UNIVERSITY OF TWENTE.

University of Twente

Faculty of Behavioral, Management, and Social Sciences

The role of gamification in shaping customer retention: A generational perspective

Master Thesis

Master of Science (M. Sc.) Business Administration

Strategic Marketing & Servitisation

Name: Theresa Brinkmann

Student number: s3349136

1st supervisor: Dr. A. Leszkiewicz

2nd supervisor: Dr. R.P.A. Loohuis

July 2025

AI statement

In the completion of this master thesis, I have made limited use of the AI tools to support the writing process. The assistance provided was limited to:

- Finding connected papers
- Grammar checking
- Wording improvements
- Minor corrections to sentence structure and clarity

The use of AI tools did not involve the generation of original ideas or content, nor was it used to write substantial parts of the assignment. All intellectual work, critical thinking, and research were conducted independently.

Sample prompt used: *"Can you check this paragraph for grammar and suggest improvements to make the language more academic but still natural?"*

I confirm that the final submission reflects my own understanding and academic effort, and the use of AI tools was in line with the university's academic integrity guidelines.

Abstract

Gamification has emerged as a popular strategy to boost customer retention, but does it work equally well for everyone? This thesis explores how gamified systems influence user loyalty and how age-related differences shape their effectiveness. Using a mixed-methods design, including a gamified experimental survey, quantitative analysis, and qualitative thematic insights, this study offers a comprehensive look into the mechanics of user engagement.

Findings show that gamification can strengthen customer retention, but its success depends heavily on the design of the system and the demographic it targets. While younger users were drawn to playful, symbolic features like streaks and badges, older users responded more positively to structured, benefit-driven elements such as point systems and discounts. These generational patterns reveal distinct motivational profiles, challenging the notion of a one-size-fits-all approach.

Ultimately, gamification is most effective when it aligns with users' psychological needs and expectations. This thesis contributes to academic literature and design practice alike by showing that meaningful, age-sensitive gamification can foster long-term user engagement and loyalty.

Keywords *– Gamification, Customer Retention, Brand Loyalty, Generational Differences, Motivation, Psychological Needs, User Engagement, Mixed-Methods Research*

Table of contents

List of figures

List of tables

Introduction

Gamification, the integration of game-design elements like points, challenges, and rewards into non-game contexts, has become a prominent tool for enhancing customer retention and loyalty (Deterding et al., 2011a). Its effectiveness lies in its ability to influence psychological mechanisms such as goal setting, reward anticipation, and intrinsic motivation. By introducing elements of challenge and achievements, gamification taps into users' natural desire for progress, competition, and recognition. These mechanics not only keep users' attention spans engaged for longer periods but also foster a sense of accomplishment, which can create deeper emotional connection to a product or service (Alsawaier, 2017).

For businesses, gamification provides a framework to increase user interaction frequency and build sustained relationships by fostering loyalty. Gamified systems encourage repeat engagement through mechanisms like points or rewards. These elements motivate users to return by making them feel invested. Customers are less likely to disengage when they do not want to lose their progress or rewards (Alsawaier, 2017). Moreover, gamification offers a data-rich environment, allowing firms to understand user behavior and preferences better. Further, businesses can use this information to improve their strategies and build long-term customer loyalty (Jacobides et al., 2024).

However, the effectiveness of gamification is not universal. Preferences and retention patterns for game elements often vary significantly between demographic groups, particularly across age groups. Generational cohorts, shaped by distinct socio-cultural and technological contexts, respond differently to gamification strategies. For instance, younger generations, often more familiar with digital tools, might prefer fast paced and visually rich gamified experiences. On the other hand, older generations might favor intuitive and purpose-driven designs (Caserman et al., 2023).

Despite the relevance of these differences, there is limited empirical research exploring how preferences for gamification elements vary between generations. This research seeks to fill this gap by investigating the engagement levels and loyalty associated with gamifications elements among older and younger users.

The central research question guiding this study is:

"How does gamification influence customer retention, and how do generational differences shape its effectiveness?"

To explore this question in depth, the study is divided into two parts, each addressing a distinct sub-question *"What connection between gamification, customer retention and loyalty – including underlying psychological needs – can be identified?"* and *"How do gamification elements influence customer retention and loyalty across different generational cohorts?"*. These questions serve as the foundation for investigating both the direct impact of gamification on customer retention and its psychological mechanisms, as well as how these effects vary across age groups.

To comprehensively address these questions, this thesis is structured in two distinct parts. In Part 1 – Theoretical Framework, existing literature is systematically reviewed to uncover how gamification influences customer retention and loyalty, and which psychological needs underlie these effects. The first sub-question is addressed in Part 1 through existing literature and further tested in Part 2 using empirical data to confirm, complement, or contrast the theoretical insights.

In Part 2 – Empirical Study, participants from younger and older generational cohorts complete a structured survey to address the second sub-question. The survey is implemented using the Qualtrics platform, which supports experimental research through features such as randomization, logic flows, and the integration of multimedia elements (Qualtrics, 2024). This enables precise control over the survey experience and allows for a systematic comparison of how different age groups respond to gamification. By analyzing these responses, the study seeks to uncover generational patterns in customer retention and loyalty, ultimately providing actionable insights for designing more effective and inclusive gamification strategies.

Main concepts and theoretical domains

To explore the outlined research questions, the study builds on key concepts, established theoretical frameworks, and a structured research design.

The main concepts include the fundamental gamification elements, such as points, badges, and challenges, which serve as the foundation of this research. These elements motivate users by addressing intrinsic needs like achievements and social connection (Deterding et al., 2011a).

Generational differences further contextualize the study by examining how shared historical, cultural, and technological experiences influence users' interaction with gamified systems. For example, younger generations might appreciate competitive features like leaderboards, while older generations might be more enthusiastic for cooperative or narrative-driven gamification designs (Koivisto & Hamari, 2014).

Customer retention and loyalty are here treated as outcomes of effective gamification. In this study, retention refers to a customer's continued engagement with a brand or platform over time, while loyalty denotes a deeper, affective commitment that drives repeat behavior. Both constructs will be operationalized through participants' self-reported intentions to return and recommend the platform, as well as behavioral proxies such as stated likelihood to re-engage and tracking hypothetical "re-visit" choices in the survey.

The theoretical framework includes the Self-Determination Theory (SDT), which explains how gamification satisfies psychological needs for autonomy, competence, and relatedness, driving motivation and engagement (Ryan & Deci, 2000). Generational Cohort Theory provides additional insights into how generational behaviors and preferences are shaped by shared socio-cultural and technological contexts. Together, these constructs determine participants' attitudes toward gamification, which subsequently impacts their engagement and sustained interaction. Together, these frameworks illuminate how gamified elements foster psychological satisfaction, which in turn supports customer retention and loyalty (Caserman et al., 2023; Jain & Dutta, 2018).

Scientific and practical contribution

This study advances gamification research by deepening the understanding of generational differences in customer retention and loyalty driven by gamification elements. By capturing user-specific responses through Qualtrics, it sheds light on how gamified features satisfy psychological needs – such as autonomy, competence, and relatedness – and translate into repeat usage and affective commitment across age cohorts. Methodologically, the flexible, data-driven capabilities of Qualtrics enable precise measurement of retention and loyalty indicators, offering a scalable template for future digital engagement research (Qualtrics, 2024). Practically, the insights generated will guide businesses in designing gamification strategies that resonate with diverse generations, ultimately boosting customer satisfaction, fostering long-term loyalty, and reducing churn through more inclusive and targeted digital experiences.

Theoretical framework

Definition

In this thesis, gamification is understood in line with Deterding et al. (2011a), who define it as "the use of game design elements in non-game contexts," aiming to enhance user engagement,

motivation, and participation. Key elements such as points, badges, rewards, and challenges are outlined as tools to influence behavior and achieve desired outcomes (Schöbel et al., 2020).

These key gamification elements not only encourage interaction but also play a significant role in fostering customer retention, which is the ability of a company to maintain long-term relationships with its customers by building loyalty, satisfaction, and trust. By keeping existing customers engaged and reducing churn, customer retention becomes vital for sustaining profitability and growth (Zhang et al., 2024). Gamification supports this process by creating engaging and rewarding experiences that encourage consistent user interaction and long-term loyalty (Jacobides et al., 2024).

Points are one such gamification element, used to rewards users for completing specific actions, providing immediate feedback and a sense of accomplishment (Nicholson, 2012). For example, on Duolingo, users earn points for completing language lessons, encouraging consistent learning and progress tacking. Another element are leaderboards, which display a ranked list of users based on their performance, fostering competition and social comparison. For instance, in an online platform learning, a leaderboard might rank students based on the number of completed lessons, motivating them to stay engaged and improve their standings (Schöbel et al., 2020).

To ensure conceptual clarity, gamification is distinguished from related terms. For instance, game-based learning refers to the use of complete games for educational purposes, whereas gamification applies only selective game elements (Alsswey & Malak, 2024). Similarly, serious games are explicitly designed for purposed beyond entertainment, such as training or social impact, while gamification incorporates game mechanics into pre-existing system without being standalone games. Additionally, there exists ‘non-functional gamification’, where game elements, for instance steaks on Snapchat, are used purely for engagement without a tangible benefit or greater meaning. This form of gamification focused on maintaining user interaction through intrinsic enjoyment or habit rather than functional rewards (Deterding et al., 2011a; Nicholson, 2012). Depending on the form of gamification, its effectiveness can vary, and especially the usage and engagement with gamification may differ across generations.

By integrating these game elements thoughtfully, businesses can enhance customer engagement while fostering loyalty and repeat interactions. This dual impact highlights gamification’s potential as a strategic tool for customer retention, ensuring that users remain active and invested over time.

Systematic literature review

This chapter adopts a systematic literature review (SLR) to explore the relationships between gamification, customer retention, and loyalty. While the first sub-question of this thesis *"What connection between gamification, customer retention and loyalty – including underlying psychological needs – can be identified?"*, is addressed in this chapter through existing research findings, additional insights will be gained and discussed later in the results chapter based on the empirical data collected through the survey.

A systematic review offers a structured, transparent, and replicable method for identifying, selecting, and synthesizing academic relevant. By systematically reviewing the literature, this study ensures a comprehensive analysis of existing findings while minimizing bias and enhancing the reliability of conclusions (Kitchenham, 2004). Given the growing interest in gamification as a marketing tool, an SLR is particularly appropriate for analyzing how specific gamified elements influence long-term customer outcomes such as loyalty, retention, and reduced churn. This review forms the theoretical basis for a broader study, which will later include empirical research into generational differences in gamification effectiveness. However, the scope of the present review remains focused on the general link between gamification and customer retention and loyalty.

Search strategy

For the literature review, two academic databases – Scopus and Web of Science – were selected due to their breadth, indexing quality, and focus on peer-reviewed literature in business, marketing, psychology, and technology fields. The search was conducted in two phases to address both the core research interest and an exploratory angle related to generational cohorts. The first and primary search query was designed to capture the general relationship between gamification and customer retention or loyalty. For this query, two conceptual blocks were developed. In order to identify suitable and precise keywords, existing gamification literature was reviewed and analyzed to inform the search strategy. Based on this review, the first search conducted using the following keywords for the query: ("TITLE-ABS-KEY" and "Topic", respectively), in the following way: (Gamification OR "game design elements" OR "gameful design") AND ("Customer retention" OR "customer loyalty" OR churn OR "user loyalty"). The research resulted in a total of 68 documents from Scopus and 38 documents from Web of Science.

Concepts	Keywords
1. Gamification	Gamification OR "game-design elements" OR “gameful design”
2. Customer retention and loyalty	"Customer retention" OR "customer loyalty" OR churn OR “user loyalty”
Final search: #1 AND #2	

Table 1. Primary concepts and keywords of the search strategy.

To ensure the inclusion of high-quality and relevant studies, this study applied specific inclusion and exclusion criteria in the next step of the selection process. For example, inclusion criteria focus on selecting empirical, peer-reviewed research published in English since 2013, ensuring that only recent and methodologically sound studies are considered. Further, an open access availability was needed to ensure accessibility for full-text review. After applying these filters to the search query, a final of 13 documents on Scopus and 10 documents on Web of Science were left. The chosen detailed inclusion and exclusion criteria will be discussed later on.

While the first query forms the foundation of the review, a second, more specific query was conducted to explore the presence of generational difference in the literature. This decision was based on the recognition that while generational cohorts are central to the broader study, early scoping revealed that few empirical studies explicitly examine how age-based differences moderate the effectiveness of gamification on customer outcomes.

The second query therefore included the same core keywords for gamification and customer retention and loyalty but added a third conceptual block focused on generational cohorts. The following keywords were used: (“TITLE-ABS-KEY” and “Topic”, respectively), in the following way: (Gamification OR "game design elements" OR "gameful design") AND ("Customer retention" OR "customer loyalty" OR churn OR “user loyalty”) AND (Generation* OR “generational differences” OR “generation Z” OR “gen Z” OR “generation X” OR “gen X“ OR “baby boomers” OR cohort OR “age differences”).

Concepts	Keywords
3. Gamification	Gamification OR "game-design elements" OR “gameful design”
4. Customer retention and loyalty	"Customer retention" OR "customer loyalty" OR churn OR “user loyalty”
5. Generational cohorts	Generation* OR “generational differences” OR “generation Z” OR “gen Z” OR “generation X” OR “gen X“ OR “baby boomers” OR cohort OR “age differences”
Final search: #1 AND #2 AND #3	

Table 2. Second query with ‘generational cohorts’ as third concept.

The second query was not designed to form the basis of the core analysis but to support the identification of research gaps and serve as a secondary source of insight for future research

directions. In Scopus and Web of Science together, this search resulted in eight documents without any selected filters and in total with inclusion and exclusion criteria of three documents. These three final papers were already identified in the first search query, confirming their relevance to both the core and exploratory focus areas of this review.

After both searches were completed, all results were screened for relevance and quality. Titles and abstracts were reviewed to ensure alignment with the review's objectives. To ensure methodological rigor and relevance, the above-mentioned set of inclusion and exclusion criteria was defined and applied. To repeat only studies were included if they were peer-reviewed journal articles published between 2013 and 2025, written in English, and focused on gamification within the context of customer retention, loyalty, or churn in commercial or consumer-facing settings. Only empirical and conceptual studies that provided theoretical or data-driven insight into the effects of gamification on customer-related outcomes were considered. Studies were excluded if they focused on unrelated domains such as education or healthcare, or if they lacked substantive empirical or conceptual analysis. Non-peer-reviewed material and duplicate entries across databases were also removed.

