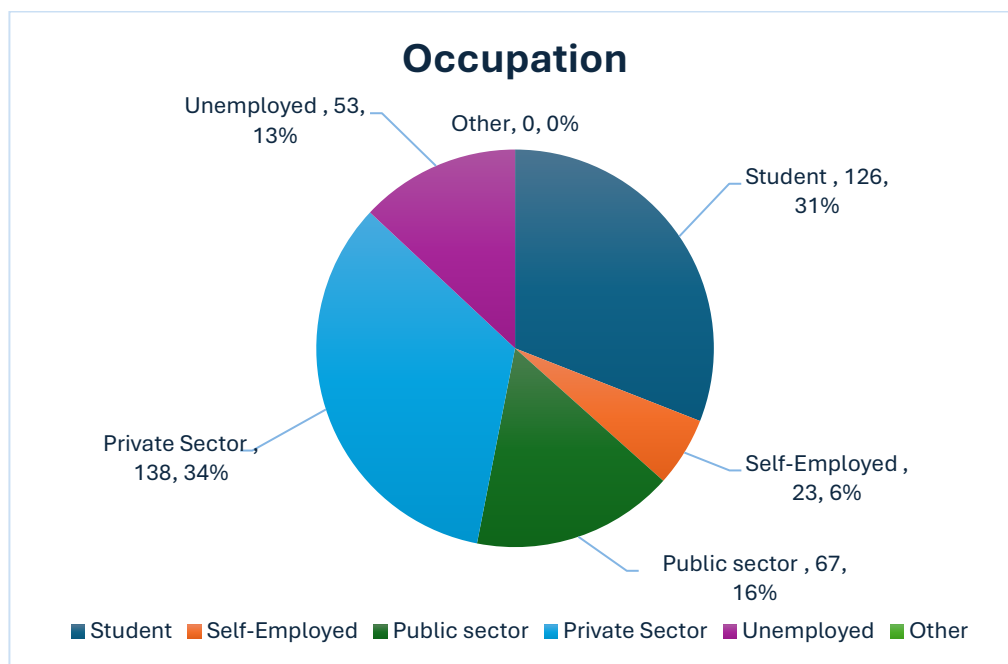
The districts of Gampaha, Colombo, and Kalutara are all located in the Western Province, which is known for high levels of urbanization, commercial activity, and internet usage. The high representation from Gampaha and, to a lesser extent, Colombo probably reflects a denser population of digitally connected consumers in these areas, in line with the online shopping behavior focus of the study. Although Kalutara is less well represented, it still makes a useful contribution to the data set. This geographic

spread provides useful data on the prevalence of internet-based shopping habits, which could be used to shape future targeted marketing campaigns or service provision initiatives.

Occupation is a significant demographic attribute for understanding the economic activities and livelihood situations of the respondents, which can influence their online shopping behaviors. The findings reveal that the most significant category is private sector workers, consisting of 138 persons (34%). Next are students, with a count of 126 members (31%), thus highlighting significant participation from young groups, who are expected to be more technologically savvy.

Figure 4. 4

Occupation



Source: Survey Data, 2025

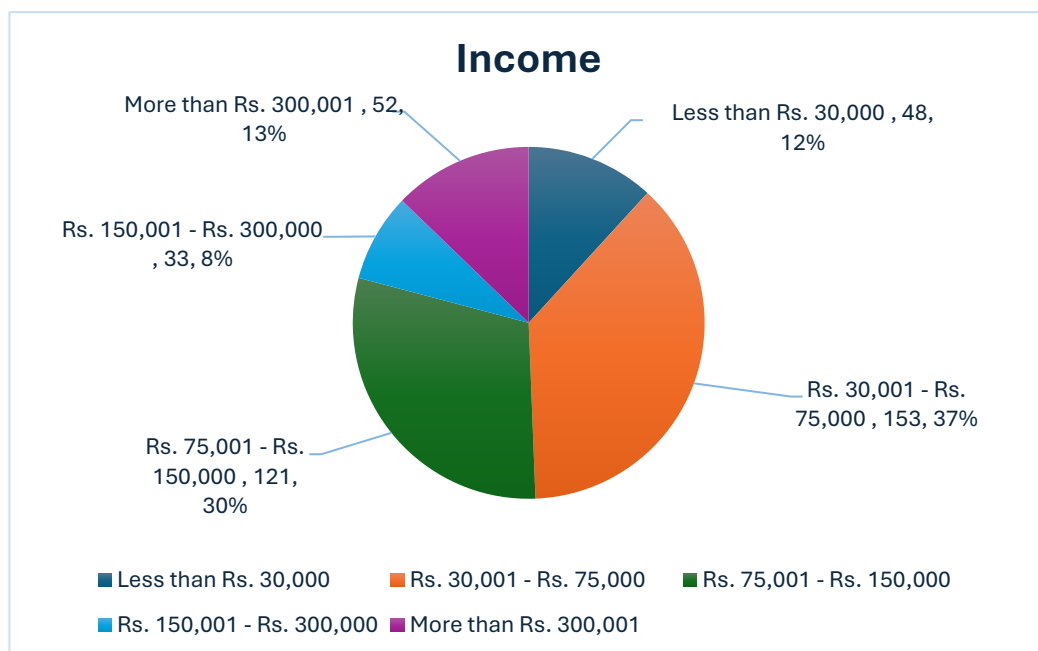
The government sector includes 67 participants, 16% of the sample, reflecting a moderate number of government workers. The "unemployed" category is the second largest, representing 13% of the sample or 53 participants, and the self-employed category is the smallest of the three at 23 participants or 6%. Interestingly, no respondents were found in the "Other" category.

This analysis demonstrates the sample to be largely economically active, specifically involving those who are private-employed and students, as both groups are found to have high levels of involvement within online spaces. The relatively lower figures seen for self-employed persons and the unemployed could indicate a reduced ability to shop online or participate within the digital economy. These findings provide important context to the understanding of consumer trends in relation to occupational status.

Income was a vital demographic measure in the study with the objective of understanding the participants' economic potential, which directly influences their buying decisions and online shopping behaviors. Based on the pie chart, there is a wide range of distribution among five income groups. A large number of participants 153 (37%) fall within the range of Rs. 30,001 to Rs. 75,000 monthly. This group represents the financial middle class and is expected to form a large part of the workforce.

Figure 4. 5

Income



Source: Survey Data, 2025

At close proximity, 121 respondents (30%) reported their income to be between Rs. 75,001 and Rs. 150,000, suggesting a strong presence of upper-middle-income individuals. Among the lower-income group, 48 respondents (12%) had incomes

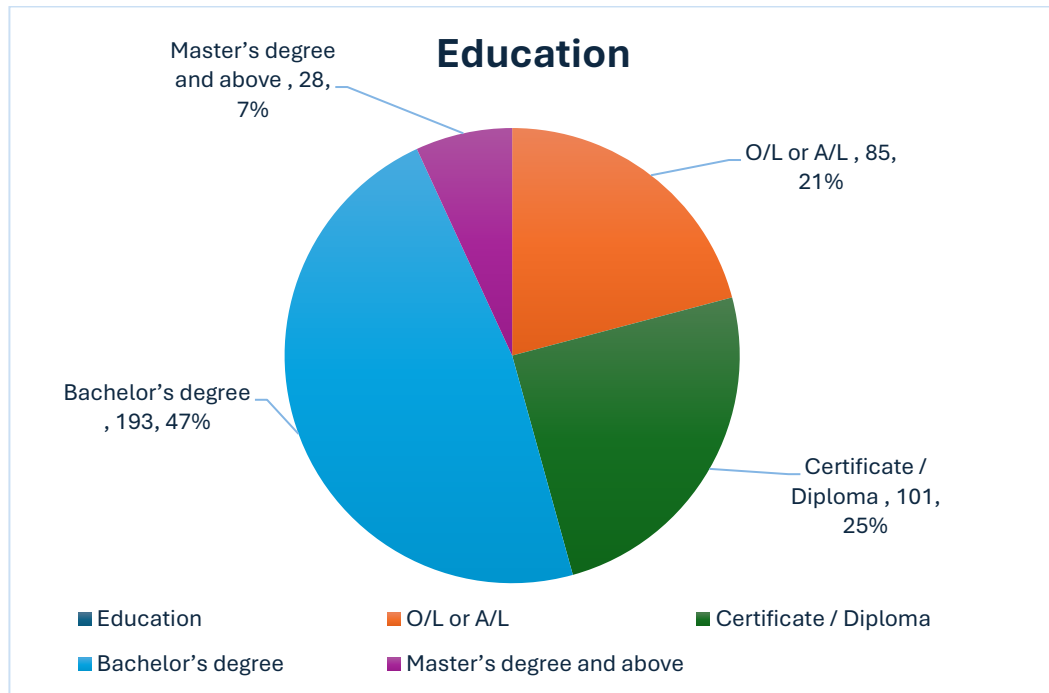
below Rs. 30,000, which probably includes students, new employees, or part-time workers. At the higher end of the income spectrum, 52 participants (13%) reported incomes above Rs. 300,001, while 33 respondents (8%) had incomes between Rs. 150,001 and Rs. 300,000.

This distribution shows a strong concentration of respondents in the lower-middle to upper-middle income ranges, indicating that most participants are financially active but not extremely high earners. These groups may exhibit more price-conscious or value-driven behaviors in online shopping contexts. The diversity in income also provides a useful basis for analyzing how purchasing patterns vary across different financial capabilities.