The selection process was conducted in accordance with PRISMA (Preferred Reporting Items for Systematic Review and Meta-Analyses) guidelines. The review followed four key stages: identification, screening, eligibility, and inclusion. The identification stage involved running the queries across both databases. During the screening stage, duplicated were removed, and irrelevant titles and abstracts were excluded. Full texts of potentially relevant studies were then assessed in the eligibility phase using the inclusion and exclusion criteria described above. A PRISMA flow diagram will be provided in Appendix A to visualize the selection process and document the number of articles reviewed at each stage.

By adopting this structured and staged approach, the review ensures that the final dataset includes only high-quality studies that directly inform the relationship between gamification and customer loyalty or retention, while also highlighting areas where future research – particularly on generational differences – can be make a meaningful contribution.

The table in Appendix B provides an overview of the 12 reviewed papers, including publication details, methodologies, and sample characteristics. The articles are listed in alphabetical order by first author's last name.

Findings

This section presents a comprehensive analysis of 12 peer-reviewed articles investigating the role of gamification in driving customer loyalty and retention to answer the first sub-question. The findings are structured around three major thematic streams identified across the studies: (1) motivational mechanisms, (2) gamification strategies across platforms and industries, (3) methodological diversity and research limitations. Additionally, a focused discussion is provided on the underexplored but increasingly relevant concept of generational cohorts.

Motivational mechanisms driving retention

A prominent theme in the literature is the dual role of intrinsic and extrinsic motivation in shaping the effectiveness of gamification in customer retention. Several studies draw upon Self-Determination Theory (SDT) to explain how gamification fulfills psychological needs and promotes sustained behavior.

Sailer et. al (2016) conducted an experimental study and confirmed that specific game elements such as points, levels, and leaderboards influence psychological needs like competence, autonomy, and relatedness. Their results indicated that fulfilling these needs leads to increased motivation and longer engagement with digital services. This aligns with Jacobides et al. (2024), who argue that gamification, when aligned with personal values and identity, creates deeper, more enduring engagement than when driven by superficial rewards.

Similarly, Butt et al. (2024) found that gamified mobile payment platforms (e.g. WeChat) increased word-to-mouth behavior and customer loyalty by promoting user enjoyment and perceived competence. These results were particularly strong among younger users, suggesting that gamification effectively supports both emotional and behavioral loyalty.

However, the use of extrinsic motivators such as points and rewards remains prevalent. Behl and Pereria (2021) tested a gamified loyalty app using scratch-card mechanics and found significant short-term increases in repeat usage. Ho, Liu, and Wang (2022) also observed that simple game-based incentives in a shopping app drove increased visit frequency. While effective in the short term, both studies caution that over-reliance on extrinsic motivators may fail to sustain long-term loyalty unless accompanied by deeper emotional engagement.

Triantoro et al. (2019) explored gamification in the context of survey participation and found that gamified elements improved engagement and response quality, particularly among younger users Though not directly linked to commercial loyalty, the findings reinforce the broader view that gamification boosts user participation through motivational enhancement.

Gamification strategies

The versatility of gamification is evident in its successful application across a wide array of industries. Studies in e-commerce, retail, microfinance, gastronomy, and corporate learning show that context-specific design is crucial for gamification effectiveness.

In the financial sector, Liu et al. (2024) analyzed the impact of gamification in customer relationship management in microfinance. Their findings revealed that gamification elements increased customer engagement, enhanced trust, and improved CRM performance. These results are also seen in Butt et al. (2024) research, where gamification within mobile payments increased both transactional frequency and social engagement.

In retail and e-commerce, Ho et al. (2022) tested a randomized field experiment and concluded that gamified shopping experiences foster repeat behavior through the use of dynamic reward systems. Hosseini and Rezvani (2021), analyzing gamified e-commerce platforms in Iran, found that trust signal – like badges, rankings, and feedback loops – enhanced customer loyalty. Interestingly, they note that culturally sensitive gamification design is essential for effective user engagement.

Gamification has also been applied in more specialized sectors. Prott and Ebner (2020) studied gastronomic surveys and found that gamified questionnaires increased user participation and satisfaction. Their study supports the idea that gamification can improve data collection and feedback quality, especially in customer experience initiatives.

In corporate environments, Sam-Epelle et al. (2022) explored how enterprise gamification evolved in digital transformation efforts. Their findings highlight the role of value-based design in aligning gamified systems with strategic business objectives. This theme is reinforced in Jacobides et al. (2024), who position gamification as a long-term capability for firms aiming to develop durable customer relationships.

Across sectors, gamification is shown to be most effective when integrated with platform goals, user expectations, and cultural considerations. Studies agree that gamification is not a one-size-fits-all solution, and its effectiveness is highly contingent on design quality and contextual fit.

Generational cohorts in gamification

Though rarely a primary focus, several studies hint at the potential impact of generational differences on gamification effectiveness. Caserman et al. (2023) provide the most comprehensive investigation by comparing generational attitudes toward gamification in large corporations. Their findings show that younger employees (Generation Z, Millennials) prefer

fast-paced, competitive, and visually engaging designs, while older employees value clarity and purpose-driven features.

Butt et al. (2024) found that gamified features in mobile payment apps were more effective among younger users, particularly in promoting social interaction and emotional engagement. Ho et al. (2022) also observed that younger shoppers responded more favorably to game-based incentives in retail apps. While neither study tested generational cohorts as a formal variable, their observations align with theoretical expectations.

These findings suggest that gamification should be personalized across generational lines, but systematic empirical testing is still lacking. Future research would be benefit from integrating generational variables into study designs to explore how different age groups experience, engage with, and respond to gamified systems.

A research model summarizing the main relationships between gamification elements, psychological needs, generational cohorts, and user engagement – as identified across the reviewed literature – can be found in the Appendix C.

Methodological diversity and limitations

The reviewed studies exhibit diverse methodologies, though a dominant preference for quantitative research is apparent. Of the 12 articles, eight employed quantitative methods, including surveys, experimental designs, and structural equation modeling (SEM). Three studies used qualitative or mixed methods, including interviews and case study analyses.

Ho et al. (2022) and Behl & Pereira (2021) both applied experimental design in real-world settings, enhancing the ecological validity of their findings. Sailer et al. (2016) conducted a controlled lab experiment, offering strong internal validity but limited generalizability. Most survey-based studies used validated constructs of loyalty, engagement, and motivation, yet few offered longitudinal perspectives on user behavior.

The lack of long-term tracking represents a major limitation. While several papers show positive effects of gamification on short-term retention or user satisfaction the sustainability of these outcomes remains untested. Additionally, definitions of loyalty vary, with some papers using behavioral measures and other using attitudinal constructs, complicating study comparisons.

Another critical limitation is the underrepresentation of demographic variables, especially age, cultural background, and technological familiarity. Many studies use homogenous samples,

limiting generalizability. Only a few papers explicitly address the role of user characteristics in shaping gamification responses.

Implications and directions for future research

The reviewed literature provides strong support for the use of gamification as a tool to enhance customer retention and loyalty. When effectively designed, gamified systems engage users through both intrinsic and extrinsic motivators, promote emotional brand attachment, and encourage repeat behavior. These findings have practical implications for businesses seeking to create long-term customer value through interactive and personalized experiences.

However, several gaps in the existing research highlight important directions for future studies. First, most studies focus on short-term outcomes, leaving the long-term impact of gamification on loyalty largely untested. There is a clear need for longitudinal research that examines the sustainability of gamification effects over time. Second, the definition and measurement of loyalty vary considerably across studies, complicating comparisons and generalization. Developing standardized loyalty constructs could improve future research coherence.

A particularly underexplored area is the role of demographic moderators, especially generational cohorts. While some studies observe age-related preferences in gamified experiences, none conduct structured generational comparisons or integrate generation as a moderating factor in their models. Understanding how different age groups engage with gamification would allow for more targeted and inclusive design strategies.

Building on the insights gained from the reviewed literature, the following conceptual model is developed to guide the empirical investigation of this thesis. It addresses the identified research gaps by integrating motivational theory with demographic perspectives.

Conceptual model

The conceptual model below investigates the impact of gamification on customer retention, engagement, and loyalty. It integrates two theoretical lenses. The Self-Determination Theory (SDT) to explain motivational mechanisms (Ryan & Deci, 2000) , and the Generational Cohort Theory to account for individual differences across age groups. In this framework, gamification elements function as the independent variable, customer retention, engagement, and loyalty serve as the dependent variables, while psychological needs are proposed as mediators and generational cohorts as moderator.

Gamification typically includes points, badges, challenges, leaderboards, and rewards. These elements are widely used in customer platforms to enhance motivation and behavioral outcomes (Sailer et al., 2016; Alsawaier, 2017).

In this model, gamification is expected to activate core psychological needs describes in the Self-Determination Theory – autonomy, competence, and relatedness – which collectively serve as motivational mechanisms. Rather than measuring these psychological needs separately, this study treats them as a unified construct, acknowledging their interdependence. For example, feeling competent in a task may not lead to long-term motivation unless individuals also feel autonomous and socially connected (Ryan & Deci, 2000). Gamified experiences such as challenges can enhance competence by offering feedback and a sense of mastery, while personalized rewards and social comparison support relatedness. Customizable paths or tasks can increase autonomy by giving users more control over their experience (Sailer et al., 2016). In this study, the four elements' badges, rewards and feedback messages are used.

When psychological needs are satisfied, individuals are more likely to experience increased engagement, measured through enjoyment, willingness to interact, task completion rates, and perceived relevance (Triantoro et al., 2019). Engagement in turn contributes to longer-term outcomes such as customer retention and loyalty. Customer retention is typically measured by revisit intention, repeat usage, and behavioral consistency (Zhang et al., 2024), while loyalty is measured through recommendation likelihood, attitudinal alignment, and affective connection with a brand.

The model hypothesized a sequential influence from gamification to engagement, and subsequently to retention and loyalty. This pathway suggests that while gamification may initially trigger enjoyment and interaction, its long-term value lies in its ability to foster sustained relationships through repeated, satisfying experiences.

Further, this model incorporated generational cohorts as a moderator, recognizing that user responses to gamified elements can vary by age group. Generational Cohort Theory suggests that Baby Boomers (born 1946-1964), Generation X (born 1965-1979), and Generation Z (1995-2010) have distinct digital preferences and motivational drivers (McCrindle, 2021). This study investigates whether these age-based differences influence the relationship between gamification, psychological needs, engagement, and loyalty outcomes.

In summary, this conceptual model posits the following relationships: Gamification elements positively affect the satisfaction of psychological needs. Psychological need satisfaction enhances engagement. Engagement increases both customer retention and loyalty. Generational cohorts moderate the strength of these relationships.

The conceptual model below demonstrates all variables that will be explored in this thesis and shows the hypothesis that will be tested.

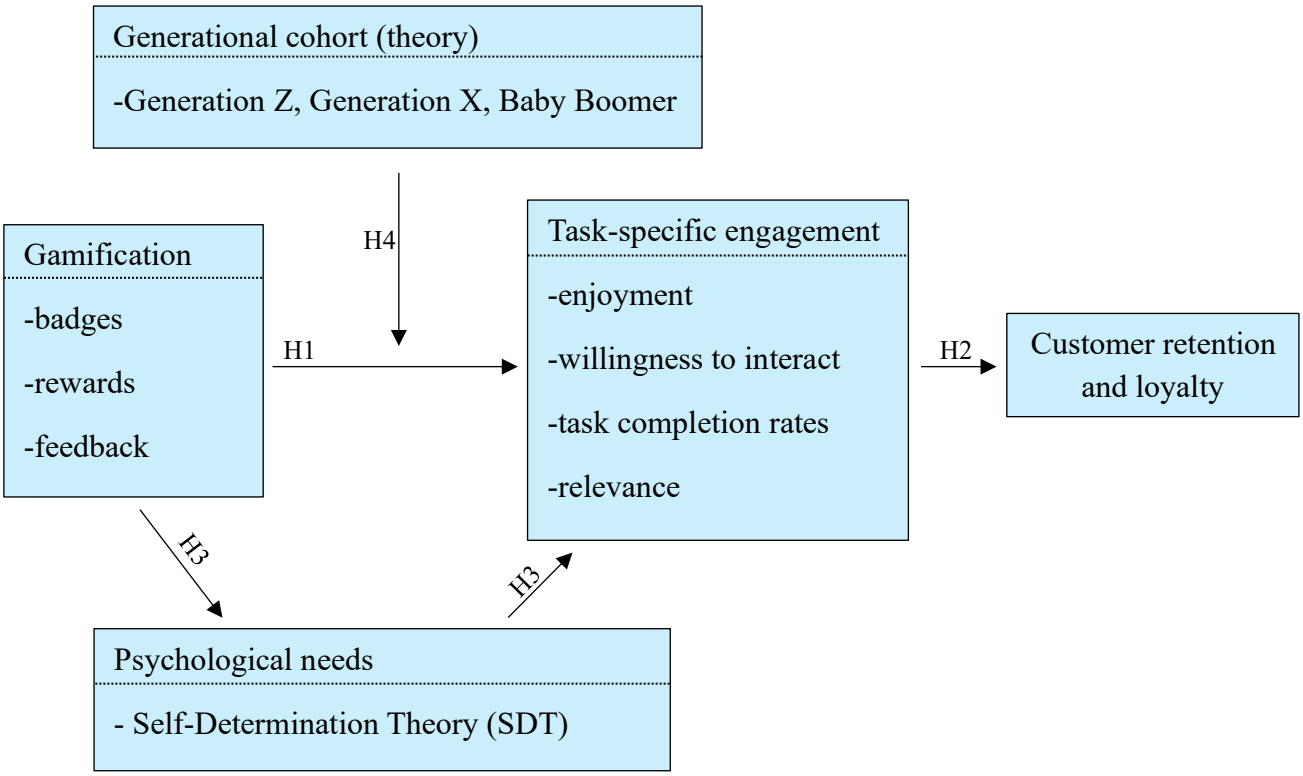


Figure 1. Conceptual model of gamification effects on customer engagement, retention and loyalty.

Based on these relationships, the following hypotheses will be tested and answered.

H1: Gamification elements positively influence customer engagement.

H2: Engagement positively affects customer retention and loyalty.

H3: Psychological need satisfaction mediated the relationship between gamification and engagement.

H4: The relationship between gamification and engagement is moderated by generational cohorts.

H5: The effect of gamification on customer retention and loyalty is stronger among younger cohorts compared to older cohorts.

This conceptual model provides the theoretical foundation for investigating how gamification mechanisms influence consumer behavior across different age groups, supporting both academic and practical understanding of how to design customer experiences that foster lasting loyalty.

Methodology

Research design and data collection

For Part 2 of this thesis, the primary objective is to explore the generational differences in preferences for gamification elements and their impact on customer retention and loyalty. By focusing on younger and older generations, the study aims to identify the specific gamification features that have diverse effects across age groups. This approach enables the exploration of generational patterns in gamification preferences and an assessment of how these elements affect loyalty and customer retention.

The research employs a mixed-method approach, integrating quantitative and qualitative data collection. A gamified survey will serve as the primary tool for investigation. Gamified surveys integrate game-like elements – like rewards, badges and feedback messages – into traditional surveys to enhance user engagement (Harms et al., 2015). These elements make the survey experience more interactive and enjoyable, reducing dropout rates and improving data quality.

The gamified and non-gamified versions of the survey are implemented within the Qualtrics platform, a widely used web-based survey tool that allows for structured and customizable data collection. Qualtrics was chosen for its intuitive interface, its ability to integrate gamification elements such as feedback, logic flows, and visuals, and its robust data management features, which ensure reliable and high-quality data collection (Qualtrics, 2024).

Participants will be divided into two groups for an A/B testing approach. One groups will complete a traditional survey without gamification elements, while the other groups will engage with the gamified version of the survey. This setup enables a detailed comparison of generational responses to gamified and non-gamified formats, highlighting both the direct effects of gamification on engagement and its potential to enhance customer retention.
The target population for this study includes both younger and older generational cohorts. Specifically, participants will consist of students and peers from the younger generations (Generation Z) and older individuals such as parents and their friends (Baby Boomer and Generation X). To ensure meaningful comparisons and statistical significance, a sample size of at least 100 participants is planned, with balanced representation across the generational groups. Participants will be recruited through convenience samplings methods, leveraging personal networks to include individuals from both age groups. This method ensures accessibility and feasibility while maintaining diversity within the sample.

The gamified survey will include several engagement-enhancing elements. Throughout the survey, participants will also receive badges in the form of motivational messages, such as “Thanks for joining – now let’s dive in”, “Nice job – keep going” strengthening engagement and positive reinforcement. Additionally, motivational memes with humorous or encouraging visuals will appear at selected points throughout the survey to create a more enjoyable and relatable experience, reduce fatigue, and increase participants’ willingness to continue. As an additional incentive, all participants who complete the survey will be entered into a raffle for vouchers, with several winners randomly selected. This reward mechanism serves as an extrinsic motivator, aligning with gamification principles (Harms et al., 2015).

To measure engagement, the study will employ a validated scale commonly used in gamification research, ensuring reliable and comparable results. Engagement will be assessed through both behavioral metrics – survey completion and dropout rates – and self-reported measures, based on existing engagement scales from the literature. Similarly, psychological needs will be measured using an established scale derived from the Self-Determination Theory (Ryan & Deci, 2000). This ensures a theoretically sound and empirically tested approach to capturing the influence of gamification on user motivation and engagement.

To measure customer retention, this study applies a combination of behavioral intention and attitudinal indicators commonly used in digital marketing and gamification literature. Specifically, survey items ask participants about their likelihood to return to platforms that used gamified loyalty programs, and whether they would remain loyal if gamified elements were removed. These questions capture the intention to continue engagement, which is a validated proxy for retention in cross-sectional research (Zhang et al., 2024; Prott & Ebner, 2020). While long-term behavioral tracking is beyond the scope of this study, intention-based measures have been shown to reliably predict future user behavior in similar contexts. Additionally, participants responses to questions regarding active engagement with badges and feedback messages provide indirect insights into ongoing interaction patterns, which are also considered key indicators of retention (Hosseini & Rezvani, 2023).

Customer loyalty is assessed through participants’ self-reported attitudes and behavioral intentions that reflect deeper emotional and cognitive commitment to a brand. The survey included items on how likely participants are to recommend a brand or platform with gamified elements and how important they find gamified rewards in their loyalty decision. These measures correspond to two primary dimensions of loyalty identified in prior research

attitudinal loyalty, e.g., emotional attachment and behavioral loyalty, e.g., repeat intention commitment (Jacobides et al., 2024; Butt et al., 2024).

Survey and measurement instruments

The present survey was developed in Qualtrics to examine how the inclusion of game-design elements influences participants engagement, retention intentions and loyalty, and how these effects vary across generational cohorts. The final survey design can be found in Appendix D. Drawing directly on the dual-format approach of Prott and Ebner (2020), who implemented parallel gamified and classical versions of a gastronomic questionnaire, this instrument likewise offers two nearly identical branches – one incorporating gamification mechanisms and one presented in a standard text-only format. Upon following the survey link, respondents first select their preferred language (English or German), ensuring full comprehension of all items. Immediately thereafter, Qualtrics' built-in "Randomizer" assigns each participant with equal probability to either the gamified or non-gamified version, thus guaranteeing that any observed differences in responses can be attributed to the presence or absence of game-design elements rather than to sample characteristics.

Both survey formats begin with an informed-consent screen and concise instructions on the survey's voluntary nature and expected duration. Respondents then proceed through seven sequential blocks, each carefully designed and source-based to capture distinct facets of gamification and customer behavior.

The table below summarizes the operationalization of each survey block, presenting the investigated variables, sample survey items, and the scales and sources from which all items were derived. Items were either based on validated instruments or developed in accordance with relevant theoretical and empirical literature to ensure content validity. For instance, Block 1 draws on Prott and Ebner (2020) to assess general gamification familiarity and attitudes, which may act as moderators in later engagement outcomes. Block 2 focuses on behavior-related responses such as purchase or referral intention, following Xu et al. (2016). Block 3 operationalizes key motivational mediators – autonomy, competence, and relatedness – based on Self-Determination Theory (Ryan & Deci, 2000) and includes an additional item to explore perceived meaningfulness. Block 4 measures retention and loyalty intentions using constructs established by Zhang et al. (2024). Block 5 provides open-ended prompts for qualitative feedback, while block 6 features manipulation-check items to verify the perceived presence and

impact of game elements, also adapted from Prott and Ebner (2020). Finally, block 7 collects demographic data to enable generational comparisons. A complete list of all survey items can be found in Appendix D.

Variable	Survey item	Used scale(s) and source
Block 1: General Gamification Experiences *Independent variable*	How often do you interact with platforms or apps that use gamification? What makes a gamified app or platform fun or interesting for you?	- Yes/ No - Multiple choice - Five-point Likert scale Adapted from Prott & Ebner (2020)
Block 2: Gamification and Customer Behavior *Independent variable*	Have you ever chosen one platform or brand over another because of gamified features? Do financial rewards motivate you more than non-financial (e.g., badges, status)?	- Yes/ No/ Unsure - Five-point Likert scale Based on Xu et al. (2016)
Block 3: Engagement and Psychological Needs *Mediator*	I feel emotionally connected to brands that offer engaging, gamified experiences. Gamified interactions make the experience more meaningful.	- Five-point Likert scale Based on Ryan & Deci (2000), Basic Psychological Needs Scale (BPNS)
Block 4: Customer Retention Behavior *Dependent Variable*	I am likely to recommend a brand, app or platform that uses gamified elements.	- Five-point Likert scale From Zhang et al. (2024)
Block 5: Open-Ended Feedback *Exploratory/ qualitative*	I'd love to hear your thoughts and feedback. Please answer the following optional questions to share more about your personal experience and views on gamification.	- Open questions
Block 6: Gamified Survey Experience *Manipulation check*	Did the gamified elements make the survey more enjoyable for you? Did the gamified elements motivate you to complete the survey?	- Ranking - Open question - Five-point Likert scale Adapted from Prott & Ebner (2020)
Block 7: Demographics *Control variables/ moderator*	What is your age? What is your highest level of education?	- Single choice Standard demographic items; used for segmentation

Table 3. Operationalization of the seven survey blocks with example items, scales, and theoretical sources.

Each block and every statement were selected for its empirical validation in prior studies, ensuring a source-based, theoretically grounded instrument.

In the gamified branch, each section is enriched with interactive elements inspired by Prott and Ebner's study. Upon finishing each section, participants receive a gamified 'badge' in the form of an encouraging message (e.g., "Nice job – Keep going!"), which reinforces feelings of competence and progress. Midway through the survey, motivational memes – humorous visual stimuli – appear to sustain enjoyment and counteract fatigue. Finally, all respondents in this condition are informed that completion enters them into a raffle for shopping vouchers, introducing an extrinsic incentive aligned with best practices in gamification design.

By contrast, the classical branch presents the same question content in a straightforward, text-only layout, without badges, images or external incentives. This parallel structure ensures that any differential effects on engagement, retention intention or loyalty can be attributed specifically to the gamification elements themselves.

Technically, Qualtrics' advanced features support the experimental design: the Randomizer block assigns condition membership; Branching Logic ensures that no item sets are inadvertently revealed across conditions; Embedded Data fields record both condition and total completion time for each respondent, facilitating manipulation checks and response-time analyses; and standard data-export capabilities enable seamless transfer of raw and embedded data into SPSS or R for subsequent statistical testing.
To uphold ethical standards, informed consent is documented at the outset, all responses are anonymized, and the study protocol follows the University's guidelines for human-subjects research.

This instrument thus integrates theoretically-grounded scales – ranging from Self-Determination Theory's Basic Psychological Needs Scale to engagement measures validated by Triantoro et al. (2019) and retention and loyalty constructs (Zhang et al., 2024; Butt et al., 2024) within a rigorous A/B experimental framework. By comparing responses across the gamified and classical conditions and across generational cohorts, the study will test whether gamification elements enhance psychological-need satisfaction, heighten task engagement, strengthen retention intentions and foster loyalty, and whether these effects are moderated by age group. Given the growing importance of digital engagement strategies, these insights promise both academic and managerial value, offering a replicable template for evaluating gamification in diverse cultural and linguistic contexts.

Data analysis

The primary method for data analysis in this study is quantitative analysis, as the main data source consist of survey responses with measurable variables related to customer retention, engagement and gamification preferences. The quantitative approach allows for statistical comparisons between generational cohorts, ensuring objective and generalizable insights into the impact of gamification elements on engagement.

To examine differences in engagement across age groups, descriptive statistics such as means, standard deviations, and frequencies will first be calculated. This step provides an overview of participants responses and ensures data integrity before conducting inferential statistical tests. Analysis of Variance (ANOVA) will then be employed to assess whether significant differences exist between generational cohorts regards engagement level, task completion rates, and reaction times. A one-way ANOVA will determine whether engagement scores vary significantly between Generation Z, Generation X, and Baby Boomers (Frost, 2020).

While the primary methodological focus of this study lies in quantitative analysis, a complementary qualitative strand has been incorporated to provide deeper insight into the subjective experiences and attitudes of participants. The open-ended survey responses will be analyzed using thematic analysis, following the six-phase approach proposed by Braun and Clarke (2006). This method allows for the systematic identification, organization, and interpretation of recurring patterns across participant narratives.

To ensure methodological consistency, the responses will be initially coded line-by-line, with meaningful units grouped into subthemes, and subsequently combined into broader overarching themes. This process will be guided by both semantic content (what is explicitly said) and latent meaning (underlying assumptions), allowing for an interpretation of participant perspectives.

By integrating thematic insights with statistical findings, this approach enables a richer, context-sensitive understanding of how gamification influences user engagement across different age groups. The qualitative dimension thus adds explanatory depth to the observed generational trends and supports the interpretation of motivational and behavioral differences identified in the quantitative analysis.

Results

To provide a comprehensive understanding of the findings, this chapter is structured into four parts, each corresponding to a distinct analytical focus derived from the structure of the 3-in-1 survey.

To provide a comprehensive overview of the findings, this chapter is divided into four analytical sections. The first presents a general evaluation of the survey data, examining user experiences with gamified systems regardless of age group or survey version. The next highlights differences between generational cohorts, with particular attention to age-related patterns in the perception and use of gamification, directly addressing Hypotheses H4 and H5. Following this, the chapter incorporates results from the qualitative analysis of open-ended responses, structured around key thematic insights to deepen the understanding of user motivations and barriers. Finally, the analysis turns to the comparison between the gamified and non-gamified versions of the survey, assessing how specific game-design elements influenced participant engagement and motivation, and evaluating Hypotheses H1 through H3. All referenced statistical output and graphical representations from JASP are included in Appendix E and subsequent appendices.

General evaluation of gamification and user experience

In total, 135 participants began the survey. After removing incomplete responses and those who did not provide consent, a total of 109 valid responses were retained for the final analysis. The average time to complete the questionnaire was 419.4 seconds, or approximately seven minutes. This suggests that the length of the survey was reasonable and did not constitute a major barrier to completion.

Participants were first asked whether they had previously heard of the term “gamification.” The responses indicated that 39.5% of participants were familiar with the term, while 61.5% reported that they had not heard of it before.

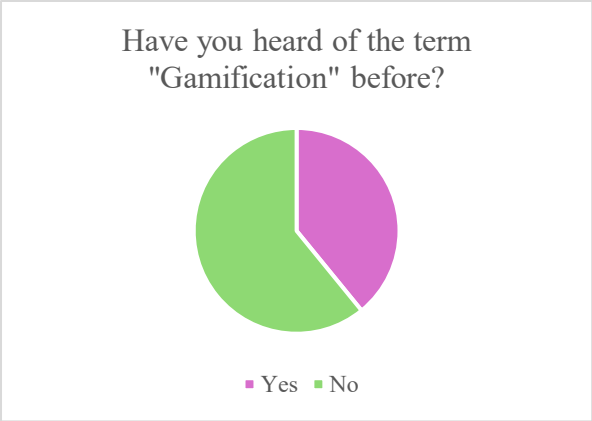


Figure 2. Participants' prior awareness of the term "Gamification".

This result implies that although gamification is a widely implemented concept in digital products and services, it is not yet universally recognized or understood by the broader population. Awareness may be linked to digital literacy, personal interests, or demographic variables.

When asked which gamified platforms or apps they use, the vast majority of participants named at least one. Only 3.7% of respondents reported using no gamified apps or platforms at all. The most frequently mentioned platforms were Google, cited by 62.4% of participants, followed by Payback (55%), eBay (51.4%), Snapchat (36.7%), Duolingo (30.3%), and Lidl Plus (30.3%). Other mentioned apps included fitness tracking tools, airline loyalty programs (e.g., Lufthansa's Miles & More), and retailer-specific reward systems.