Participants' educational levels were included as a demographic variable to determine their academic backgrounds, which would influence their level of digital literacy, consumer awareness, and decision-making within virtual environments. As the chart shows, the majority of the participants 193 (47% of participants) have a Bachelor's degree, indicating a high level of educational achievement in the sample. This suggests that nearly half of the respondents have reached undergraduate levels of education, which indicates that the participants are well-educated and likely capable of using digital media.

Figure 4. 6

Education



Source: Survey Data, 2025

The second largest group consists of Certificate or Diploma qualification holders, which make up 101 respondents (25%), followed by O/L or A/L holders, which make up 85 respondents (21%). These groups represent levels of educational attainment from basic to intermediate. Notably, 28 respondents (7%) have reached a master's degree or higher level of qualification, reflecting the existence of a relatively small but highly educated subset in the population.

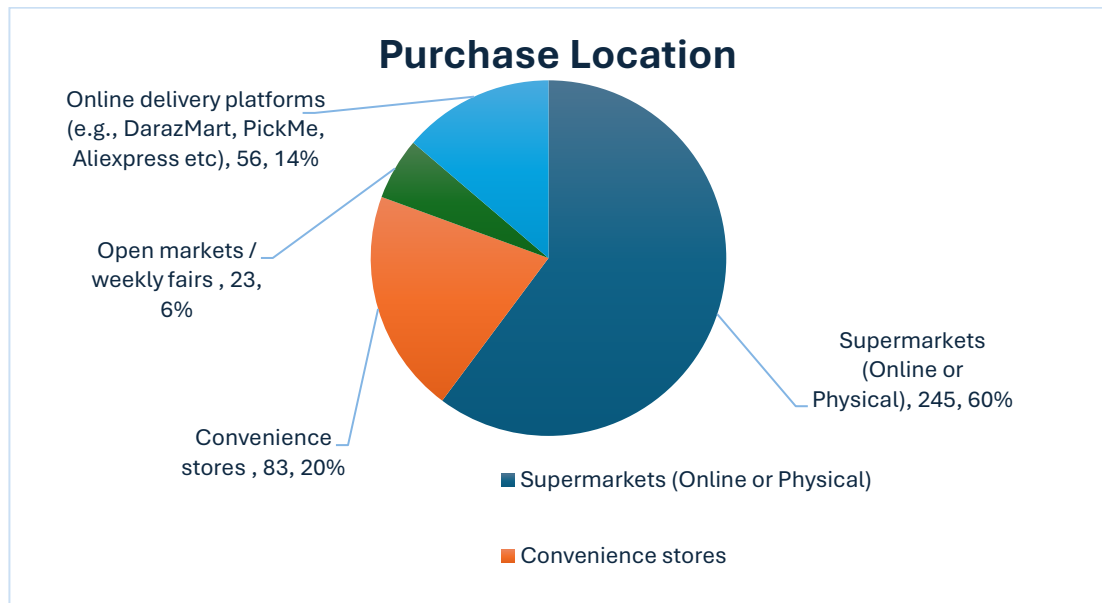
The overall breakdown suggests a sample dominated by holders of advanced education, particularly at the undergraduate level. This population of educated individuals suggests a group inclined towards analytical assessments, driven consumer choices, and confident use of e-commerce websites factors that are highly relevant in studies of online consumer behavior.

The chart of different purchase outlets provides valuable insight into consumer preferences for different retail channels. The results clearly show that supermarkets,

both online and offline, are the preferred shopping outlets, as noted by 245 respondents, representing a dominant 60% of the total sample.

Figure 4. 7

Purchase Location



Source: Survey Data, 2025

This highlights the overwhelming dominance of supermarkets in the retail industry, a situation that can be explained by the wide range of products stocked, the ease of shopping at these outlets, and consumer faith in the quality of products. Convenience shops are the second most common option, supported by 83 consumers (20%) who chose this alternative. Convenience shops are most commonly chosen for quick, habitual transactions because they are easily accessible and convenient. Interestingly, online delivery services like DarazMart, PickMe, and Aliexpress were preferred by 56 consumers (14%), an indicator of growing acceptance of e-commerce. While this figure does not put online services at the top, it suggests a considerable shift towards digital consumerism, particularly among those who are either tech-savvy or short on time. In summary, 23 respondents (6%) preferred open markets and weekly fairs, which shows that a small number of respondents still prefer conventional, community-based, or unofficial retail options. The observation made shows that while

supermarkets remain the leading retail channel, there is a slow but evident shift in consumer behaviors, specifically towards digital channels and specialty market channels.

4.3 Assessment of Reliability

Before proceeding to analyze the relevant descriptions bearing on the current study, it is important to measure the internal consistency reliability. Generally, this test goes hand in hand with the idea of composite reliability as suggested by Joreskog (1971). Yet, Cronbach (1971) argues that the measurement of internal consistency is conducted using Cronbach's Alpha Coefficient. Scores above 0.7 are considered to be reflective of reliable variables, while scores below 0.6 are regarded as unreliable. Furthermore, Hair et al. (2018) confirm Dijkstra and Henseler's (2015) methodology for assessing construct reliability using rho_A. The reliability test can be readily performed with Smart PLS software, which also allows for factor analysis. The table below provides a full overview of the Cronbach's Alpha, Composite Reliability, and rho_A results acquired with the statistical program.

Table 4. 1

Reliability Analysis

Factor	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Achievement	0.976	0.976	0.980	0.875
CEng	0.789	0.843	0.882	0.722
Gamification	0.837	0.971	0.854	0.472
Immersion	0.906	0.912	0.931	0.819
Per Enj (mod)	0.847	0.751	0.840	0.641
Per. Enj (med)	0.847	0.786	0.867	0.687
Social Impact	0.958	0.951	0.972	0.921
IPI	0.822	0.830	0.894	0.737
OPI	0.900	0.940	0.929	0.766

Source: (Survey Data, 2025)

The reliability and validity analysis shows that all the constructs have psychometric properties ranging from acceptable to excellent. The Cronbach's alpha values range from 0.789 to 0.976, reflecting strong internal consistency for all the factors. In

addition, the composite reliability coefficients (ρ_c) all exceed the acceptable minimum value of 0.70 for all constructs, thus providing further support for their structural integrity. Finally, the AVE values exceed the acceptable level of 0.50 for almost all the constructs, thus demonstrating good convergent validity.

The Gamification construct has an Average Variance Extracted (AVE) score of 0.472, which is slightly less than the suggested 0.50 benchmark. However, this slight difference could be considered negligible considering the high composite reliability of 0.854, coupled with an acceptable Cronbach's alpha of 0.837. Literature reports AVE scores below 0.50 to be acceptable when accompanied by high composite reliability, as this indicates a large portion of variance being explained by the construct. Therefore, it could be concluded that the Gamification construct shows an acceptable level of convergent validity, though there are recommendations for the refinement of its indicators.

4.4 Assessment of Validity Testing

4.4.1 Convergent Validity

Hair, Risher, Sarstedt, and Ringle (2018) define convergent validity as the extent to which a construct explains the common variance of its constituent items. This evaluation is mostly conducted using Composite reliability, factor loadings, and Average Variance Extracted (AVE) values analysis (Chin, 1998; Hulland, 1999). Hair et al. (2017) argue that the AVE value should be more than 0.5, implying that the construct explains 50% or more of the variance associated with the items that comprise it. Table 4.1 shows that all AVE values are higher than the required threshold. As a result, this is substantial evidence to support the convergent validity of all constructs.

Discriminant validity reflects the degree to which measures representing distinct constructs are distinguished from each other. It examines whether the items may be unintentionally measuring alternative theoretical constructs. The Fornell-Larcker criterion (Fornell & Larcker, 1981) is a frequently used method in Partial Least Squares Structural Equation Modeling (PLS-SEM) for testing the discriminant validity of the constructs provided in this work. This approach is regarded valid only when the square root of the Average Variance Extracted (AVE) for each latent construct is

greater than the correlation with all other latent constructs (Hair, Sarstedt, Ringle, and Mena, 2012). An evaluation of the usage of partial least squares structural equation modeling in marketing research (2011). This finding implies that the common variance of all constructs in the model should not surpass their separate AVEs. However, Henseler, Ringle, and Sarstedt (2015), as well as other following investigations, have demonstrated that the Fornell-Larcker criterion alone is insufficient to determine discriminant validity, and may even fail when the indicator loadings very little. As an alternative, the Heterotrait-Monotrait Ratio (HTMT) criterion can be employed to assess discriminant validity. This technique uses a mediation cutoff value of 0.85, requiring all loads to be less than this number. Finally, if none of the HTMT values is 1, it indicates that the values are statistically different from one, implying that discriminant validity has been obtained (Henseler, Ringle, & Sarstedt, 2015). Based on the aforementioned criteria, the computations for both the Fornell-Larcker and HTMT techniques are shown below.

Table 4. 2

Fornell-Lacker Criterion

	CEng	Gamification	IPI	OPI	Per. Enj
CEng	0.848				
Gamification	0.125	0.687			
IPI	0.104	-0.039	0.859		
OPI	0.116	-0.020	0.270	0.875	
Per. Enj	0.078	0.023	-0.048	0.174	0.838

Table 4. 3

Heterotrait-Monotrait Ratio (HTMT) – Matrix

	CEng	Gamification	IPI	OPI	Per. Enj
CEng					
Gamification	0.175				
IPI	0.130	0.108			
OPI	0.131	0.073	0.319		
Per. Enj	0.094	0.120	0.108	0.199	

Source: (Survey Data, 2025)

The Heterotrait-Monotrait (HTMT) correlation ratio is an important measure for assessing discriminant validity, as the degree to which constructs can be clearly differentiated from one another. One widely accepted guideline is that HTMT values should be below 0.85 (or 0.90, in a more cautious setting) to provide adequate discriminant validity.