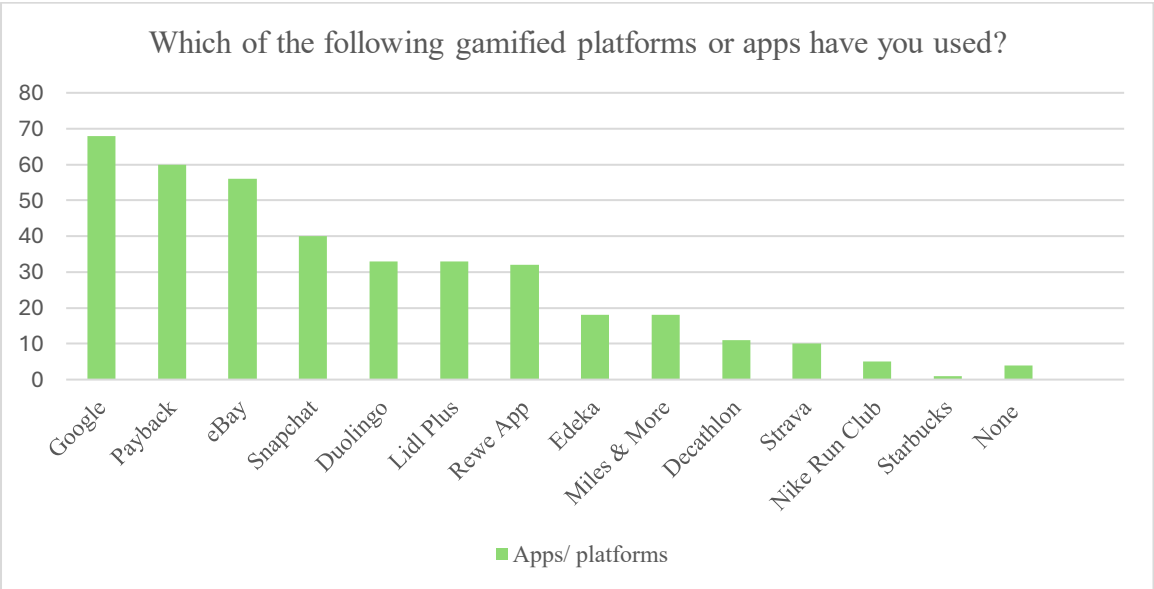


Figure 3. Reported usage of gamified platforms and apps.

These results demonstrate the diverse range of gamification implementations in everyday life and indicate that even when users are not explicitly aware of the term "gamification," they often engage with such systems.

In terms of usage frequency, participants were asked how often they use gamified apps or platforms on a five-point scale from ‘Never’ to ‘Very often/ daily’. The average rating was 3.35, suggesting moderate to high frequency overall. Notably, 52.3% of participants reported using such platforms often or very often, while only 3.7% indicated that they never engage with gamified systems. This high rate of regular interaction underscores the prevalence and integration of gamification in daily digital habits.

Participants were then asked to indicate which features of gamified systems they found most motivating. The most frequently selected feature was the possibility of earning rewards, which was chosen 82 times. This was followed by maintaining streaks (29 mentions), the enjoyment of the activity itself (28), earning badges (19), competition with others (7), and receiving feedback (6).

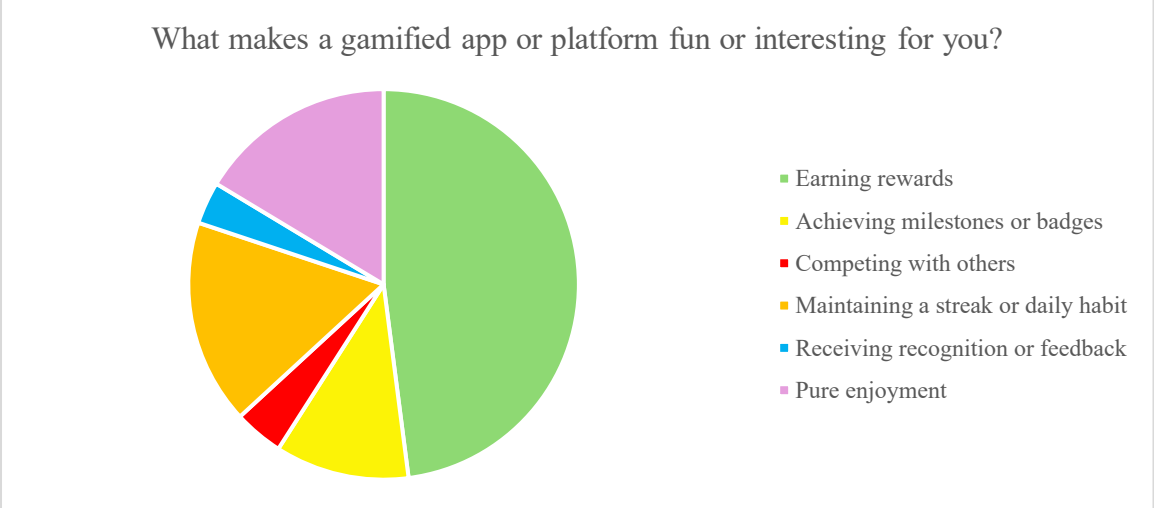


Figure 4. Most valued gamification features in apps and platforms.

These findings highlight that external, tangible incentives remain the most powerful motivator in gamified environments, particularly in the context of consumer platforms. The results also show that while gamification can appeal to different motivational types, extrinsic rewards tend to dominate over intrinsic or social motivators.

A series of follow-up questions explored behaviors and attitudes relating to gamified loyalty features. When asked whether they had ever chosen a brand because it offered gamified features, 45.9% of participants responded affirmatively. Similarly, 39.5% stated that they would

be more likely to return to a brand that used gamification. Only 24.8% said they actively check points or badges in loyalty programs. However, a clear majority of 70.6% agreed that financial rewards are more motivating than non-financial rewards in loyalty programs.
These results suggest that while gamification can indeed influence brand selection and retention, its effectiveness is significantly increased when combined with financial incentives. Emotional or symbolic elements, such as badges or progress tracking, appear to be less impactful for most users.

Participants were also asked to rate the importance of gamified features in influencing their brand loyalty on a scale from ‘Not important at all’ to ‘Very important’. The average rating was 2.54. More than half of all participants (56%) selected either 1 or 2 on the scale, indicating a low level of importance.
This implies that, for many consumers, gamification is not a decisive factor when forming long-term loyalty to a brand. However, it is worth noting that a substantial minority still perceives gamification as relevant, which suggests that its impact may be dependent on specific implementation strategies or target groups.

Several statements were included to explore the psychological effects of gamification in accordance with the Self-Determination Theory (SDT), which is relevant to Hypothesis H3 (H3: Psychological need satisfaction mediated the relationship between gamification and engagement.). Participants were asked to rate their agreement with four statements. The item "I feel a sense of achievement when completing tasks or reaching goals within gamified platforms" received a mean score of 2.73. The statement "Gamified rewards make me feel competent" had a lower average of 2.26. The sense of emotional connection, measured by the item "I feel emotionally connected to brands that offer engaging, gamified experiences", was rated similarly low, with a mean of 2.27. However, the item "Gamified interactions make the experience more meaningful" again reached a mean of 2.73.
These findings suggest that gamification somewhat enhances feelings of achievement and perceived meaningfulness, while feelings of competence and emotional connectedness are rated more neutrally or even skeptically. Although this partially supports Hypothesis H3, which posits that satisfaction of psychological needs mediates the effect of gamification on engagement, the results point to selective effects depending on the specific psychological dimension.

In addition to psychological effects, participants' attitudes toward brand loyalty in connection with gamification were also assessed, which relates to Hypothesis H2 (H2: Engagement positively affects customer retention and loyalty.). Five Likert-scale items were presented. The statement "I am likely to recommend a brand, app, or platform that uses gamified elements" yielded an average score of 2.28, indicating relatively low agreement. The statement "I would be less loyal to a platform if it removed its gamified features" received a mean of 2.51. The item "Feeling rewarded is important to me when interacting with brands or platforms" was rated at 2.53. Only the statement "I believe gamified rewards help build long-term customer loyalty" received higher approval, with a mean of 3.64.
These results suggest that while the direct impact of gamification on brand advocacy and retention is limited, its role in building longer-term loyalty may be more substantial. Thus, Hypothesis H2 receives partial empirical support within the general sample.

The results presented in this section reflect the overall findings from all respondents, without considering differences in age groups or the gamified vs. non-gamified version of the survey. This serves as the foundation for the next two sections, which will examine generational differences and differences between the two experimental versions of the survey.

Generational differences in gamification perception and use

These initial findings offer a general overview of participants' experiences with gamified platforms. However, to better understand how demographic variables influence perceptions and behaviors related to gamification, a more focused analysis based on generational cohorts was conducted. This second part of the results chapter is dedicated to the comparison between younger and older generations. All relevant statistical outputs and visualizations associated with this section are presented in Appendix F.

To ensure a meaningful contrast between generational groups, the analysis concentrated on participants aged 18 to 30, classified as Generation Z, and participants aged 46 to 79, representing the combined group of Generation X and Baby Boomers. Participants younger than 18 (n = 1), those between 31 and 45 years old (n = 13, typically categorized as Millennials), and those aged 80 or above (n = 2) were excluded from the generational comparison due to insufficient group sizes or limited theoretical relevance to the dichotomous age contrast of interest. In total, this filtered sample included 93 participants: 42 from the younger cohort and 51 from the older cohort.

The comparison aimed to explore generational differences in familiarity with the concept of gamification, usage frequency of gamified platforms, motivational triggers, loyalty-related behaviors, and psychological engagement in gamified environments. Each of these aspects was statistically tested to determine the presence and magnitude of age-related patterns.

The first variable examined was whether participants had previously heard of the term gamification. A one-way analysis of variance (ANOVA) revealed a statistically significant generational difference.

Have you heard of the term "Gamification" before?
F (1, 91) = 4.311
p-value = .041

Table 4. ANOVA results for generational differences in prior awareness of the term "Gamification".

Participants from the younger cohort were more likely to report familiarity with the term than those from the older group. This difference suggests that younger individuals are more exposed to or educated about digital engagement tools and concepts like gamification, which may stem from their broader engagement in digital environments from an early age. This finding supports the thought that gamification literacy is not uniformly distributed across age groups.

Next, participants were asked to report how often they engage with gamified platforms or applications. This question used a five-point Likert scale ranging from 'Never' to 'Very often/ daily'. The analysis again showed a significant generational difference. Younger participants indicated a higher average frequency of use than older participants.

How often do you interact with platforms or apps that use gamification?	Generation
Mean = 3.71, standard deviation = 1.09	Gen Z (18-30 years)
Mean = 3.1, standard deviation = 1.12	Gen X and Baby Boomer (46-79 years)
F (1, 91) = 7.165	
p-value = .009	

Table 5. ANOVA results for generational differences in frequency of gamified platform use.

The ANOVA result was statistically significant, indicating that younger users integrate gamified technologies more frequently into their daily routines. This difference may reflect generational disparities in technology adoption, digital habits, and preferences for interactive digital systems.

The question of what makes a gamified app or platform fun or interesting for users was explored through six predefined response options. The element "Earning rewards" showed no statistically significant difference between age groups, with both younger (76.2%) and older participants (72.5%) selecting this option at similar rates. This indicates that earning tangible rewards is a cross-generational motivator, valued equally by both age groups.

However, a clear generational divide emerged in the evaluation of "Achieving milestones or badges." This option was chosen by 14 participants in the 18-30 age group, compared to only 4 in the 46-79 group. The chi-square test produced a significant result ($\chi^2 = 9.588$, $p = 0.002$), suggesting that symbolic rewards such as badges, levels, and milestones are particularly appealing to younger users. This likely reflects their greater familiarity with digital platforms and game-based environments.

In contrast, "Competing with others (leaderboards)" received minimal endorsement from both groups (3 responses each), with no significant difference detected ($\chi^2 = 0.061$, $p = 0.805$). This suggests that competitive elements are of limited motivational value across generations.

"Maintaining a streak or daily habit" was selected by 21 younger participants but only 5 older participants. This yielded a highly significant chi-square result ($\chi^2 = 18.477$, $p < 0.001$), indicating a strong age-related difference. Streak mechanics, commonly seen in apps like Duolingo or Snapchat, appear to resonate more with the routines and motivational structures of younger users.

The option "Receiving recognition or feedback" showed no significant age difference ($\chi^2 = 2.590$, $p = 0.108$), although slightly more younger respondents (4 vs. 1) found it relevant. Similarly, "Pure enjoyment" was endorsed by 14 younger and 10 older participants, a difference that was not statistically significant ($\chi^2 = 2.266$, $p = 0.132$). These results suggest that while enjoyment and feedback play a role, they do not differ meaningfully across age groups.

What makes a gamified app or platform fun or interesting for you?	Gen Z (18-30 years)	Gen X and Baby Boomer (46-79 years)	Chi-squared tests
Earning rewards	32 participants	37 participants	$\chi^2 = 0.160$ p-value = 0.690
Achieving milestones or badges	14 participants	4 participants	$\chi^2 = 9.588$ p-value = .002
Competing with others (leaderboards)	3 participants	3 participants	$\chi^2 = .061$ p-value = 0.805
Maintaining a streak or daily habit	21 participants	5 participants	$\chi^2 = 18.477$ p-value = < .001
Receiving recognition or feedback	4 participants	1 participant	$\chi^2 = 2.590$ p-value = 0.108
Pure enjoyment	14 participants	10 participants	$\chi^2 = 2.266$ p-value = 0.132

Table 6. Chi-squared test results for generational differences in preferred gamification features.

Further analysis focused on behavioral and attitudinal questions related to gamification. When asked whether they had ever chosen a brand or platform because of gamified features, both groups responded similarly, with no significant difference ($\chi^2 = 0.759$, $p = 0.684$).

Have you ever chosen one platform or brand over another because of gamified features?	Gen Z (18-30 years)	Gen X and Baby Boomer (46-79 years)
Yes	21 participants	22 participants
No	16 participants	24 participants
Unsure	5 participants	5 participants
Total	42 participants	51 participants

Table 7. Response distribution by generation on choosing brands based on gamified features.

However, when asked if gamified loyalty programs increased the likelihood of returning to a brand, a significant difference emerged ($\chi^2 = 11.317$, $p = 0.003$): 24 younger participants answered "yes" compared to 15 older participants, while 23 older respondents rejected this idea, compared to just 6 younger ones.

Would you be more likely to return to a brand or platform that uses gamified loyalty programs?	Gen Z (18-30 years)	Gen X and Baby Boomer (46-79 years)
Yes	24 participants	15 participants
No	6 participants	23 participants
Unsure	12 participants	13 participants
Total	42 participants	51 participants

Table 8. Response distribution by generation on return intentions influenced by gamified loyalty programs.

Regarding the active monitoring of gamification metrics like points and badges, younger participants again reported higher engagement: 16 versus 10 in the older group. The difference was statistically significant ($\chi^2 = 7.611$, $p = 0.022$). This indicates that younger users are more attuned to these mechanisms and possibly more responsive to their feedback loops.

Do you actively check your points, badges, or levels in apps or loyalty programs?	Gen Z (18-30 years)	Gen X and Baby Boomer (46-79 years)
Yes	16 participants	10 participants
No	22 participants	40 participants
Unsure	4 participants	1 participant
Total	42 participants	51 participants

Table 9. Response distribution by generation on checking points, badges, or levels in gamified systems.

Both age groups generally agreed that financial rewards are more motivating than non-financial ones, with 65 out of 93 selecting this option. No significant age difference was found ($\chi^2 =$

3.129, p = 0.209), suggesting that extrinsic financial incentives are broadly effective across generations.

Do financial rewards motivate you more than non-financial (e.g., badges, status)?	Gen Z (18-30 years)	Gen X and Baby Boomer (46-79 years)
Yes	33 participants	32 participants
No	5 participants	13 participants
Unsure	4 participants	6 participants
Total	42 participants	51 participants

Table 10. Response distribution by generation on motivation through financial versus non-financial rewards.

In response to the question "How important are gamified elements in your decision to stay loyal to a brand, app, or platform?", significant generational differences were again observed. An ANOVA revealed a significant result, with younger participants rating the importance of gamification higher than older participants.

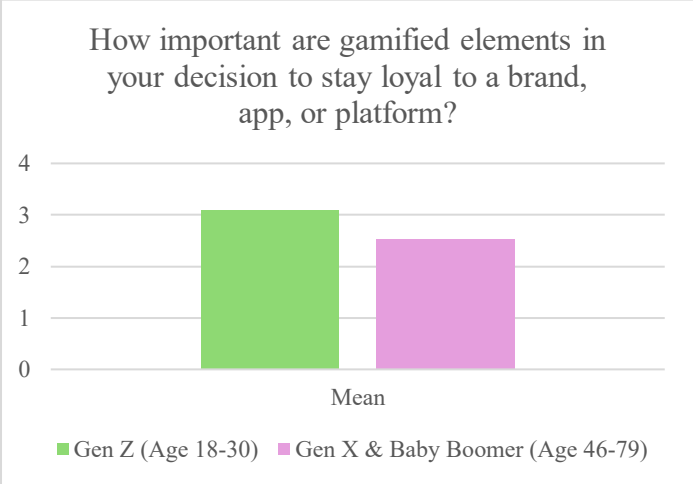


Figure 5. Mean importance ratings of gamified elements in brand loyalty decisions by generation.

The study also explored agreement with four statements about participants' personal experience with gamified systems. A one-way ANOVA revealed a significant generational difference for the statement "I feel a sense of achievement when completing tasks or reaching goals within gamified platforms" ($F = 21.983$, $p < .001$). Similarly, the statement "Gamified rewards make me feel competent showed a significant effect ($F = 6.271$, $p = .014$), as did "I feel emotionally connected to brands that offer engaging, gamified experiences" ($F = 9.015$, $p = .003$), and "Gamified interactions make the experience more meaningful" ($F = 17.528$, $p < .001$). In each case, younger participants showed stronger agreement, suggesting deeper emotional and psychological engagement with gamified systems among Generation Z users.

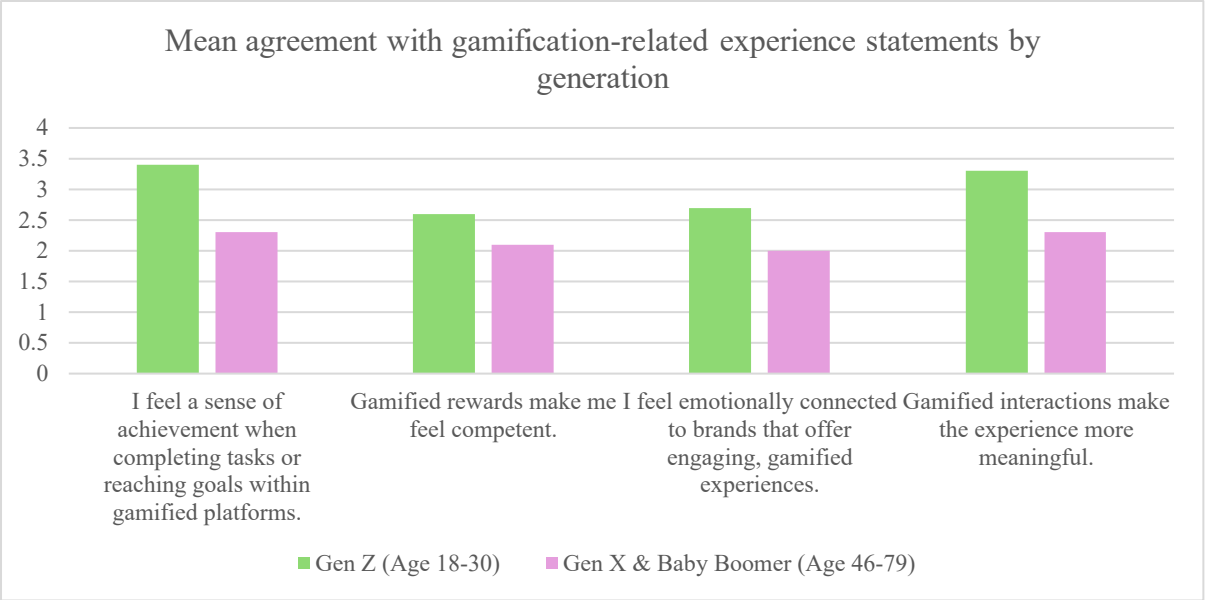


Figure 6. Generational differences in agreement with personal experience statements related to gamification.

Likewise, when asked about gamification and brand loyalty, younger participants were significantly more likely to agree with the following statements: "I am likely to recommend a brand, app or platform that uses gamified elements" ($F = 14.546$, $p < .001$), "I would be less loyal to a platform if it removed its gamified features" ($F = 17.965$, $p < .001$), "Feeling rewarded is important to me when interacting with brands or platforms" ($F = 7.747$, $p = 0.007$), and "I believe gamified rewards help build long-term customer loyalty" ($F = 8.478$, $p = 0.005$). In each case, younger respondents showed higher agreement, suggesting that gamification strategies may be more effective in fostering brand loyalty among younger users.

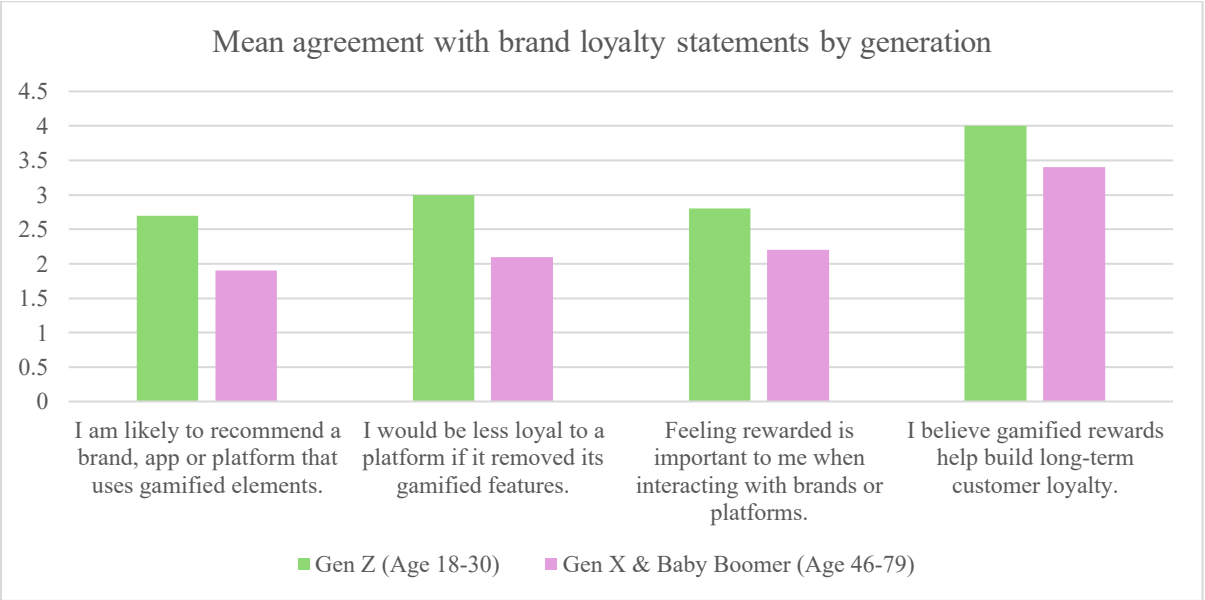


Figure 7. Generational differences in agreement with gamification-related brand loyalty statements.

Taken together, these results provide empirical support for Hypothesis H4, indicating that the relationship between gamification and user engagement differs across generational cohorts. Significant group differences were found in terms of familiarity with gamification, usage frequency, reported emotional engagement, and responses to gamified elements such as rewards or milestones. Younger participants scored higher across several relevant variables related to loyalty behavior and psychological needs, including their willingness to return to brands using gamified programs, the perceived importance of gamification in brand relationships, and the experience of competence, emotional connection, and meaning in gamified contexts.

Furthermore, these results support Hypothesis H5, as they show that the impact of gamification on customer retention and loyalty is more pronounced among younger users than among older participants. Age-related effects were consistently observed across multiple survey dimensions, including self-reported motivation, behavioral tendencies, and attitudes toward gamified loyalty programs.

To complement these quantitative findings, the next section presents participants' answers to three open-ended questions. These qualitative responses offer additional insights into the subjective experiences and attitudes toward gamification across generational lines and serve to contextualize and enrich the statistical patterns observed.

Qualitative insights on the impact of gamification on customer loyalty

To complement the quantitative findings, the three open-ended questions were analyzed using thematic analysis to identify common themes in participants' experiences and perspectives. The responses were grouped into recurring patterns across all age groups, offering a structured overview of subjective feedback regarding gamified systems.

Theme 1: Real-world rewards and usefulness

A large proportion of responses to the first open-ended question "What is the best gamified experience you have encountered?", centered on practical, reward-based systems in everyday contexts, especially supermarket and loyalty apps. Participants frequently referenced platforms like PAYBACK, Rewe, DM, Kaufland, and Edeka. These were positively described for their ease of use and tangible financial benefit.

One respondent wrote: *"Bei PAYBACK konnte ich einmal eine große Anzahl von Bonuspunkten für ein WMF Besteckset einlösen"* (I was once able to redeem a large number of PAYBACK

points for a WMF cutlery set). Similar examples included: *"Playback Punkte + Gutscheine einlösen!"* (Redeem PAYBACK points + vouchers) and *"Supermarket apps wegen der Rabatte"* (Supermarket apps because of the discounts). Many saw value in these systems, not only for direct savings but also for their gamified progression: *"Erreichen der gewünschten Punkte, um damit ein bestimmtes Produkt zu bekommen"*(Reaching the required points to get a specific product).

This theme was prevalent across age groups, suggesting that tangible, transactional benefits are widely appreciated. Roughly one-third of all respondents cited a shopping- or loyalty-based example as their most memorable or positive gamification experience.

Theme 2: Motivation through progress and engagement

Another prominent theme involved gamified learning and health platforms, especially Duolingo, which was mentioned by name by multiple participants. Respondents highlighted its streak systems, point tracking, and level progressions as highly motivating. Examples included: *"Duolingo, man bleibt eher dran und ist motivierter"* (Duolingo keeps you consistent and motivated), *"Duolingo's streak is very addictive,"* and *"In der Rangliste auf Nr. 1 zu kommen. Das gab mir die Bestätigung, dass sich die harte Arbeit auszahlt"* (Getting to number 1 on the leaderboard confirmed that my hard work pays off).

This theme extended beyond learning to fitness tracking. One person reported using Strava and described: *"Spaß macht, die Kilometer zu sammeln und Ergebnisse zu tracken"* (It's fun to collect kilometers and track results). The appeal of measurable progress was a core element of this category. In total, nearly 20% of the responses referenced gamification tools in learning or health contexts.

Theme 3: Usability and simplicity

In response to "What improvements would you suggest for gamified programs?", technical usability emerged as a central concern. Participants described issues of complexity and poor design. Comments included: *"Apps sind häufig überladen"* (Apps are often overloaded), *"Bessere Struktur"* (Better structure), and *"Einfachere Anwendung für ältere Personen"* (Simpler application for older users). Older respondents in particular emphasized barriers related to interface design and navigation, especially under stress: *"Gerade in stressigen Situationen wie an der Kasse ist das schwierig"* (It's difficult in stressful situations like at the checkout).

This theme was common among older users but also appeared in younger participants who desired more intuitive and less cluttered app designs.

Theme 4: Reward systems

A frequent critique across age groups was the perceived low value or difficulty of earning rewards. Several respondents found point systems unmotivating unless the incentives were meaningful: *"Points need to be meaningful and not so low in value that they barely make a difference."* Additionally, many participants expressed a preference for financial over symbolic rewards. Notable comments included: *"Mehr finanzielle Einreize"* (More financial incentives), *"Cash-Auszahlungen"* (Cash payouts), and *"Einlösbarkeit in Form von Geldrabatten"* (Redeemability in the form of cash discounts).

While this theme resonated with both younger and older participants, it appeared slightly more often in older cohorts, who emphasized the practicality of financial return over abstract benefits.

Theme 5: Intrinsic vs. extrinsic motivation

A smaller, yet notable group of participants addressed the lack of intrinsic motivation in gamified systems. They described feeling that gamification mechanisms emphasized extrinsic rewards too heavily. One participant noted: *"Die meisten Programme gehen voll auf extrinsische Motivation. [...] Es muss geschafft werden, intrinsische Motivation aufzubauen"* (Most programs rely entirely on extrinsic motivation... intrinsic motivation needs to be developed).

This theme highlights a desire for engagement strategies that support autonomy and personal meaning, although such feedback was less frequent than other themes.

Theme 6: Privacy and data protection

Data privacy was a recurring concern. Participants expressed discomfort with how gamified systems handle user data. Typical remarks included: *"Es sollte mehr auf den Datenschutz geachtet werden"* (More attention should be paid to data privacy) and *"Apps sollten nicht mit der Auswertung von Einkaufsdaten verknüpft werden"* (Apps should not be linked to purchase data). Another stated: *"Anonymität ist wichtig, damit man nicht so viel Werbung und Spams erhält"* (Anonymity is important to avoid advertising and spam).

These concerns were often accompanied by calls for clearer data policies and less invasive personalization.

Theme 7: Gamification across generations

The third question "Among your family or friends, how do older and younger people use gamified platforms?", revealed consistent generational patterns. Many participants reported that younger individuals engage more frequently with gamified platforms, citing reasons like daily app use, social comparison features, and motivation from streaks or rankings: *"Jüngere Personen nutzen täglich Apps und treffen häufiger auf gamifizierte Plattformen"* (Younger people use apps daily and thus encounter gamified platforms more often).