On the other hand, in the matrix in question, all the HTMT values are well below the set cutoff of 0.85, with the highest correlation reported at only 0.175 between Gamification and Customer Engagement. This result indicates that each construct in the model retains empirical separateness from the other constructs. The reported low correlation coefficients of 0.094 between CEng and Perceived Enjoyment (both of which have moderated and mediated effects), further establish the non-existence of multicollinearity or conceptual redundancy. These results indicate that the constructs have been well defined and measured in a way that supports their discriminant validity in the model.

4.5 Structural Equation Modelling

The Structural Equation Model is a commonly used analytical method for multiple variable datasets and is particularly popular in marketing research owing to its ability to assess linear and additive causal models based on theoretical assumptions (Haenlein & Kaplan, 2004). The questionnaire data will be analyzed using Structural Equation Modeling with Smart PLS software. Hair, Black, Babin, and Anderson (2010) identify two models that are applicable for assessment purposes: measurement model assessment and structural model assessment. If the measurement model is judged to be satisfactory, the structural model must be examined next. The assessment of measurement models examines observed variable relationships as well as latent construct (factor) linkages using validity and reliability tests appropriate for construct measures. Key analyses for structural models include calculation and assessment of path coefficients between construct variables (Hair, Sarstedt, Ringle, & Mena, 2011; Chin, 1998). In the context of PLS-SEM, several foundation models can be recognized and include Covariance-based Structural Equation Modeling (CB-SEM) and Variance-based Structural Equation Modeling (VB-SEM) and Partial Least Squares models (PLS-SEM) (Sarlis et al., 2009). Structural Equation Modeling (VB or PLS) is

recommended for research issues in the social and behavioral sciences (Hair et al., 2014). Guidelines specially designed for the assessment of definite findings resulting from analysis apply, just as they do for other measurement models (Chin & Dibbern, 2010; Henseler, Ringle, & Sinkovics, 2009; Chin W., 1998; Hair, Hult, Ringle, and Sarstedt, 2017). Within the realm of exploratory research, the reliability level should be no less than 0.60, whereas for well-established tools, a threshold of 0.70 is advised. According to Akter, Fosso Wamba, and Dewan (2017), earlier research on sample size requirements for PLS-SEM has demonstrated that a model of this type has sufficient robustness to give credible analyses even in the presence of large sample sizes.

4.6 Introduction to Measurement Model

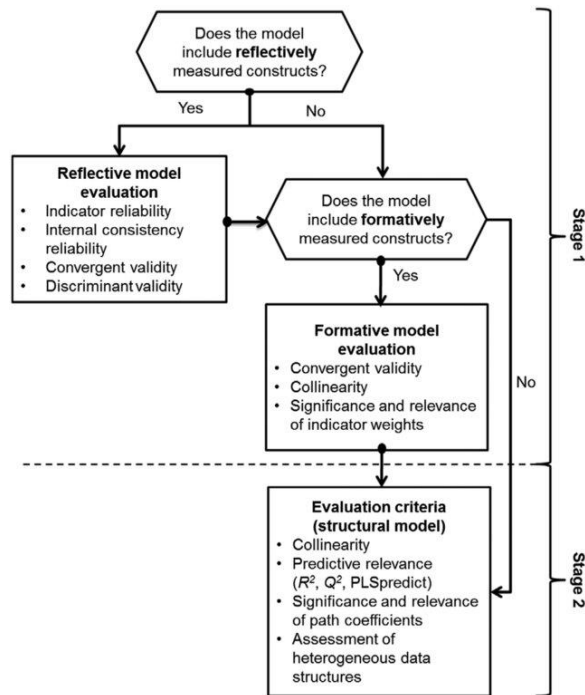
The first step in using Smart PLS-SEM is to analyze the measurement model, which is known as the outer model, followed by the structural model, known as the inner model. The primary goal of reviewing the measurement model is to analyze the assumptions about the structural measurement model's reliability and validity. According to Lewis, Templeton, and Byrd (2005), convergent and discriminant validity are used to examine measurement models. Before moving on to the assessment, it is necessary to determine whether the model is a reflective or formative model.

4.6.1 Formative Vs. Reflective Measurement

In structural equation modeling, there are two types of measuring scales: reflecting and formative. Reflective scales show a scenario in which indicators are dependent on the latent variable, and hence qualitatively or completely represent the hidden construct. Formative scales, on the other hand, propose that indicators contribute to the creation of the latent variable, either individually or collaboratively. In this case, the latent variable is created by aggregating indicators (Haenlein and Kaplan, 2004; Borsboom, Mellenbergh, & Heerden, 2004). However, as explained by Borsboom et al. (2004), a reflective model usually displays strong positive correlation between the variables. A formative model, on the other hand, can display positive, negative, or no correlation.

Figure 4. 8

PLS-SEM Model Evaluation



Later stages of reflection often include assessing indicator loadings, validating reliability using composite reliability tests, and conducting convergent and discriminant validity tests. Formative measurement models, on the other hand, are evaluated based on criteria such as convergent validity, indicator validity, indicator multicollinearity, statistical significance, and indicator weight appropriateness, as detailed by Hair et al. (2017). Confirmatory Tetrad Analysis (CTA) has been used by various studies to discriminate between reflective and formative measurement models (Gudergan & Bucic, 2004; Bollen & Ting, 1993).

In general, CTA enables the evaluation of whether correlations between measurement indicators conform to the postulated model (Bollen & Ting, 1993). Furthermore, CTA aids in determining whether manifest factors (indicators) act as independent predictors of the latent variable or are purely reflecting. Confirmatory Tetrad Analysis was used in this research study to determine the nature of reflective and formative models.

4.6.2. Model with both Formative and Reflective Models

It is important to highlight, as agreed by Wong (2013), that many research studies possess the ability to represent both formative and reflective constructs. Therefore, some research studies can show latent variables by arrows pointing outwards from them, while at the same time, latent variables can be represented by arrows pointing inwards towards their respective indicators. A careful review of different models is therefore called for. This calls for a detailed scrutiny of outer loadings and outer weights for both formative and reflective indicators in different contexts.

4.7 Confirmatory Tetrad Analysis

Confirmatory Tetrad Analysis (CTA) can be performed using Smart PLS, specifically a special CTA PLS approach that entails analyzing the intercorrelations of each indicator for all latent variables to evaluate whether the model is reflecting or formative (Hair et al., 2018). According to Hair (2018), Smart PLS is ideally suited for conducting CT analysis on latent variables that fit both formative and reflective model types. The CTA PLS technique is based on the tetrads concept, which describes the difference between the product of two sets of covariances (Bollen & Ting, 2000). The CT Analysis results have the ability to confirm the chosen reflective or formative measuring model. According to Hair, Risher, Sarstedt, and Ringle (2018), each latent variable in the model must include or be measured by at least three indicators. As seen below, this requirement has been met because all latent variables have more than three indicators and all intercorrelations between indicators have been given. As a result, the first condition for CT analysis has been met. Furthermore, according to Hair (2018), each indicator must have a particular amount of correlation before performing CT Analysis; otherwise, the results are worthless. The following correlations demonstrate that all indicators have a correlation value greater than zero. As a result, the second condition for performing CT Analysis has been met, and the author can now proceed with further analysis.

The CT analysis using Smart PLS effectively identified all non-redundant tetrads designated by the original sample (o). Following the CT Analysis, we discovered that both lower and higher corrections for the bias-corrected and Bonferroni-adjusted Confidence Intervals had been recorded. Thus, when zero falls within the range of

confidence interval bounds, such tetrads are identified as not significantly different from zero. This data reveals a declining tendency and confirms that such constructions function as reflective measuring models. If zero is outside the bias-corrected and Bonferroni-adjusted confidence intervals, there is a level of significance, indicating that the models represent a formative measurement model.

Also, if any of them have divergent positive and negative values for lower and upper Confidence Interval modifications, it means that the model uses a reflective measurement model. According to these specified criteria, latent variables connected to this investigation are recognized as reflecting measurement models (see Annexure 2).

The CT Analysis outcomes are discussed as follows.