In contrast, older users were often portrayed as pragmatically motivated by financial incentives or routine-based reward systems. Loyalty cards like PAYBACK were frequently mentioned: *"In meiner Familie werden PAYBACK Punkte gesammelt"* (In my family, PAYBACK points are collected), and some preferred traditional methods over digital apps: *"Ältere Generationen [...] nutzen lieber eine Bonuskarte anstelle einer App"* (Older generations prefer a loyalty card instead of an app).

Barriers to use were commonly described for older users, including interface complexity and unfamiliarity with gamified logic: *"Für ältere Menschen häufig zu komplex und unübersichtlich durch zahlreiche Anglizismen"* (Often too complex and cluttered for older people due to many Anglicisms). Nonetheless, some responses indicated exceptions, showing that older individuals can also engage successfully with gamification: *"Mein Vater nutzt Gamification und kommt gut klar"* (My father uses gamification and manages well).

Finally, differences in emotional perception were noted. Younger users tended to express positive feelings about gamified systems, while some older users were more critical: *"Die Älteren empfinden das ‚Spielerische' eher als Ablenkung"* (Older people perceive the playfulness as a distraction).

Assessing the role of gamification in survey participation and motivation

This section focuses on the evaluation of the gamified version of the survey, which was completed by 53 participants. Unlike previous parts, which analyzed responses across the entire sample or based on generational cohort, this part specifically explores how respondents experienced the gamification elements embedded in the survey design. The aim is to assess participants' subjective experiences, evaluate the relative effectiveness of different gamified components, and investigate any behavioral implications, such as participant dropout. All associated statistical data and visuals can be found in Appendix G.

Toward the end of the gamified survey, participants were asked to reflect on three specific features: humorous memes, instant feedback messages, and the chance to win voucher as prize. They were instructed to rank these elements based on how motivating they found them.

Which gamified feature did you find most motivating?	Rank 1	Rank 2	Rank 3
Humorous items (memes)	37x	9x	4x
Feedback messages	9x	29x	12x
Raffle to win voucher	4x	12x	34x

Table 11. Participant rankings of the most motivating gamified features.

The results suggest a clear preference hierarchy. Most participants identified the memes as the most motivating component. Feedback messages were more frequently ranked in the middle, while the raffle was most often rated the least motivating. These rankings indicate that participants were more engaged by lighthearted and entertaining elements than by extrinsic rewards. Although the raffle offered a tangible incentive, only six out of 53 participants chose to sign up for it, reinforcing the idea that such external motivators were less compelling in this context.

Participants also responded to four statements designed to assess their overall experience with the gamified survey. Using a five-point Likert scale ranging from strong disagreement to strong agreement, they evaluated the impact of gamification on enjoyment, engagement, motivation to complete the survey, and preference for future surveys to include similar elements.

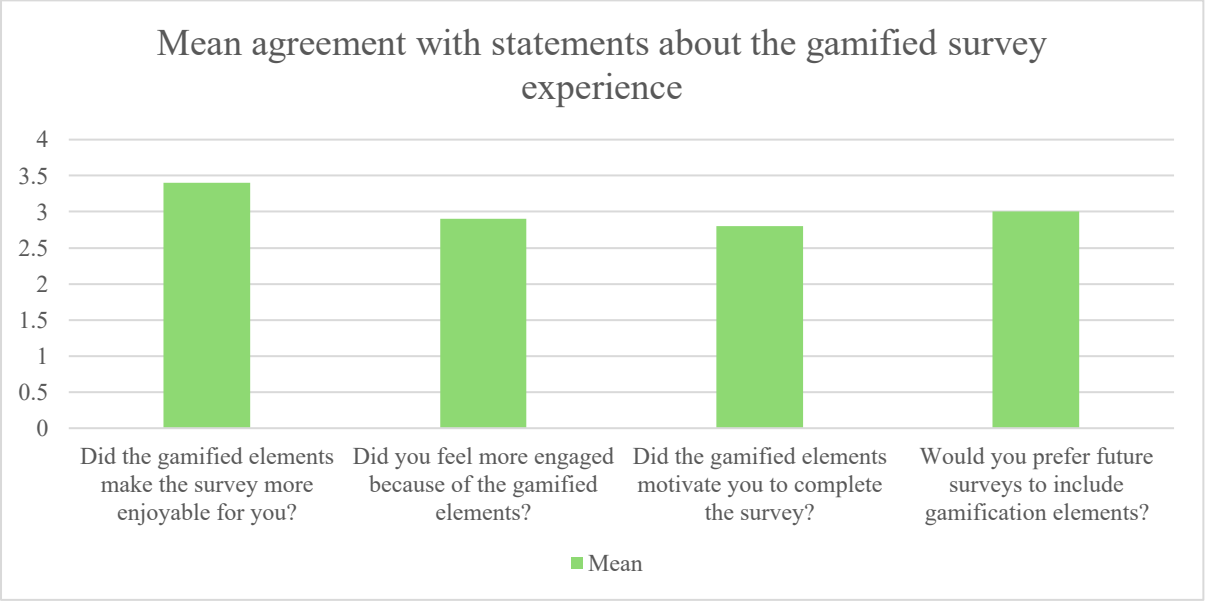


Figure 8. Participant evaluations of the gamified survey experience.

The average ratings for these statements suggest that participants experienced a moderate degree of enjoyment. Most responses fell around the middle of the scale, particularly for statements regarding engagement and motivation. This suggests that while the gamified elements were generally well received, they were not universally regarded as essential to the decision to complete the survey.

Qualitative feedback provided additional nuance. Participants were invited to comment freely on their experience with the gamified design. Three recurring themes emerged from this open-ended data. First, several participants expressed positive views about the playful nature of the survey. Some found the visual presentation enjoyable and refreshing, noting that it helped make the experience feel less monotonous. Second, a number of respondents raised concerns about the professionalism of the survey, with comments suggesting that the memes or informal tone made them unsure whether the study should be taken seriously. Finally, a subset of participants indicated that they had not noticed any gamification at all, suggesting that either the elements were too subtle or did not leave a strong impression.

The findings from the dropout analysis offer further insight into participant behavior. Of the 26 incomplete responses collected across both survey versions, 12 came from users who had begun the gamified version. The average time before exit was approximately two minutes. Closer examination reveals that most of these participants exited before they encountered any substantial gamified content. Several left immediately after the initial consent page, where only a motivational quote was displayed. A few dropped out after viewing one or two gamified elements, such as a gif or quote, but the majority exited either during or shortly after the basic demographic and introductory questions. These patterns do not suggest a clear link between exposure to gamification and the decision to abandon the survey. If anything, they imply that early exit was more likely due to general survey fatigue or disinterest than to the influence of gamified components.

Taken together, the findings from this section suggest that the gamification features had a moderately positive impact on the user experience. Participants particularly appreciated the humor and visual elements, which appeared to increase enjoyment more reliably than engagement or motivation. Feedback messages had a neutral to moderately favorable effect, while the raffle was largely seen as unimportant or unconvincing. Importantly, these results also show that not all participants interpreted or valued the gamified elements in the same way. For some, the playful design enhanced the experience, whereas others felt it detracted from the

perceived seriousness of the study. A few participants even indicated they did not notice the gamification at all.

Dropout analysis offers no strong evidence that gamified content influenced survey retention. In most cases, participants exited the survey before encountering these elements. While a few dropouts occurred shortly after gamification appeared, the sample is too small and varied to draw definitive conclusions. Furthermore, the low participation in the raffle suggests that prize-based incentives may not be the most effective strategy for maintaining attention or encouraging survey completion. Instead, more intrinsic motivators, such as humor or visual novelty, may offer a more reliable way to enhance user experience in digital surveys.

Overall, the results suggest that gamification, when carefully and appropriately applied, can add value to survey participation. However, its effectiveness is highly context-dependent and may vary considerably based on individual user expectations and preferences. For future applications, it may be beneficial to tailor gamified features more precisely to the audience and to ensure that they align with the broader tone and purpose of the research instrument.

The following table summarizes the empirical evaluation of the five hypotheses based on the statistical findings of this study, reflecting the extent to which each was supported by the collected data.

Hypothesis	Description	Outcome
H1	Gamification elements positively influence customer engagement.	Limited supported
H2	Engagement positively affects customer retention and loyalty.	Partially supported
H3	Psychological need satisfaction mediated the relationship between gamification and engagement.	Partially supported
H4	The relationship between gamification and engagement is moderated by generational cohorts.	Supported
H5	The effect of gamification on customer retention and loyalty is stronger among younger cohorts compared to older cohorts.	Supported

Table 12. Overview of the hypotheses and their empirical status based on the statistical analysis of the collected survey data.

Discussion

This chapter provides an in-depth interpretation of the empirical findings and connects the results to the central hypotheses and research questions of this thesis. Drawing on established theoretical frameworks the discussion explores how gamified systems influence user engagement, motivation, and customer loyalty.

The analysis begins by examining participants' general experiences with gamified platforms, highlighting patterns in engagement and perceived value. Building on this, generational differences are considered to assess how age and digital fluency shape user preferences and responses to gamification. Qualitative insights further enrich the understanding of these dynamics by illustrating personal experiences and motivational perceptions. Finally, the effectiveness of gamification in the context of the survey itself is evaluated.

Analyses suggest that users predominantly associate gamified systems with practical benefits – namely financial rewards, tangible incentives, and functional value. Platforms such as Payback, Google Local Guides, and eBay received the highest engagement and were evaluated positively, largely due to their structured reward mechanisms. These findings correspond with theories of functional gamification (Deterding et al., 2011a), highlighting the importance of extrinsic motivation in shaping engagement when gamified systems are embedded in routine behaviors like shopping or digital navigation.

To better understand these behavioral patterns, a comparative analysis of the most frequently mentioned platforms sheds light on key differences in gamification design and motivational strategies.

App	Mentions	Type of gamification	Mechanism	Motivational type
Google	68	Functional/ implicit	Progress bar, contribution incentives, local guides program	Extrinsic & functional
Payback	60	Functional	Collect points for discounts, financial rewards	Extrinsic & functional
eBay	56	Functional/ game-like	Ratings, star levels, rewards for activity	Extrinsic & status-oriented
Snapchat	40	Non-functional	Streaks, emojis for friend status, no real-world rewards	Intrinsic & habit-forming

Table 13. Overview of frequently mentioned gamified platforms categorized by gamification type, design mechanics, and motivational orientation.

Google and Payback exemplify functional models that reward user actions through points, levels, or redeemable benefits. Their engagement mechanisms are based on clear utility and recurring incentives. eBay adds a symbolic layer by offering feedback in the form of ratings

and seller levels, reinforcing reputation-driven engagement while remaining within the extrinsic domain. Snapchat, by contrast, employs non-functional gamification. Its use of streaks and friendship emojis encourages habitual use through emotional investment and social accountability rather than tangible benefits. These mechanisms are more closely associated with intrinsic motivation, supporting the idea that gamified systems exist on a continuum of motivational design. Some platforms aim to create utility; others foster identity, habit, or enjoyment.

These distinctions help contextualize the general acceptance of certain gamification approaches. While Payback's extrinsic incentives appeal to a wide audience, Snapchat's symbolic features seem more tailored to digitally fluent demographics. This reflects broader theoretical arguments that the success of gamification depends not only on the mechanics used but also on their alignment with users' motivational profiles and contexts (Nicholson, 2012; Koivisto & Hamari, 2014).

These findings contribute to the evaluation of Hypothesis H2, which proposes that engagement increases customer retention and loyalty. Although the general survey did not yield strong statistical evidence of a direct link, the responses suggest a partial confirmation: platforms with well-structured reward programs were associated with repeat use and ongoing engagement. This aligns with empirical studies indicating that gamified incentives can foster user retention through behavioral reinforcement (Hamari & Koivisto, 2015). However, the form and quality of that engagement appear to depend heavily on the structure of the gamified system – linking to Hypothesis H3, which suggests that psychological need satisfaction mediates the relationship between gamification and engagement. Evidence for this mediation was mixed. While features like levels and point systems were reported as motivating, participants rarely expressed deeper psychological satisfaction related to autonomy, competence, or relatedness. This may be due to the dominance of functionally oriented systems in the sample, which largely appeal through extrinsic incentives. Motivational analysis further supports this interpretation. "Earning rewards" was the most frequently selected factor, showing cross-generational appeal. In contrast, intrinsically oriented mechanisms like streaks or recognition were selected less frequently and mostly by younger users. This supports Self-Determination Theory (Deci & Ryan, 2000), which emphasizes that user engagement arises when game elements align with individual psychological needs. Competitive elements like leaderboards received minimal endorsement, challenging common assumptions in gamification literature (Zichermann & Cunningham, 2011). Participants seemed to prefer self-regulated progress mechanisms over social comparison, particularly in retail or service-oriented contexts. This suggests a possible

disconnect between widely adopted gamification principles and actual user preferences in daily-use applications. The emotional appeal of gamification was less prominent overall. While some participants appreciated the enjoyable aspects of platforms like Duolingo or Strava, the majority focused on instrumental outcomes. This suggests that gamification, at least in mainstream use cases, is often perceived more as a functional tool than as a source of play or emotional engagement. These findings align with the notion that the effectiveness of gamification depends on how well it matches the expectations of its specific user base. The systematic literature review conducted in the theoretical framework also supports this interpretation. Prior studies highlight that gamified platforms enhance loyalty and engagement when they offer meaningful, personalized, and consistent rewards (Robson et al., 2016.). Conversely, they tend to fail when perceived as irrelevant, overly complex, or lacking in value.
Overall, these findings emphasize the importance of tailoring gamified systems to both the functional goals of the platform and the motivational profiles of different user types.

Building on these general motivational patterns, the following analysis investigates how these responses vary across generational groups, offering a deeper understanding of how age and digital experience shape preferences and perceptions of gamification. These insights provide empirical grounding for evaluating Hypotheses H4 and H5, which address the moderating effects of generational cohorts and the comparative impact of gamification among younger and older users. This perspective is enriched through integration with theoretical models, including self-determination theory and insights from the systematic literature review.

The generational analysis compared responses from participants in Generation Z (18–30 years) with those from Baby Boomers and Generation X (46–79 years).

One of the first indicators of this generational divide emerged from participants' awareness of the term "gamification." A significantly larger portion of younger respondents had heard of the term before, suggesting a greater familiarity and digital literacy among Generation Z. This aligns with findings by Koivisto and Hamari (2014), who note that age plays a considerable role in exposure to and experience with gamified technologies, particularly as younger users tend to adopt new digital trends earlier and more comprehensively. Beyond familiarity, significant differences were observed in the actual usage of gamified platforms. Younger participants reported more frequent engagement with such systems. These findings directly affirm Hypothesis H4, which suggests that the relationship between gamification and engagement is moderated by generational cohorts. The motivational structures underlying this engagement were also generation dependent. While both age groups valued financial rewards,

younger users showed a marked preference for symbolic incentives such as progress badges, levels, or streaks. This supports Nicholson's (2015) theory that intrinsic motivators such as personal growth and social identity are particularly influential among younger users who seek not just utility, but emotional and habitual involvement in digital environments. In contrast, older respondents favored tangible outcomes such as cashback and point accumulation - reinforcing the notion that utilitarian incentives retain greater relevance for them.

This generational gap was evident in the analysis of motivations for using gamified systems. The feature "Earning rewards" was cited by both groups as highly motivating, reflecting the broad appeal of extrinsic rewards. However, differences emerged in symbolic engagement: elements like "Achieving milestones/ badges" ,"Maintaining a streak or daily habit", or "Receiving recognition or feedback" were valued far more by younger users. These differences not only reflect generational variance in motivational orientation but also support research by Harwood & Garry (2003), who highlight that older consumers tend to adopt a more functional approach to technology, focusing on reliability and concrete utility, whereas younger users are more attuned to novelty and expressiveness. Interestingly, when evaluating competitive features such as leaderboards, both age groups displayed low interest. This result complicates the often-assumed value of competition in gamification literature (Zichermann & Cunningham, 2011) and suggests that social comparison may not be universally appealing - regardless of age. This insight aligns with Koivisto and Hamari (2014), who emphasize that competitive elements only increase motivation when aligned with user preferences. Furthermore, the analysis of behavioral indicators reinforces these motivational patterns. Younger users more frequently reported checking points, levels, or badges within apps, suggesting a greater engagement with progress-tracking mechanisms. They were also significantly more likely to express a willingness to return to brands that employ gamified loyalty systems, and to indicate that the presence or removal of such features could influence their loyalty. These patterns confirm Hypothesis H5, which proposed that the impact of gamification on customer retention and loyalty is stronger among younger cohorts.

Emotional and psychological responses to gamified experiences further underscore these generational differences. Younger users expressed a stronger sense of achievement and competence through gamified systems, greater emotional connection to gamified brands, and a stronger belief that such experiences made interactions more meaningful. These findings mirror the framework of Deci and Ryan's self-determination theory (2000), particularly regarding the fulfillment of basic psychological needs as critical for sustained engagement. However, the degree to which these needs are activated appears to vary across generations. For younger users,

gamified systems seem to support internalized engagement more effectively. Older users, by contrast, appear less psychologically invested and more transactionally oriented, focusing on direct benefits.

These results reinforce the broader theoretical insight that gamification is not equally effective across all demographics. As Robson et al. (2016) point out, user characteristics - including age, technical fluency, and motivational profile - must guide the selection and implementation of gamification strategies. A system that thrives on symbolic interaction and emotional resonance may work well for younger audiences but fail to engage older users who prioritize simplicity and utility. Another important takeaway is that gamification's impact on brand loyalty is not uniform. Younger users more often reported recommending brands that offer gamified experiences and were more likely to feel "rewarded" by these interactions. This aligns with the notion that gamification can foster not only short-term engagement but also long-term support, particularly when users find meaning and connection through their interactions (Sailer et al., 2017). For older users, such outcomes may require more practical and straightforward reward structures to achieve a comparable effect.

These findings present a strong case for differentiated gamification design. Rather than applying a one-size-fits-all approach, designers and marketers should segment their gamification strategies according to generational preferences. For younger users, interactive, symbolic, and psychologically satisfying features are likely to be most effective. For older audiences, simple, transparent, and financially rewarding mechanisms may offer greater utility and engagement. This conclusion is not only relevant for current design practice but also for theory development. It suggests that age should be considered a central moderating variable in models of gamified engagement. While current frameworks often emphasize universal psychological needs (e.g., SDT), these results imply that the way in which those needs are fulfilled may differ substantially based on demographic characteristics.

The generational analysis offers compelling evidence in support of Hypothesis H4**,** affirming that generational background moderates the relationship between gamification and engagement. Furthermore, the data strongly supports Hypothesis H5, which argues that the effect of gamification on customer loyalty and retention is more pronounced among younger cohorts. These insights carry important implications for both theory and practice, highlighting the need for demographic-sensitive gamification strategies.

Building on these generational insights, the following interpretation draws on qualitative responses to explore how users perceive and interact with gamified systems in their everyday

lives. While the quantitative findings revealed broad patterns across motivational categories and age groups, the open-ended responses enrich this picture by providing deeper insights into individual experiences, perceived value, frustrations, and underlying psychological responses to gamification.

The first theme, *real-world rewards and usefulness*, was dominant across age groups. Participants frequently praised supermarket apps and loyalty programs, such as PAYBACK and those from Rewe or Edeka, for their practical value and ease of use. These systems reflect functional gamification (Deterding et al., 2011b), in which game mechanics fulfill utilitarian purposes. Users reported satisfaction from collecting and redeeming points, illustrating the central role of extrinsic motivation in driving engagement. This supports Hypothesis H2, linking engagement to customer loyalty, and aligns with prior findings that gamified incentives encourage repeat use through perceived value (Hamari & Koivisto, 2015). However, these responses revealed limited reference to psychological needs such as autonomy or relatedness, which is relevant for Hypothesis H3. Most participants cited practical outcomes rather than internal motivation, suggesting that while engagement is present, it may not stem from deeper psychological satisfaction. This offers only partial support for H3 and implies that functional gamification alone does not fulfill self-determination needs unless paired with more intrinsic design features (Deci & Ryan, 2000).

The second theme, motivation through progress and engagement, was particularly tied to platforms like Duolingo and Strava. Users described the motivating effect of streaks, leaderboards, and tracked improvements. These systems combine game design elements with learning mechanics, aligning with the concept of meaningful gamification (Nicholson, 2015). Importantly, participants who cited these platforms expressed not just engagement, but emotional responses such as pride or satisfaction. These instances are more suggestive of intrinsic motivation, where users feel competent and committed to goals. This pattern lends partial support to Hypothesis H3 and affirms the self-determination theory (Deci & Ryan, 2000), particularly the role of competence as a motivational anchor.

Theme three focused on usability and simplicity, with many respondents identifying poor design and complexity as significant barriers, especially for older users. This finding is crucial in interpreting generational differences in gamification preferences. While younger participants often overcame complexity with familiarity, older users described stress, frustration, and alienation due to cluttered interfaces and complicated point systems. These insights provide support for Hypothesis H4 by demonstrating that age plays a moderating role in how users

engage with gamified systems. Prior studies (Koivisto & Hamari, 2014) mirror this, emphasizing the need for intuitive design in age-diverse applications.

The fourth theme, reward systems, added a critical perspective on reward efficacy. Several users expressed dissatisfaction with low-value rewards or difficulty in accumulating points. Some advocated for more meaningful incentives, particularly monetary ones. This reflects a pragmatic view and indicates that not all gamification mechanisms hold equal motivational power. These responses strengthen the argument that extrinsic rewards must be perceived as valuable to effectively motivate behavior (Sailer et al., 2017), and their success hinges on context, ease of use, and immediacy of benefit.

Theme five, intrinsic versus extrinsic motivation, reflected a meta-perspective among participants. Some responses critically acknowledged the overemphasis on external rewards, expressing a desire for more meaningful engagement. While fewer in number, these remarks suggest a more reflective user group aware of motivational structures. They indicate that although extrinsic motivation is widespread, it may not sustain engagement in the long term unless balanced by experiences that foster autonomy and personal investment (Ryan & Deci, 2000). This aligns with Nicholson's (2015) framework, which argues for gamification that enhances meaningful interaction rather than just incentivizing behavior.

The sixth theme, privacy and data protection, while less prominent, introduced a critical ethical dimension to user engagement. Several participants expressed unease regarding the collection and use of their personal data, particularly in connection with loyalty programs and reward apps. This reflects a broader tension in digital environments, where perceived invasions of privacy can erode trust and reduce user willingness to engage – even with otherwise well-designed systems. As Acquisti, Brandimarte, and Loewenstein (2015) emphasize, individuals often experience a conflict between the desire for personalized digital experiences and concerns over data misuse. Thus, successful gamification requires not only functional and motivational alignment but also transparent and ethical data practices.

The final theme, *gamification across generations*, reinforced findings from the quantitative results section. Respondents described younger users as more engaged and emotionally connected to gamified features, while older users were described as goal-oriented and primarily attracted to practical rewards. This validates Hypothesis H5, confirming that the impact of gamification on customer loyalty is stronger among younger cohorts. Further, supports previous literature suggesting that younger cohorts are more likely to interpret gamification as a source of identity and sustained motivation (Sailer et al., 2017).

These themes support a multi-faceted understanding of gamification. While extrinsic motivators like points and discounts dominate, there is also demand for intrinsic engagement, usability, and transparency. The insights from open-ended responses confirm the theoretical claim that gamification is not a uniform experience but one shaped by design, context, user expectations, and demographic factors. Moreover, they point to a need for future gamified systems to balance immediate utility with deeper emotional and motivational engagement. Taken together, the qualitative insights reinforce earlier findings by confirming that extrinsic motivators continue to play a central role in driving user engagement. At the same time, participants also emphasized the importance of intuitive design, usability, and meaningful interaction. These subjective accounts lend additional empirical support to Hypotheses H2, H4, and H5, while offering only partially support for Hypothesis H3, which calls for a more nuanced understanding of psychological need satisfaction in gamified systems. The findings point to the importance of combining practical incentives with thoughtful, user-centered design to ensure sustainable engagement.

Extending this focus on user experience, the following section evaluates how gamification itself was perceived within the context of the research instrument. Specifically, it examines how game-design elements implemented in the survey influenced participants' motivation, enjoyment, and willingness to complete the questionnaire. While gamification has been widely promoted as a tool to enhance engagement in digital environments, its effectiveness in research settings such as online surveys remains a subject of empirical investigation.

The data collected from participants in the gamified condition show mixed reactions. While some respondents acknowledged increased enjoyment due to visual and interactive elements others remained indifferent or even critical. When asked to rank the gamified features, playful or visually engaging elements were rated as more motivating than the extrinsic incentive of the prize draw. This supports prior findings suggesting that immediate and intrinsically satisfying elements are more effective than delayed, extrinsic rewards (Landers, 2015; Koivisto & Hamari, 2019). However, when evaluating engagement and motivation more directly, the results were more ambivalent. While a portion of the participants reported feeling more engaged or motivated by the gamified design, many gave neutral responses or skipped these items altogether. This may suggest that the elements used were either not sufficiently noticeable or not universally appealing. Previous research has shown that gamification is highly context-dependent and often moderated by user characteristics such as digital fluency, interest, and perceived task seriousness (Mekler et al., 2017).

A particularly important finding arose from the analysis of dropout behavior. In the gamified version, a small number of participants abandoned the survey shortly after encountering the first playful element. While the majority of dropouts occurred early (before gamification was introduced) this pattern indicates a potential rejection effect for some users. Such findings challenge the assumption that gamification always enhances participation and suggest that its appropriateness must be carefully aligned with context and audience expectations.

Hypothesis H1, which posited that gamified elements would improve engagement and completion rates, therefore receives only limited support. While some participants responded positively, the data show no clear evidence of a general improvement in response behavior or motivation across the gamified sample. Future designs should consider the subtlety, relevance, and target-group fit of gamification features to avoid potential disengagement.

To conclude, the findings of this discussion highlight the complex and multifaceted nature of gamification. Overall, participants primarily valued gamified systems for their utility and the tangible rewards they offered, underscoring the central role of extrinsic motivation in driving user engagement and fostering customer loyalty. While intrinsic motivators such as enjoyment, personal challenge, or psychological satisfaction played a secondary role, they were nevertheless impactful in specific contexts and for certain user profiles. Age emerged as a particularly relevant factor shaping these dynamics: younger users were generally more engaged, emotionally responsive, and receptive to interactive and symbolic elements, whereas older participants approached gamified systems with a more pragmatic, benefit-oriented mindset. These generational distinctions suggest the need for contextually sensitive and demographically aligned gamification strategies. In addition to motivational differences, concerns around usability, data transparency, and the perceived value of rewards further influenced participants' attitudes and behaviors. The presence of design-related frustrations and ethical concerns points to the importance of thoughtful and user-centered implementation. Furthermore, while the integration of gamified elements in the research instrument showed only limited impact on engagement, the mixed reactions it generated reflect broader patterns in how gamification is perceived and experienced. Ultimately, these findings demonstrate that gamification is not a universally effective tool; rather, its success depends on a careful alignment between game-design elements, user expectations, psychological needs, and the broader social and technological context in which it is applied.

Conclusion

This thesis set out to investigate how gamification influences customer retention and how generational differences shape the effectiveness of gamified systems. Through a multi-method approach combining quantitative survey analysis, qualitative insights, and a comparative version design (gamified vs. non-gamified), the study provides a detailed understanding of how gamification functions across different user profiles and contexts. The findings offer substantial contributions to the theoretical discourse and practical implementation of gamification in consumer environments.

Key findings

Across all sections of the analysis, it became evident that gamification is not a universally effective tool but rather a context-sensitive strategy. Functional systems, especially those tied to loyalty programs and shopping apps, were widely recognized for their tangible value and ease of integration into daily routines. Participants often cited their use of systems like Payback or supermarket apps not out of enjoyment, but because of the economic and pragmatic advantages they offered. At the same time, more playful and symbolic systems, such as Snapchat or Duolingo, engaged users through emotional connection, routine formation, or social symbolism, especially among younger generations. The quantitative analysis demonstrated that gamified platforms were most effective when they delivered measurable rewards, especially in financial or status-oriented formats. While extrinsic motivators (such as points and discounts) were found to appeal across age groups, intrinsic motivational drivers (such as achievement or emotional connection) played a more significant role among younger users. Generational differences arose consistently, especially in the evaluation of gamified elements, emotional responses, and long-term engagement potential. The qualitative analysis deepened these insights by revealing how users made sense of gamification in their everyday lives. Themes such as real-world rewards, usability barriers, and skepticism towards data usage highlighted the complexity of user experiences and expectations. Notably, while many participants appreciated gamification's benefits, some rejected it altogether, particularly when it clashed with their expectations in more formal or privacy-sensitive contexts.

Research question and sub-questions

The central research question of this thesis was *"How does gamification influence customer retention, and how do generational differences shape its effectiveness?"* To answer this

comprehensively, two sub-questions were explored, each addressing a core component of the overarching inquiry.

Sub-question 1: *"What connection between gamification, customer retention and loyalty – including underlying psychological needs – can be identified?"*

The results confirm a strong connection between gamification and customer retention, primarily through extrinsically motivating mechanisms. Participants frequently mentioned platforms like PAYBACK and supermarket loyalty cards, praising the tangible rewards these systems provide. This reflects functional gamification (Deterding et al., 2011b), where utilitarian value fosters habitual use. Hypothesis H2 is thus supported: gamified elements, particularly those offering clear rewards, contribute to customer loyalty.
However, support for Hypothesis H3, proposing a mediating role of psychological need satisfaction, is limited. While features like point tracking or achievement systems occasionally fostered feelings of competence, most users described their engagement in transactional terms. Elements that would typically support intrinsic motivation, such as autonomy or relatedness, were rarely emphasized. This suggests that many current systems lack the depth required to activate long-term, intrinsically driven loyalty.