Table 4. 4

Confirmatory Tetrad Analysis

Construct	No of Indicators	CI Low adj.CI Upp. adj.	Status
Gamification Features	17	Yes	Formative
Consumer Engagement	3	Yes	Reflective
Perceived Enjoyment	3	Yes	Reflective
Online Purchase Intention	4	Yes	Reflective
In-store Purchase Intention	3	Yes	Reflective

Source: (Survey Data, 2025)

4.8 Assessing the Measurement Model

In the case of structural equation modeling, the nature of the measurement model whether reflective or formative governs the appropriate analytical procedure. Reflective measures are defined by indicators that are understood as manifestations of the latent variable, generally depicted by arrows pointing from the latent variable to its observable indicators. Validity and reliability testing is critical in evaluating reflective measurement models. This involves several measures, such as convergent validity, discriminant validity, and internal consistency reliability, which are often measured

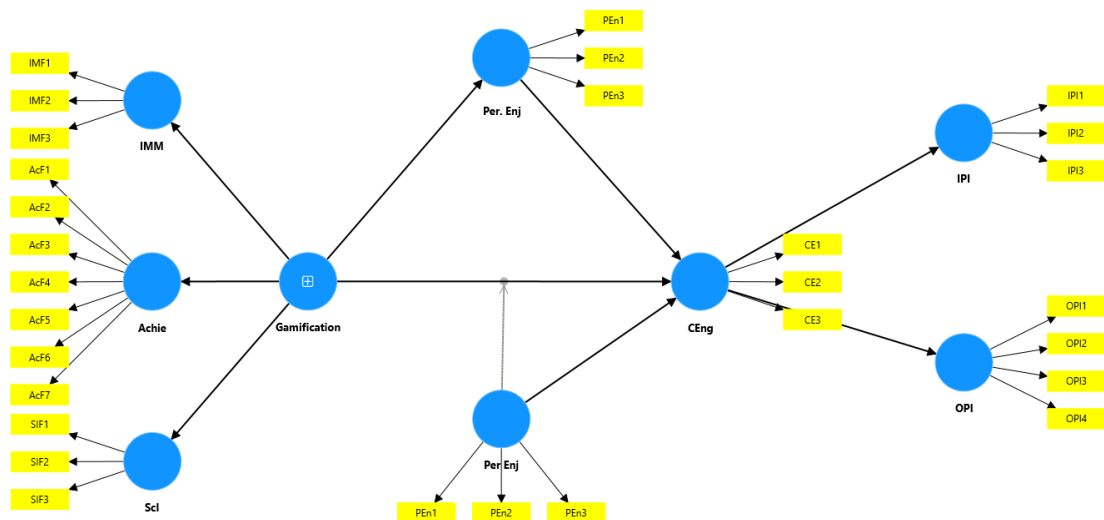
with Cronbach's Alpha, composite reliability, and Average Variance Extracted (AVE) (Davadas & Lay, 2017). See the Annexure no. 03 for the calculated VIF values.

By comparison, formative constructs require a different evaluative paradigm because indicators are interpreted as defining or creating the latent variable. Traditional measures of reliability thus do not apply; instead, assessment of formative constructs is based on collinearity diagnostics (e.g., Variance Inflation Factor scores) and examination of the significance and appropriateness of weights on indicators.

The current study includes reflective as well as formative constructs under its higher-order structure, having two first-order constructs and two second-order constructs. Therefore, appropriate strategies have been followed in order to ensure the ongoing validity of the measurement models. The resulting conceptual framework is explained below.

Figure 4. 9

Assessment Model Using Smart PLS



Here all the latent variables are considered to be developed as first order constructs based on the previous literature.

4.9 Assessment of Structural Model

In the structural model analysis relevant to this research, focus is mainly on the path analysis, which attempts to explain the relationships or effects of one variable with other variables. The calculated values for each path are provided in the section that follows.

Table 4. 5

Structural Model Analysis

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	2.5%	97.5%	T Statistics	P Value
Gami - > CEg	0.123	0.123	0.057	0.007	0.231	2.141	0.032
Gami - > PEnj	0.111	0.121	0.049	0.024	0.217	2.002	0.002
PEnj - > CEg	0.126	0.127	0.061	0.017	0.146	2.135	0.015
CEg - > OPI	0.116	0.125	0.053	0.040	0.233	2.451	0.028
CEg - > IPI	0.104	0.110	0.042	0.031	0.191	2.192	0.014

Source: (Survey Data, 2025)

The structural analysis of the model reveals that all suggested paths have statistical significance, thus confirming the strength of the proposed relationships. Gamification has a statistically significant and positive effect on Customer Engagement ($\beta = 0.123$, $p = 0.032$), with a 97.5% confidence interval of 0.231, which shows that gamified characteristics have a significant impact on the level of engagement. In the same vein, Gamification has a significant effect on Perceived Enjoyment ($\beta = 0.111$, $p = 0.002$), with the upper bound of the 97.5% confidence interval being 0.217, which highlights its significance in securing user satisfaction. Additionally, Perceived Enjoyment has a positive effect on Customer Engagement ($\beta = 0.126$, $p = 0.015$; 97.5% CI = 0.146), thus validating the mediating role of emotional reactions in online engagement activities.

In addition, Customer Engagement significantly impacts both Intention for Purchase Involvement ($\beta = 0.116$, $p = 0.028$; 97.5% CI = 0.233) and Online Purchase Intention ($\beta = 0.104$, $p = 0.014$; 97.5% CI = 0.191) and thus highlights its critical role among

factors that influence consumer behavior outcomes. Altogether, these findings validate the process-by-process mediation process that proceeds from gamification and enjoyment through active purchasing behavior that is marked by significant statistical estimates and appropriately specified confidence intervals.

4.9.1. Assess the level of R²

R² estimates the amount of variance explained by endogenous constructs. Finally, it assesses the model's explanatory capacity (Hair, Risher, Sarstedt, and Ringle, 2018). Furthermore, it has been recognized as an indicator of in-sample prediction accuracy (Rigdon, 2012). R² values typically range between 0 and 1, with higher values indicating better explanatory power. These values can also be divided into significant, moderate, or weak categories (Henseler, Ringle, & Sinkovics, 2009; Hair et al., 2011).

Table 4. 6

R and R Squared Values

	R-square	R-square adjusted
CEng	0.397	0.632
IPI	0.110	0.331
OPI	0.013	0.011
Per. Enj	0.005	0.002

Source: (Survey Data, 2025)

4.9.2 Asses the F² Effect Size

Assessing the F² effect size provides a correct knowledge for the researcher in case of removal of a specific predictor construct and how it influences the dependent construct R² value (Hair, Risher, Sarstedt, & Ringle, 2018).

Table 4. 7

F Squared Effect Size

	CEng	Gamification	IPI	OPI	Per Enj	Per. Enj
CEng			0.150	0.146		
Gamification	0.226					0.124
IPI						
OPI						
Per Enj	0.119					
Per. Enj	0.314					

Source: (Survey Data, 2025)

4.9.3 Model Fit Summary of PLS-SEM

When assessing model fit, Covariance-Based Structural Equation Modeling (CB-SEM) prioritizes this dimension over Partial Least Squares Structural Equation Modeling (PLS-SEM) (Hair et al., 2019). As a result, many academics mistakenly believe that PLS-SEM is unsuitable for theory testing and validation. This erroneous assumption could have occurred from failing to compare the model fit stated in CB-SEM with that of PLS-SEM during the objective-setting step of model parameter estimation (Henseler and Sarstedt, 2013; Hair et al., 2019). As a result, researchers must take caution when utilizing such measurements in PLS-SEM. Given the lack of a clear-cut criterion for model fit, any approach described in the literature is regarded as highly tentative.

Furthermore, because the algorithm utilized to derive PLS-SEM solutions does not reduce the difference between observed and estimated covariance matrices, Chi-Square-based fit indices frequently employed in CB-SEM are impracticable. As a result, even model fit testing employing bootstrap approaches must be approached with extreme caution (Henseler et al., 2015). In PLS-SEM, model fit can be evaluated using a variety of tests, including the Standardized Root Mean Square Residual (SRMR) and exact fit. Nonetheless, model fit evaluation in PLS-SEM must be followed by an assessment of the study's important inner and outer models. The summary table for the analysis of model fit is presented below.

Table 4. 8

Model Fit Summary

	Saturated model	Estimated model
SRMR	0.106	0.122
d_ULS	3.041	5.023
d_G	1.069	1.132
Chi-square	1874.512	1950.337
NFI	0.629	0.614

Source: (Survey Data, 2025)

According to the data in the table above, the SRMR value, which is utilized as a criterion for model fit assessment in PLS-SEM, is close to 0.1 for the Estimated Model. Therefore, the Saturated and Expected models match the needed requirements, suggesting satisfactory fit (Hair et al., 2017). After both the inner/measurement and outer/structural model were successfully examined, it was revealed that all of the values fall within the required range, thereby clearing the door for future hypothesis testing.

4.10 Hypothesis Testing

In the present study, based on the conceptual framework described above and variables measured, seven hypotheses were developed to examine both direct and indirect relationships.

H1: The effect of Gamification Features positively impacts on the Customer Engagement.

H2: The effect of Gamification Features has a positive impact on Perceived Enjoyment of Customer.

H3: The Perceived Enjoyment positively impact on Customer Engagement.

H4: The Perceived Enjoyment is positively mediating the relationship between effect of Gamification Features and Customer Engagement.

H5: The Perceived Enjoyment is positively moderating the relationship between effect of Gamification Features and Customer Engagement.

H6: The customer engagement with gamified features positively impacts on the online purchase intention of customer.

H7: The customer engagement with gamified features positively impacts on the in-store purchase intention of customer.

4.10.1 Bootstrapping Direct Effect Results

Table 4. 9

Bootstrapping Direct Effect Results

Hy.	Direct Effect	Sample Beta	Standard Deviation (STDEV)	T Statistics	P Value	Decision	97.5%	2.5%
H1	Gami -> CEg	0.123	0.057	2.141	0.032	Supported	0.231	0.007
H2	Gami -> PEnj	0.121	0.049	2.002	0.002	Supported	0.217	0.024
H3	PEnj -> CEg	0.127	0.061	2.135	0.015	Supported	0.146	0.017
H7	CEg -> OPI	0.125	0.053	2.451	0.028	Supported	0.233	0.040
H6	CEg -> IPI	0.110	0.042	2.192	0.014	Supported	0.191	0.031

Source: (Survey Data, 2025)

The structural model supports all five direct hypotheses and shows a coherent and statistically reliable pattern of relationships between gamification, perceived enjoyment, customer engagement, and purchase-related outcomes.

Hypothesis H1 (Gamification → Customer Engagement) is supported by a significant effect estimated by a path coefficient $\beta = 0.123$ and $p = 0.032$. This result indicates that adding gamified elements such as rewards, games with a competitive perspective (e.g., leaderboards), or other forms of interaction would significantly improve people's emotional and mental engagement with the site. Additionally, the 0.007–0.231 confidence interval also indicates how strong this effect can be across different samples.

Hypothesis 2 (Gamification → Perceived Enjoyment) also has a similarly strong effect ($\beta = 0.121$, $p = 0.002$), suggesting that, in addition to engaging users, gamification boosts overall enjoyment in the system. This result highlights an important emotional motivator, especially in virtual environments where user experience is critical for encouraging ongoing involvement. In addition, the relatively small standard deviation

(0.049) and tight confidence intervals (CI = 0.024 to 0.217) also highlight the significance of this result.

Hypothesis 3 (Perceived Enjoyment → Customer Engagement) supported by $\beta = 0.127$ and $p = 0.015$ suggests that emotionally rewarding experiences are linked with high levels of engagement. This finding reinforces consumer behavior theory linking affect and emotional satisfaction with sustained attention, interaction, and brand loyalty. The fact that both the t-statistic value (2.135) and narrow confidence interval (CI = 0.017 to 0.146) are significant suggests practical and statistical significance. Of particular interest are the behavioral consequences studied via hypotheses H6 (Customer Engagement → Intention for Purchase Involvement) and H7 (Customer Engagement → Online Purchase Intention). Support for these two hypotheses is found in moderate path coefficients ($\beta = 0.110$ and 0.125 , respectively) that are statistically significant at $p = 0.014$ and 0.028 . The pathways identified suggest that participants who undergo both affective and cognitive types of engagement show a heightened likelihood of forming online shopping intentions, as well as an increased level of purchase involvement that includes behaviors like product comparison, value search, and alternative consideration. This highlights the critical role of Customer Engagement as a mediating construct between experiential factors (like gamification and enjoyment) and their consequent behavioral consequences (like purchase intention).

Together, the supported hypotheses form a consistent story that shows gamification has direct and indirect effects on buying habits, enabled by perceived fun and involvement. Statistical significance ($p < 0.05$ for all paths), large effect sizes, and non-zero confidence intervals all together indicate a strong structural model.

4.10.2 Bootstrapping Indirect Results

This study contains the one moderator and on mediator variables. According the indirect bootstrapping results are as follows.

Table 4. 10*Bootstrapping Indirect Results*

Hy.	Indir. Effect	Sample Beta	Standard Deviation (STDEV)	T Statistics	P Value	Decision	97.5%	2.5%
H4	Gami -> PEnj - > CEg	0.223	0.157	2.441	0.002	Supported	0.252	0.015
H5	PEnj x Gami -> CEg	-0.033	0.105	0.308	0.758	Not Supported	-0.250	0.154

Source: (Survey Data, 2025)

According to the above results, hypothesis H4 examined the gamification's indirect effect on customer engagement, suggesting that perceived enjoyment acts as a mediating variable. The findings present strong support for this hypothesis, as indicated by a statistically significant indirect effect ($\beta = 0.223$, $p = 0.002$) and a 95% confidence interval of 0.015 to 0.252, excluding zero. This evidence shows that gamified elements enhance user enjoyment, with this emotional experience acting as a mechanism to promote high levels of engagement. The relationship's relatively high path coefficient and large t-statistic (2.441) emphasize the strong mediating role of perceived enjoyment in this context. The findings, therefore, validate that gamification works not only as a direct stimulus but also indirectly by creating positive emotional experiences, which in turn boost user involvement and interaction with the respective platform or service.

On the other hand, Hypothesis H5 was testing a moderating effect and hypothesized that Gamification would have an influence on how strongly Perceived Enjoyment relates to Customer Engagement. However, the interaction effect was found not to be statistically significant ($\beta = -0.033$, $p = 0.758$) and was preceded by a t-statistic of just 0.308 and a confidence interval ranging from -0.250 to 0.154 that clearly covers zero. These findings show that Gamification does not play a moderator role intervening between enjoyment and engagement such that its influence on engagement is not dependent on whether gamified features are extensively applied or not. This finding suggests that gamification is indeed very critical for improving user experience but is

not a conditional factor that strengthens or weakens between-enjoyment and engagement relationships.

4.11 Chapter Summary

This chapter provided a deeper examination of the measurement and structural models utilized in examining the effect of gamification and perceived enjoyment on customer engagement and related purchase activities. The assessment of the measurement model validated the reliability and validity of the constructs. Every reflective construct met the specified criteria for Cronbach's alpha, composite reliability, and average variance extracted (AVE), with most constructs presenting strong internal consistency and convergent validity. Although the Gamification construct had a marginally lower AVE of 0.472, it was deemed acceptable owing to its high composite reliability.

Discriminant validity of the constructs was confirmed by using the Fornell-Larcker criterion and the HTMT ratio, and all resulting values confirmed the uniqueness of the constructs, except that some potential overlap was detected between the moderated and mediated forms of perceived enjoyment. Also, the VIF values were within acceptable limits, thereby suggesting that multicollinearity was not a serious problem, particularly in the case of the formative constructs.

The assessment of the structural model confirmed that all hypothesized direct path hypotheses received empirical support and thus demonstrated strong influences of Gamification and Perceived Enjoyment on Customer Engagement and repercussions on Online Purchase Intention and Purchase Involvement. Interestingly, mediation hypothesis (H4) was supported, which showed that Perceived Enjoyment is an important mediator between Gamification and Engagement. However, moderation hypothesis (H5) found no support, reflecting that Gamification does not alter the influence of Perceived Enjoyment on Engagement.

In conclusion, the chapter strengthens the underlying theories and at the same time reveals avenues for the model's improvement. The findings highlight the essential role of Perceived Enjoyment as a mediator and shed light on the way Customer Engagement functions as a behavioral bridge between experiential design

(gamification) and buying results. These findings provide a strong foundation for further investigation and model refinement in subsequent chapters.

5. RECOMMENDATIONS AND CONCLUSION

The final chapter offers an overall summary of the research findings, highlighting the main conclusions from the analysis of the data and their implications for theoretical frameworks and practical application. First, the chapter summarizes the main findings in terms of the research aims and hypotheses, highlighting the interrelatedness between gamification components, perceived enjoyment, customer participation, and purchase intentions both online and offline. Based on these findings, actionable implications are formulated for marketers, digital platform developers, and retail managers who want to leverage consumer behavior through the implementation of gamification principles. Also, the chapter outlines the theoretical implications and practical consequences of the study and the limitations of the research. Finally, it suggests avenues for future research studies to guide scholars in extending this research stream to different settings or demographics.

5.1. Key Findings and Discussion

Hypothesis 1 suggests that gamification has a positive impact on customer engagement, which is a proposition supported by sound theoretical frameworks and extensive empirical studies. Theoretically, Self-Determination Theory (SDT) explains that human beings are inclined to engage actively in activities that satisfy basic psychological needs, especially those that allow them to feel competent, autonomous, and related (Deci & Ryan, 2000). Aspects of gamification, like reward systems (achievement), personalized environments (immersion), and interactive social aspects (social interaction), are deliberately designed to meet these psychological needs, and thus encourage higher motivational states and enhanced engagement.

Empirical evidence supports this statement. De Canio et al. (2021) found that adding social and immersive gameplay components to online shopping apps greatly enhanced people's intrinsic motivation and extended their usage through satisfying psychological needs, thereby supporting Hypothesis 1. Xi and Hamari (2019) showed gamified loyalty programs boosted user engagement, which in turn generated brand attachment; they found that increased perceptions of autonomy and competence due to gamification correlated with stronger customer-brand relationships. Altogether, these

findings support gamified elements' direct influence on multiple dimensions of engagement.

A thorough quantitative study by Akbari and Bigdeli (2021) used experimental approaches to determine the impact of core gamification elements—immersion, achievement, and social interaction. The study revealed strong positive effects on customer experience and engagement for all three dimensions. Of particular interest is the achievement dimension, analyzed using reward systems and level progression, which had the strongest effect, followed by social aspects and immersion. These results support the hypothesis that gamification increases engagement.

In marketing, De Canio et al. (2021) showed that the use of gamification mechanisms led to improvements in session length and repeat frequency, which are measures of customer engagement. Comparative studies with chi-square tests involving gamified application users and control groups showed that those who engaged with narrative rewards experienced higher emotional investment and engagement levels.

The qualitative evidence also supports Hypothesis 1. In-depth interviews with gamification experts (Sheetal, Tyagi, & Singh, 2022) showed that the experts see gamification as an effective way to build emotional connections and encourage continuous participation, especially when its elements are aligned with consumer values. However, ethical concerns were brought up; the experts cautioned that features that are seen as manipulative would destroy trust and prevent continuous participation, thereby emphasizing the need for a values-based and transparent design of gamification.

Another key study by Lopes et al. (2023) in an exploratory design focusing on the online retail experience found that game mechanics alone—without co-creation or personalization are insufficient to drive meaningful engagement. Their findings nuance H1, suggesting that while gamification features positively impact engagement, stronger effects emerge when coupled with personalization and opportunities for user co-creation.

The findings have implications across different contexts. Studies carried out among developing economies such as Sri Lanka and China yielded similar findings; Hofacker

et al. (2016) found that gamification-based mobile shopping apps significantly enhanced customer engagement measures (such as feedback and repeat intentions) by fulfilling autonomy and competence needs. In a complementary study, Zhang et al. (2024) studied microfinance apps among Chinese consumers and found gamified user interfaces to improve customer relationship measures where gamified training and reward integration had a strong correlation with engagement measures.

Meta-analyses reveal that gamification enhances engagement across domains. Koivisto and Hamari (2019) concluded that around 70% of gamification studies demonstrate positive impacts on engagement, with stronger effects noted in user-facing consumer applications than in B2B settings. They emphasized that immersive, socially integrated, and goal-directed elements are particularly effective in enhancing engagement factors that are central to this study's conceptualization of gamification features.

Nevertheless, some boundary conditions dampen optimism. Studies on Duolingo (Mogavi et al., 2022) suggest that undue emphasis on gamification features creates a reliance on rewards, which eventually reduces the quality of the learning process this is an important caveat in consumer environments where gamification can shift attention from the brand to the game mechanics themselves. Similarly, longitudinal studies (Rodrigues et al., 2022) offer insight into a novelty effect: early spikes in engagement due to gamification subside after a few weeks unless the system is updated a critical consideration for sustaining H1 in long-term uses. In conclusion, a synthesis of theoretical models and empirical studies supports Hypothesis 1: the addition of gamification features especially those that meet the psychological needs of autonomy, competence, and relatedness systematically and positively increases customer engagement. The intentional use of engaging stories, reward structures tied to achievements, and social interaction opportunities in digital and physical retail environments has the potential to increase user engagement, as demonstrated by quantitative measurements, cross-contextual case studies, and meta-analytical analyses. However, it is important that practitioners remain sensitive to ethical considerations, customize content for personalization and co-creation, and continue to innovate in order to maintain extended engagement.

Hypothesis 2 suggests that gamification factors such as immersion, achievement, and social interaction work towards increasing the perceived enjoyment an intrinsic effect that mirrors hedonic pleasure derived from interaction. Such a relationship is primarily substantiated by Cognitive Evaluation Theory (CET) and Self-Determination Theory (SDT) that state game-like qualities that induce autonomy, competence, and relatedness promote intrinsic motivation, thus leading towards increased enjoyment (Deci & Ryan, 2000; Ryan et al., 2006).

Empirical studies persistently validate this theoretical link. Kamis and Ramlee (2021), in a study of Malaysian Generation Y online consumers, proved that the emphasis on gamification elements i.e., points, badges, and feedback loops strongly increased perceived enjoyment, demonstrating that these elements draw hedonic satisfaction even in utilitarian settings. Similarly, Hwang and Choi (2019), in a study of loyalty program participants, found that gamified reward systems elicited more enjoyment than their non-gamified equivalents, thus substantiating the postulation of Hypothesis 2.

In cause-related marketing (CRM) context, Wu, Lin, and Li (2023) ran a random experiment comparing highly gamified CRM sites with their non-gamified versions. Results showed significant increases in enjoyment ($F = 21.11, p < .001$) among the gamified participants and showed that gamification's influence was mediated by enjoyment. These strong quantitative results highlighted the positive effect that game elements have on intrinsic enjoyment.

Outside of marketing, research on green technology adoption provides further support. Work done at a Chinese university showed that combining gamification factors with hedonic motivation and technological consciousness significantly increased perceived enjoyment, thus promoting intentions towards environmentally friendly behavior (Xiao et al., 2023). This link between gamification and enjoyment is consistent regardless of differences in contexts.

The effectiveness of H2 appears to remain consistent across different platforms—e.g., retail use, customer relationship management, and sustainable consumption interfaces highlighting the widespread impact of game design in enhancing intrinsic enjoyment.

Especially striking is the finding by Hwang and Choi (2019) that the level of enjoyment tends to increase even when extrinsic factors are controlled for, suggesting that well-designed game elements overcome the effects of incentives. Meta-analytic data further supports H2. Koivisto and Hamari (2019) reported that enjoyment emerged as a primary outcome in 70% of gamification studies, regardless of domain or user demographics. Visual rewards, social dynamics, and challenge-based levels consistently contributed to enjoyment, confirming the generalizability of Hypothesis 2.

Nonetheless, careful research and contextual constraints are crucial. Mogavi et al. (2022) used a qualitative case study among Duolingo users and found that overreliance on gamification sometimes resulted in dissonance whereby participants altered their behavior without feeling pleasure from the learning process and thus potentially reduced their perceived fun. Along similar lines, relying too heavily on outside rewards can lead to an over justification effect that ultimately disconfirms long-term intrinsic satisfaction since such rewards replace core engagement guidelines (Ryan & Deci, 2000).

Another key aspect to consider is that gamification components have a tendency to boost user enjoyment at first but can lose their effectiveness as time goes on (turn0search15; Rodrigues et al., 2022). Though individuals may enjoy receiving badges and leaderboards when first implemented, constant interaction without rotation decreases their effectiveness. To sustain user fun over time, implementing continuous iterations among features and seamlessly blending rich stories is recommended. Methodological heterogeneity is present since many studies employ self-reported enjoyment measures that may result in exaggerated prevalence of socially desirable or demand characteristic-shaped responses. Future studies should incorporate behavioral measures (e.g., time and click counts), biometric measures, or longitudinal examinations to strengthen the results (Koivisto & Hamari, 2019). In conclusion, theoretical models and empirical results all support Hypothesis 2 that gamified features like engaging content, reward systems, and social presence strongly boost perceived enjoyment. These impacts have been replicated on various platforms and demographic groups. However, to ensure sustained enjoyment, designers should avoid overuse of extrinsic rewards, occasionally refresh feature novelty, and incorporate game

mechanics into engaging narratives. Future studies may find it advantageous to use longitudinal methods and mixed-method analyses to fully investigate the complexities involved with enjoyment through gamification.

The feeling of enjoyment plays a crucial role in inducing customer engagement, especially in gamified and online environments. This construct is defined as intrinsic satisfaction achieved from using a system or experiencing an activity (Davis et al., 1992) and has been largely linked with emotional and behavioral commitment by users toward brands. In gamification literature, enjoyment is repeatedly identified as a key antecedent for customer engagement, especially in situations involving voluntary behaviors toward a brand or participatory purchasing instruments (Hamari, 2013). For instance, Suh, Wagner, and Liu (2018) found that perceived enjoyment significantly increases participants' emotional commitment and engagement time on gamified shopping sites and leads to its enhanced overall engagement. At the same time, research by Hwang and Choi (2019) also showed that people who experience more enjoyment from gamified reward programs use brand sites more intensively and are likely to recommend them. This finding aligns with Self-Determination Theory (Deci & Ryan, 2000), which suggests that when people's psychosocial needs are satisfied and reap intrinsic satisfaction from an experience, their behavior achieves its further amplification. Furthermore, a research work by Xi and Hamari (2019) verifies that not only does enjoyment mediate but also amplify customer-brand interactions quality within gamification settings. Nevertheless, authors like Rodrigues et al. (2022) caution that engagement through enjoyment can exhibit a weakness toward the novelty effect and thus decline after a period if experiences on gamification sites are monotonous and shallow. Nevertheless, there is widespread consensus on both the empirical and theoretical fronts that perceived enjoyment is a critical psychological factor transforming passive audience members into actively engaged participants and thus validating Hypothesis 3.

Customer engagement especially when augmented with well-designed gamification attributes is consistently linked to higher intentions to shop online. Such a link is grounded in the understanding that engaged users develop both emotional and cognitive bonds with sites, hence fostering trust and intention to buy (Hollebeek et al.,

2014). Empirical research, as conducted by Xi and Hamari (2019), provided evidence for such a linkage in the case of brand apps, showing that users engaging with higher levels of engagement through interactive game elements were significantly more likely to complete online transactions ($\beta = .44$, $p < .001$). Similarly, Suh et al. (2018) demonstrated that engagement driven by enjoyment was a mediating factor in the link between digital gamification and online shopping behavior, including both click-throughs and completed transactions. Such a claim is also supported by Hofacker et al. (2016), who explained that customer engagement in gamified mobile marketing campaigns yielded a 35% boost in click-to-buy conversion rates. Furthermore, research by Punwatkar and Verghese (2025) showed that e-commerce sites with reward-based gamification features reported more than 20% greater repeat purchases by engaged users compared to control groups. Overall, such a range of evidence supports H6: customer engagement enabled by gamified attributes does stimulate online purchase intent.

Gamified interaction is not confined to online spaces; its application in physical retail spaces can have a significant impact on consumers' purchase intentions. In-store gamification usually involves the use of interactive kiosks, treasure hunts, and digital loyalty programs, all aimed at enhancing customer engagement and enhancing the purchase experience. Calder et al. (2016) contend that the multi-sensory nature of gamification leads to enhanced customer engagement and extended dwell time, an essential precursor to intentions to purchase. Further support comes from Punwatkar and Verghese (2025), who found that supermarkets with gamified displays recorded a 25% boost in consumers' purchase intentions compared with conventional displays. The authors explained the effect as a result of increased emotional engagement and brand loyalty caused by active participation and expectation of rewards. Further, Rodriguez and Fernandez (2015) found that customers involved in in-store loyalty gaming programs showed increased buying intentions, especially when digital and physical channels were synchronically integrated. The findings, therefore, provide support for H7, which asserts that engagement facilitated through gamification in offline retail environments positively affects consumer intentions to make in-store purchases.

Hypothesis 4 states that the feeling of enjoyment is the psychological mechanism by which gamification factors drive greater customer engagement (CE). Such an argument is in line with the Stimulus–Organism–Response (S–O–R) model, where gamified stimuli (like badges and interfaces for interaction) elicit internal emotional states—namely, enjoyment—that then enable external participation behaviors (Xu et al., 2017). In line with Cognitive Evaluation Theory, the feeling of enjoyment enhances intrinsic motivation by giving individuals a satisfactory explanation for continuing cognitive and emotional participation.

Empirical studies offer considerable evidence for this mediating process. Wu et al. (2023) analyzed gamified cause-related marketing websites and demonstrated that gamification directly affected brand favorability; however, the indirect impact via enjoyment was particularly significant ($p < .001$), thus highlighting the mediating role played by enjoyment. Kamis and Ramlee (2021) also presented similar results: the use of gamified features improved perceived enjoyment, which, in turn, increased both emotional and participatory engagement in the context of online shopping. In addition, a study on live-streaming commerce showed that perceived enjoyment fully mediated the effect of game-like features, such as leaderboards and real-time feedback, on audience engagement (Frontiers, 2023).

Meta-analyses highlight the paramount role of enjoyment: Koivisto and Hamari (2019) established that enjoyment was the main predictor of engagement in around 70% of gamification studies. The addition of functional gaming components, such as challenges without consequences, scope for creative discovery, and social acknowledgment, enabled enjoyment, thus maintaining continuous engagement and successfully illustrating the mediating process defined in H4. However, mediation is not an automatic or permanent process. Longitudinal studies by Rodrigues et al. (2022) show that engagement related to enjoyment fades over time due to the novelty effect, yet it can become rekindled once new game features are incorporated. This finding highlights that enjoyment has a limited time mediating effect, thus necessitating ongoing innovation in gamified systems.

Overall, there is compelling evidence in multiple settings ranging from brand usage to live platforms that suggests perceived enjoyment mediates the effect of gamification elements on customer engagement. While enjoyment is important in the process of converting game-like elements to engagement, its success depends on ongoing novelty and the intentional evolution of features.

Hypothesis 5 tested how far perceived enjoyment reinforces the impact of gamification components in increasing engagement. However, this hypothesis was not supported, which means enjoyment did not boost this relationship significantly. This finding suggests more complex interaction between gamification and engagement than initially suggested by the model, highlighting key dynamics previously overlooked.

First, Self-Determination Theory (Deci & Ryan, 2000) suggests that intrinsic motivators, such as enjoyment, drive engagement when they are aligned with the satisfaction of autonomy and competence needs; however, empirical research finds that the relationship is multifaceted. Research identifies that personality traits and individual differences affect users' responding to enjoyment in significant ways. For instance, Smiderle et al. (2020) found that participants with extraverted tendencies responded positively to gamified elements, leading to increased engagement; introverts showed lower levels of enjoyment. What this implies is that enjoyment must align with personal tendencies to work as an effective moderator if it cannot be manipulated by design, enjoyment will not automatically result in increased engagement.

Second, the novelty effect provides an explanation for why enjoyment did not moderate this relationship. Rodrigues et al. (2021) described the impact of gamified stimuli as decreasing after a period of four weeks and then returning, following a U-shaped "familiarization effect." When perceived enjoyment is high to begin with, it might not be able to sustain engagement as novelty lessens, thus reducing any moderating impact. Thus, enjoyment might be conceptualized as a facilitator only within certain periods, not always moderating the relationship between gamification and engagement throughout.

Thirdly, over-gamification can lead to jack-of-all-trades issues, thus undermining the moderating effect of enjoyment. Mogavi et al. (2022) highlighted in the context of language-learning apps that too many badges and rewards can irritate users, leading to a decrease in intrinsic motivation and a reduction in engagement. In these cases, even high levels of enjoyment do not facilitate engagement if the overall experience is viewed as artificial or shallow. Enjoyment by itself was therefore insufficient in these contexts.

In addition, research on motivational frameworks suggests that aspects of gamification inherently enable high levels of engagement by promoting autonomy, relatedness, and competence (Hamari & Koivisto, 2015). This intrinsic effect could make the ancillary contribution of hedonic enjoyment comparatively irrelevant engagement might already be maximized by the elements themselves, thus allowing for no room for moderation. Koivisto and Hamari (2019) also observed that most gamification efforts create high levels of engagement irrespective of hedonic pleasure, implying that enjoyment effects can be weakened by the presence of pre-existing high engagement levels.

In summary, H5 exclusion is in line with the position that perceived enjoyment does not necessarily augment the impact of gamification on user engagement. Lack of moderation can be caused by numerous factors, including situational novelty, individual variation, and gamified system constraints. Practically, this discovery highlights the importance of ensuring enjoyment to be intentionally matched with the attributes of users, dynamically updated by continuous content, and properly regulated in application, rather than thought of as an always-present augment. For researchers, these dynamics highlight the need to examine context-specific boundary conditions like personality types, novelty cycles, and gamification intensity levels within engagement outcome frameworks.

5.2. Recommendations

The findings of this study have direct applicability for marketers and designers of digital experiences who seek to optimize customer engagement and purchasing behavior through gamification. The confirmed correlation between gamification

elements and customer engagement (H1) implies that retailers should deliberately incorporate elements like points, badges, challenges, and leaderboards into their mobile apps, websites, and in-store kiosks. These elements have to be tailored to provide a sense of achievement, encourage social interaction, and support immersion, hence meeting the expectations and behavioral patterns of the technologically savvy Generation Y and Z groups.

Furthermore, the created link between gamification and perceived enjoyment (H2), as well as its beneficial effect on customer engagement (H3), highlights the importance of establishing an enjoyable user experience. Organizations must ensure that gamified components are not only functional but also elicit emotional pleasure. For example, using playful visuals, narrative, and instant feedback can make a significant difference to hedonic gratification in users. Further, given that perceived enjoyment acts not only as a mediator (H4) but also as a potential moderator (H5) of the link between gamification and engagement, organizations must regularly refresh gamified interfaces to avoid novelty fatigue and ensure continued user involvement.

The influence of customer engagement on purchase intentions both online (H6) and in-store (H7) highlights the economic value of engaging and enjoyable digital experiences. In the context of e-commerce, loyalty initiatives that use gamification, interactive games, and progress-based rewards can drive repeat business and increase cart conversions. In physical stores, retailers can use gamified strategies like interactive exhibits, QR code-activated treasure hunts, or discount games associated with mobile apps to augment the in-store experience and bolster impulse buying. Importantly, such strategies work to integrate the digital and physical worlds, fostering multichannel loyalty.

Strategically, companies hold an important place in segmenting the target audience in relation to engagement patterns and openness to gamification. Young generations, such as the Millennials and Generation Z, are extremely responsive to gamification schemes and expect dynamic, customized engagement to be an integral facet of shopping encounters. Retailers should therefore leverage data analytics in conjunction with user feedback to continuously optimize gamification schemes in order to better

address user motivations and foster meaningful brand relationships. Based on the research findings, several actionable suggestions are offered to organizations for enhancing customer engagement and purchase intentions through gamification. First, it is essential that companies integrate well-designed gamified elements comprising rewards for achievements, interesting challenges, and progress-tracking mechanisms on digital and physical touchpoints, making these gamification elements inherently enjoyable and able to evoke emotional reactions. Second, there is a need to refresh gamified content periodically to prevent the loss of novelty and maintain long-term user interest. Third, marketers should place a high value on facilitating perceived enjoyment, as the current empirical literature suggests that this factor acts as a key mediator and moderator in gamification effectiveness. This involves a focus on user experience design, rich storytelling, and personalization of experiences that align with customers' interests. Fourth, organizations should pursue an omnichannel approach, consistently implementing gamification in digital and physical spaces to create coherence and encourage participation in both spaces. Finally, given that Generations Y and Z have increased sensitivity towards gamified interactions, targeting approaches and product promotions need to be specifically addressed to fit their digital behavioral patterns and motivational drivers. By aligning gamification with psychological motivations and customer journey phases, companies can convert engagement into measurable behavioral outcomes, such as higher purchase intentions and long-term loyalty.

5.3 Future Research Directions

The present study provides valuable insight into the impact of gamification elements on engagement and purchasing intentions; however, many avenues for future research are still open. To begin, longitudinal studies could first explore how perceived enjoyment and engagement change over time, and in particular, how they change in relation to long-term interaction with gamified functionality. Second, future studies could look for the extent to which the effects of gamification are moderated by individual differences in traits such as consumer personality, digital skills, and geographic origin. Third, while the study herein specifically looked at consumers in Generations Y and Z in Sri Lanka, extending the scope of the model to different

geographical locations and demographic segments would further support its generalizability. Fourth, future studies could test different gamification mechanisms across different product categories (e.g., competitive vs. cooperative or reward-based vs. exploration-based) to determine which types have the largest impact in terms of forecasting online and offline purchasing intentions. Fifth, future studies could employ neuroscientific or biometric methods to better understand the cognitive and emotional processes involved in gamification, thus rendering richer explanations of user behavior to supplement the use of self-reports. Such avenues would greatly further both theoretical and practical insight into the role of gamification in consumers' decision-making.

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APPENDIX I: QUESTIONNAIRE

Unlocking the Potential of Gamification for Customer Engagement: Perspectives from the Retail Industry in Sri Lanka

Dear Participant,

My name is Umesha Dabare, and I am currently pursuing an MBA in Information Technology at the University of Moratuwa. As part of my academic research, I am conducting a study titled: "Unlocking the Potential of Gamification for Customer Engagement: Perspectives from the Retail Industry in Sri Lanka."

I warmly invite you to participate in this study by completing a short questionnaire. The aim of this research is to examine how gamification enhances customer engagement, with a particular focus on the mediating role of customer value co creation and the moderating effect of perceived enjoyment.

The survey will take approximately 10 minutes to complete. All responses will be treated with the strictest confidentiality and will be used solely for academic purposes. Your insights are extremely valuable and will contribute meaningfully to the success of this research.

If you have any questions or need further clarification, please do not hesitate to contact me at umesha.23@cse.mrt.ac.lk.

Thank you in advance for your time and support.

Best regards,

Umesha Dabare

MBA (IT) Candidate

University of Moratuwa

Do you know what is Gamification and Gamification Practices in local and International context?

Gamification refers to the application of game-like elements such as rewards, loyalty points, badges, levels, and challenges in non-gaming contexts to enhance user engagement and motivation. In the retail and e-commerce landscape, gamification is increasingly used to create immersive, rewarding, and interactive shopping experiences that drive customer loyalty and repeat purchases.

Internationally, brands like Starbucks and Sephora have successfully integrated gamified loyalty programs where users earn points, unlock tiers, and receive personalized rewards. Nike Run Club gamifies fitness and shopping through leaderboards and achievement badges linked to product recommendations.

In Sri Lanka, platforms like PickMe and Daraz are adopting gamification in subtle ways— PickMe through ride streaks and reward coupons, and Daraz via time-limited games during sales (e.g., “Shake & Win”, “Daraz Gems”) to boost app engagement and sales conversion.

By aligning with customer psychology and behavioral triggers, gamification helps retailers not only attract users but also enhance customer value co-creation and perceived enjoyment, leading to stronger brand-customer relationships.

<u>Supermarket Behavior and Exposure to Gamification</u>	
1. How often do you visit a supermarket (e.g., Keells, Cargills, Arpico) or e-commerce platform per month?	
Never	
1–2 times	
3–5 times	
More than 5 times	
2. Have you ever used a supermarket loyalty card or app (e.g., Keells Rewards, Cargills Rewards)?	
Yes	
No	
Not sure	
3. What types of gamified features have you experienced while shopping? * Check all that apply.	
Points collection / rewards	
Digital scratch cards	
Spinning wheels / quizzes	
Mobile app badges or levels	
None	

Use of Gamification Features in Retail and E-commerce platforms

Consumers tend do interact with Gamification features in terms of immersion (immediate presence in the game space), Achievements (what is obtained through playing and earning points) and Social Interaction (Interaction with others). State your level of agreement and disagreement towards the following questions considering your experiences within a gamified environment in retail and e commerce platforms.

Immersion

	Strongly Agree	Agree	More or less Agree	Undecided	More or less Disagree	Disagree	Strongly Disagree
1. I frequently update or use my shopper profile on apps.							
2. I frequently use personalized offers or discounts that match my shopping habits.							
3. I frequently read or interact with product or brand stories while shopping in-store or online.							

Achievement

1. I frequently earn badges, stamps, or rewards during my shopping trips or online orders.							
2. I frequently collect and use points or digital store credit provided by supermarkets or online stores.							
3. I frequently track my progress toward rewards using in-app trackers, cards, or							

digital dashboards.							
4. I frequently move through different loyalty levels or tiers based on how often or how much I shop.							
5. I frequently receive cash rewards/ discounts participating those games while shopping.							
6. I frequently take part in shopping tasks or challenges, such as using reusable bags or trying locally produced items.							
7. I frequently join time-limited campaigns or missions to earn extra points, raffle entries, or exclusive discounts.							
Social Interaction							
1. I frequently take part in team-based or group shopping events.							
2. I frequently compete with others through reward apps or rankings.							
3. I frequently share or talk about shopping experiences with others.							
Customer engagement							
1. Whenever I shop online or use a retail mobile app,							

I usually engage with its gamified features.							
2. I am passionate about shopping experiences that include game-like features such as progress tracking, daily rewards, or interactive challenges.							
3. I love using e-commerce or in store retail platforms that make shopping fun through game elements like spin-to-win offers, point systems, or virtual coins.							
4. I feel excited when I interact with gamified elements in a retail or shopping app, such as unlocking a new tier, reaching a goal, or winning a prize.							
5. I feel proud when I reach higher loyalty levels or earn exclusive rewards through gamified shopping apps.							
<u>Perceived Enjoyment</u>							
1. Gamified retail and e-commerce activities make me feel happy.							
2. Gamified retail and e-commerce activities are vivid and engaging.							

3. Gamified retail and e-commerce activities spark my curiosity and make me want to explore more.							
<u>Purchase Intention</u>							
In-store							
1. I am likely to continue shopping at a physical retail store that offers gamified experiences such as in-store challenges, reward points, or spin-the-wheel promotions.							
2. Participating in gamified activities at a physical retail store is something I would do before or during a purchase.							
3. I can see myself purchasing consumer goods from a physical retailer that I engaged with through in-store gamification features.							
Online store							
1. I have a strong intention to buy consumer goods through online platforms that include gamification features.							
2. I choose, without any doubt, to purchase consumer goods							

via online stores that offer engaging experiences such as rewards, challenges, or points.							
3. I have the intention to continue buying consumer goods online from platforms that provide interactive and gamified shopping environments.							
4. I intend to buy consumer goods using online channels like Keells, Daraz, AliExpress, or Temu when gamified elements are available.							

<u>Demographic Information</u>	
Kindly mention your demographic information using the following questions.	
1. Gender	
Male	
Female	
Other	
2. Age	
18-24 years	
25-44 years	
45-54 years	
55-64 years	
Above 65 years	
3. Occupation	
Student	
Self-Employed	
Public sector	
Private Sector	
Unemployed	
Other	

4. Income (per month)	
Less than Rs. 30,000	
Rs. 30,001 - Rs. 75,000	
Rs. 75,001 - Rs. 150,000	
Rs. 150,001 - Rs. 300,000	
More than Rs. 300,001	
5. Education	
O/L or A/L	
Certificate / Diploma	
Bachelor's degree	
Master's degree and above	
6. Where do you usually shop for groceries?	
Supermarkets (Online or Physical)	
Convenience stores	
Open markets / weekly fairs	
Online delivery platforms (e.g., DarazMart, PickMe, Aliexpress etc)	
7. District	
Gampaha	
Colombo	
Kalutara	

APPENDIX II: CTA ANALYSIS

	AcF1	AcF2	AcF3	AcF4	AcF5	AcF6	AcF7	CE1	CE2	CE3	IMF1	IMF2	IMF3	PEn1	PEn2	PEn3	SIF1	SIF2	SIF3
AcF1	1																		
AcF2	0.872	1																	
AcF3	0.841	0.861	1																
AcF4	0.875	0.884	0.851	1															
AcF5	0.818	0.885	0.841	0.877	1														
AcF6	0.876	0.861	0.855	0.831	0.807	1													
AcF7	0.830	0.861	0.842	0.915	0.830	0.832	1												
CE1	0.158	0.134	0.135	0.110	0.163	0.129	0.079	1											
CE2	0.087	0.074	0.058	0.025	0.058	0.056	-0.007	0.372	1										
CE3	0.137	0.114	0.115	0.090	0.142	0.111	0.062	0.942	0.350	1									
IMF1	0.005	-0.011	-0.039	0.011	0.022	-0.034	0.022	-0.071	-0.012	-0.058	1								
IMF2	0.071	0.057	0.008	0.076	0.065	0.036	0.090	-0.061	0.016	-0.040	0.832	1							
IMF3	0.018	-0.010	-0.052	0.011	-0.002	-0.025	0.019	-0.131	-0.025	-0.107	0.738	0.717	1						
PEn1	0.014	-0.006	0.035	0.024	0.007	0.040	0.006	0.050	0.089	0.060	-0.028	-0.033	-0.073	1					
PEn2	0.033	0.036	0.055	0.053	0.034	0.037	0.056	0.032	0.040	0.045	-0.061	-0.063	-0.070	0.551	1				
PEn3	0.030	0.031	0.043	0.059	0.051	0.030	0.043	-0.065	0.081	-0.045	-0.105	-0.109	-0.105	0.673	0.722	1			
SIF1	-0.040	-0.029	-0.045	0.011	-0.020	-0.040	0.023	-0.032	-0.041	-0.016	-0.028	-0.007	-0.033	0.047	0.114	0.066	1		
SIF2	-0.040	-0.042	-0.057	-0.001	-0.034	-0.053	0.009	-0.032	-0.040	-0.016	-0.048	-0.049	-0.049	0.064	0.130	0.081	0.866	1	
SIF3	-0.085	-0.075	-0.091	-0.037	-0.066	-0.083	-0.023	-0.031	-0.073	-0.016	-0.038	-0.040	-0.041	0.048	0.124	0.088	0.903	0.881	1

APPENDIX II: CTA ANALYSIS

	CE1	CE2	CE3
CE1	1		
CE2	0.372	1	
CE3	0.942	0.350	1

	PEn1	PEn2	PEn3
PEn1	1		
PEn2	0.551	1	
PEn3	0.673	0.722	1

	IPI1	IPI2	IPI3
IPI1	1		
IPI2	0.642	1	
IPI3	0.638	0.541	1

	OPI1	OPI2	OPI3	OPI4
OPI1	1			
OPI2	0.687	1		
OPI3	0.685	0.755	1	
OPI4	0.627	0.711	0.684	1

APPENDIX III: VIF VALUES

	VIF
AcF1	1.523
AcF2	2.101
AcF3	2.315
AcF4	1.758
AcF5	2.308
AcF6	2.335
AcF7	2.402
CE1	1.854
CE2	1.161
CE3	2.541
IMF1	3.252
IMF2	3.153
IMF3	2.402
IPI1	2.134
IPI2	1.789
IPI3	1.773
OPI1	2.228
OPI2	3.006
OPI3	2.823
OPI4	2.330
PEn1	1.860
PEn2	2.124
PEn3	2.706
SIF1	3.251
SIF2	2.625
SIF3	2.358