Sub-question 2: *"How do gamification elements influence customer retention and loyalty across different generational cohorts?"*

Generational differences were evident across most responses. Younger users (Generation Z) demonstrated higher familiarity with gamification and reported more frequent, emotionally resonant engagement. They responded positively to symbolic features such as badges, streaks, or visual feedback, which often aligned with feelings of enjoyment and identity. Older users, however, focused on clarity, ease of use, and the practical value of rewards. Complex interfaces or abstract features were seen as frustrating or irrelevant. These findings confirm Hypothesis H5: the effectiveness of gamification is higher among younger cohorts. This supports earlier research (Koivisto & Hamari, 2014) suggesting that digital fluency and generational familiarity influence receptiveness to game elements. The implication is clear: different age groups require tailored approaches to maximize engagement and loyalty through gamification.

To conclude, and in direct response to the central research question, the findings of this study demonstrate that gamification can positively influence customer retention. However, its success depends significantly on the type of system implemented and the specific target demographic.

Younger users tend to respond more positively to playful, symbolic, and interactive elements, whereas older users favor structured, benefit-oriented mechanisms. Thus, the impact of gamification is not universal but shaped by individual motivational dynamics and demographic context. For gamification strategies to be truly effective, they must align with user expectations and psychological needs - balancing extrinsic incentives with meaningful engagement. Only under these conditions can gamified systems foster sustainable customer retention across diverse user groups. Further, the findings of this thesis demonstrate that gamification is a promising, yet highly conditional tool for enhancing customer engagement and loyalty. While widely used in consumer platforms, its effectiveness depends on thoughtful alignment between mechanics, user needs, and demographic characteristics. The most successful systems are those that offer both clear rewards and meaningful engagement, especially when they accommodate generational expectations around technology use, privacy, and motivation. The study also reinforces a shift in how gamification should be conceptualized. Rather than viewing it as a fixed set of tools, it should be seen as a flexible framework that adapts to the psychology and context of its users. This requires not only technical design skills but also an understanding of behavioral and generational psychology.

Directions for future research

This study highlights several avenues for future research that can further advance the understanding of gamification in the context of customer engagement and loyalty. Longitudinal research would be valuable to examine how gamification influences user behavior over time. Additionally, more experimental studies are needed to isolate the specific effects of individual game-design elements, such as points, badges, or progress indicators, and to determine how different combinations affect diverse user groups. Cross-cultural research represents another promising path, as cultural norms and expectations may significantly shape how gamification is perceived and how users respond to specific design choices. Moving beyond age as the primary segmentation factor, future studies could incorporate variables such as digital skills, personality traits or different user types to offer more precise insights into motivational patterns and personalization strategies. There is also a need to deepen research on how gamification can better support intrinsic motivational processes. While current systems often emphasize extrinsic incentives, future work should explore how gamified designs can foster autonomy, competence, and relatedness as outlined in Self-Determination Theory. Understanding these mechanisms can help develop more meaningful and sustainable engagement strategies. Finally, practical applications in corporate settings serve as valuable real-world test environments for applied research. These applications not only validate theoretical models but also offer companies

empirically grounded design recommendations for tailoring gamified systems to diverse customer needs.

Strengths and limitations

One of the key strengths of this study lies in its comprehensive mixed-methods design, which integrated quantitative survey analysis with qualitative thematic insights. This methodological triangulation allowed for a more nuanced understanding of gamification's impact on customer retention and loyalty by combining measurable behavioral trends with the subjective voices of participants. Such an approach not only validates statistical findings but also reveals the motivational and emotional underpinnings that numbers alone may not capture. Another important strength is the inclusion of a gamified experimental survey version, enabling a real-time, experience-based exploration of user engagement with gamification elements. This practical dimension added ecological validity to the study, allowing participants to reflect on gamification not as a theoretical construct, but as a lived experience. Furthermore, the focus on generational differences addresses a relevant and underexplored variable in gamification research, contributing to an understanding of how digital fluency, age-related preferences, and psychological needs interact in user behavior.

Despite these strengths, the study has several limitations. While the sample size was sufficient for initial analyses, a larger and more diverse sample would improve the external validity and generalizability of the results. Specifically, the imbalance of nine participants between the two primary generational cohorts may have influenced comparative outcomes and should be corrected in future studies to allow more precise age-based conclusions. Additionally, self-reported data is inherently susceptible to biases such as social desirability, selective memory, or misunderstanding of questions. The gamification features implemented in the survey—though carefully selected—represent only a limited subset of possible design elements, and their effectiveness may not be transferable across other industries, cultures, or platforms. Future research should aim to replicate and expand upon these findings in more varied contexts.

Implications

For academic research, this study highlights the need to integrate user psychology and demographic diversity into gamification research. It also underscores the value of combining self-determination theory with design-focused frameworks like meaningful gamification. For practitioners and platform designers, the findings point to the importance of tailoring gamification to target audiences. Functional rewards may work well for older users or utilitarian

platforms, while younger users may respond better to symbolic, progress-based systems. Usability, clarity, and transparency remain essential design priorities.In the context of marketing and customer experience, gamification should be used strategically to reinforce loyalty, especially in competitive sectors like retail or digital services. However, it must avoid superficiality because users quickly lose interest when rewards feel meaningless or when systems are perceived as manipulative.

Gamification offers a dynamic interface between digital engagement, behavioral motivation, and consumer loyalty. This thesis demonstrates that its potential is significant but contingent. Its success lies not simply in implementation, but in thoughtful, user-centered design that responds to the diverse needs and preferences of its users. Understanding these distinctions is essential for leveraging gamification in ways that are ethical, effective, and inclusive.

References

Acquisti, A., Brandimarte, L., & Loewenstein, G. (2015). Privacy and human behavior in the age of information. *Science, 347*(6221), 509–514. https://doi.org/10.1126/science.aaa1465.

Alsawaier, R. S. (2017). The effect of gamification on motivation and engagement. *International Journal of Information and Learning Technology*, *35*(1), 56–79. https://doi.org/10.1108/ijilt-02-2017-0009.

Alsswey, A. & Malak, M. (2024). Effect of using gamification of "Kahoot!" as a learning method on stress symptoms, anxiety symptoms, self-efficacy, and academic achievement among university students. *Learning And Motivation*, *87*, 101993. https://doi.org/10.1016/j.lmot.2024.101993.

Behl, A. & Pereira, V. (2021). What's behind a scratch card? Designing a mobile application using gamification to study customer loyalty: An experimental approach. *AJIS. Australasian Journal Of Information Systems/AJIS. Australian Journal Of Information Systems/Australian Journal Of Information Systems*, *25*. https://doi.org/10.3127/ajis.v25i0.3203.

Butt, A. H., Ahmad, H., Muzaffar, A., Irshad, W., Mumtaz, M. U. & Khan, T. Z. A. (2024). WeChat gamification: mobile payment impact on word of mouth and customer loyalty. *Spanish Journal Of Marketing - ESIC*. https://doi.org/10.1108/sjme-01-2023-0021.

Caserman, P., Baumgartner, K. A., Göbel, S. & Korn, O. (2023). A best practice for gamification in large companies: An extensive study focusing inter-generational acceptance. *Multimedia Tools And Applications*, *83*(12), 35175–35195. https://doi.org/10.1007/s11042-023-16877-7.

Clarke, V., & Braun, V. (2017). Thematic analysis. *The Journal of Positive Psychology*, *12*(3), 297–298. https://doi.org/10.1080/17439760.2016.1262613.

Deci, E. L., & Ryan, R. M. (2000). The "What" and "Why" of Goal Pursuits: Human Needs and the Self-Determination of Behavior. *Psychological Inquiry*, *11*(4), 227–268. https://doi.org/10.1207/S15327965PLI1104_01.

Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011a). From Game Design Elements to Gamefulness: Defining 'Gamification'. *Proceedings of the 15th International Academic MindTrek Conference: Envisioning Future Media Environments*, 9-15.

Deterding, S., Sicart, M., Nacke, L., O'Hara, K. & Dixon, D. (2011b). Gamification: Using game-design elements in non-gaming contexts. 2425–2428. https://doi.org/10.1145/1979742.1979575.

Frost, J. (2020). Introduction to Statistics: An Intuitive Guide for Analyzing Data and Unlocking Discoveries. *Statistics By Jim Publishing*.

Harms, J., Biegler, S., Wimmer, C., Kappel, K., & Grechenig, T. (2015). Gamification of online surveys: design process, case study, and evaluation. In *Lecture notes in computer science* (pp. 219–236). https://doi.org/10.1007/978-3-319-22701-6_16.

Harwood, T., & Garry, T. (2003). An Overview of Content Analysis. *The Marketing Review, 3*(4), 479-498.

Ho, Y., Liu, S. & Wang, L. (2022). Fun Shopping: A Randomized Field Experiment on Gamification. *Information Systems Research*, *34*(2), 766–785. https://doi.org/10.1287/isre.2022.1147.

Hosseini, E. & Rezvani, M. H. (2021). E-customer loyalty in gamified trusted store platforms: a case study analysis in Iran. *Bulletin Of Electrical Engineering And Informatics*, *10*(5), 2899–2909. https://doi.org/10.11591/eei.v10i5.3165.

Jacobides, M. G., Dalbert, M., MA, Trantopoulos, K. & Vassalos, V. (2024). The Business Value of Gamification. *California Management Review*, *66*(2), 91–107. https://doi.org/10.1177/00081256231218469.

Jain, A. & Dutta, D. (2018). Millennials and Gamification: Guerilla Tactics for Making Learning Fun. *South Asian Journal Of Human Resources Management*, *6*(1), 29–44. https://doi.org/10.1177/2322093718796303.

Kitchenham, B. (2004). Procedures for performing systematic reviews. *Keele, UK, Keele University*, *33*(2004), 1-26.

Koivisto, J. & Hamari, J. (2014). Demographic differences in perceived benefits from gamification. *Computers in Human Behavior*, *35*, 179–188. https://doi.org/10.1016/j.chb.2014.03.007.

Koivisto, J. (2015). Working out for likes: An empirical study on social influence in exercise gamification. *Computers in Human Behavior*, *50*, 333-347.

Koivisto, J., & Hamari, J. (2019). The rise of motivational information systems: A review of gamification research. *International Journal of Information Management, 45*, 191–210. https://doi.org/10.1016/j.ijinfomgt.2018.10.013.

Landers, R. (2015). *Developing a Theory of Gamified Learning: Linking Serious Games and Gamification of Learning*.

Liu, A., Urquía-Grande, E., López-Sánchez, P. & Rodríguez-López, Á. (2024). The power of play in microfinance: Examining the effect of gamification on customer relationship management performance. *Journal Of Behavioral And Experimental Finance*, *44*, 100972. https://doi.org/10.1016/j.jbef.2024.100972.

McCrindle, M. (2021, October 15). The generations defined. *McCrindle*. https://mccrindle.com.au/article/topic/demographics/the-generations-defined/. (Retrieved on 17.06.2025).

Mekler, E. D., Brühlmann, F., Tuch, A. N., & Opwis, K. (2017). Towards understanding the effects of individual gamification elements on intrinsic motivation and performance. *Computers in Human Behavior*, *71*, 525–534. https://doi.org/10.1016/j.chb.2015.08.048.

Nicholson, S. (2015). A RECIPE for Meaningful Gamification. In *Gamification in Education and Business* (pp. 1–20). Springer International Publishing.

Nicholson, S. (2012). A User-Centered Theoretical Framework for Meaningful Gamification. *Games+Learning+Society 8.0*, Madison, WI. http://scottnicholson.com/pubs/meaningfulframework.pdf.

Nowell, L. S., Norris, J. M., White, D. E. & Moules, N. J. (2017). Thematic analysis. *International Journal Of Qualitative Methods*, *16*(1). https://doi.org/10.1177/1609406917733847.

Prott, D. & Ebner, M. (2020). The Use of Gamification in Gastronomic Questionnaires. *International Journal Of Interactive Mobile Technologies (iJIM)*, *14*(02), 101. https://doi.org/10.3991/ijim.v14i02.11695.

Qualtrics. (2024).What you need to know when selecting an academic research platform. *Qualtrics*. https://www.qualtrics.com/blog/academic-research-platform/.

Robson, K., Plangger, K., Kietzmann, J. H., McCarthy, I., & Pitt, L. (2016). Game on: Engaging customers and employees through gamification. *Business Horizons*, *59*(1), 29–36. https://doi.org/10.1016/j.bushor.2015.08.002.

Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, *55*(1), 68–78. https://doi.org/10.1037/0003-066x.55.1.68.

Sailer, M., Hense, J. U., Mayr, S. K., & Mandl, H. (2016). How gamification motivates: An experimental study of the effects of specific game design elements on psychological need satisfaction. *Computers in Human Behavior*, *69*, 371–380. https://doi.org/10.1016/j.chb.2016.12.033.

Sam-Epelle, I., Olayinka, O. & Jones, P. (2022). The Evolution of Enterprise Gamification in the Digital Era and the Role of Value-Based Models. *Sustainability*, *14*(15), 9251. https://doi.org/10.3390/su14159251.

Schöbel, S. M., Janson, A. & Söllner, M. (2020). Capturing the complexity of gamification elements: a holistic approach for analysing existing and deriving novel gamification designs. *European Journal Of Information Systems*, 29(6), 641–668. https://doi.org/10.1080/0960085x.2020.1796531.

Terry, G., Hayfield, N., Clarke, V., & Braun, V. (2017). Thematic analysis. In C. Willig & W. Stainton-Rogers (Eds.), *The SAGE Handbook of Qualitative Research in Psychology* (pp. 17–36). SAGE Publications Ltd. https://doi.org/10.4135/9781526405555.n2.

Triantoro, T., Gopal, R., Benbunan-Fich, R. & Lang, G. (2019). Would you like to play? A comparison of a gamified survey with a traditional online survey method. *International Journal Of Information Management*, *49*, 242–252. https://doi.org/10.1016/j.ijinfomgt.2019.06.001.

UNSW Team. (2025). How gamification drives mobile app engagement and business value. *UNSW BusinessThink*. https://businessthink.unsw.edu.au/articles/mobile-app-gamification-strategies.

Xu, F., Buhalis, D. & Weber, J. (2016). Serious games and the gamification of tourism. *Tourism Management*, *60*, 244–256. https://doi.org/10.1016/j.tourman.2016.11.020.

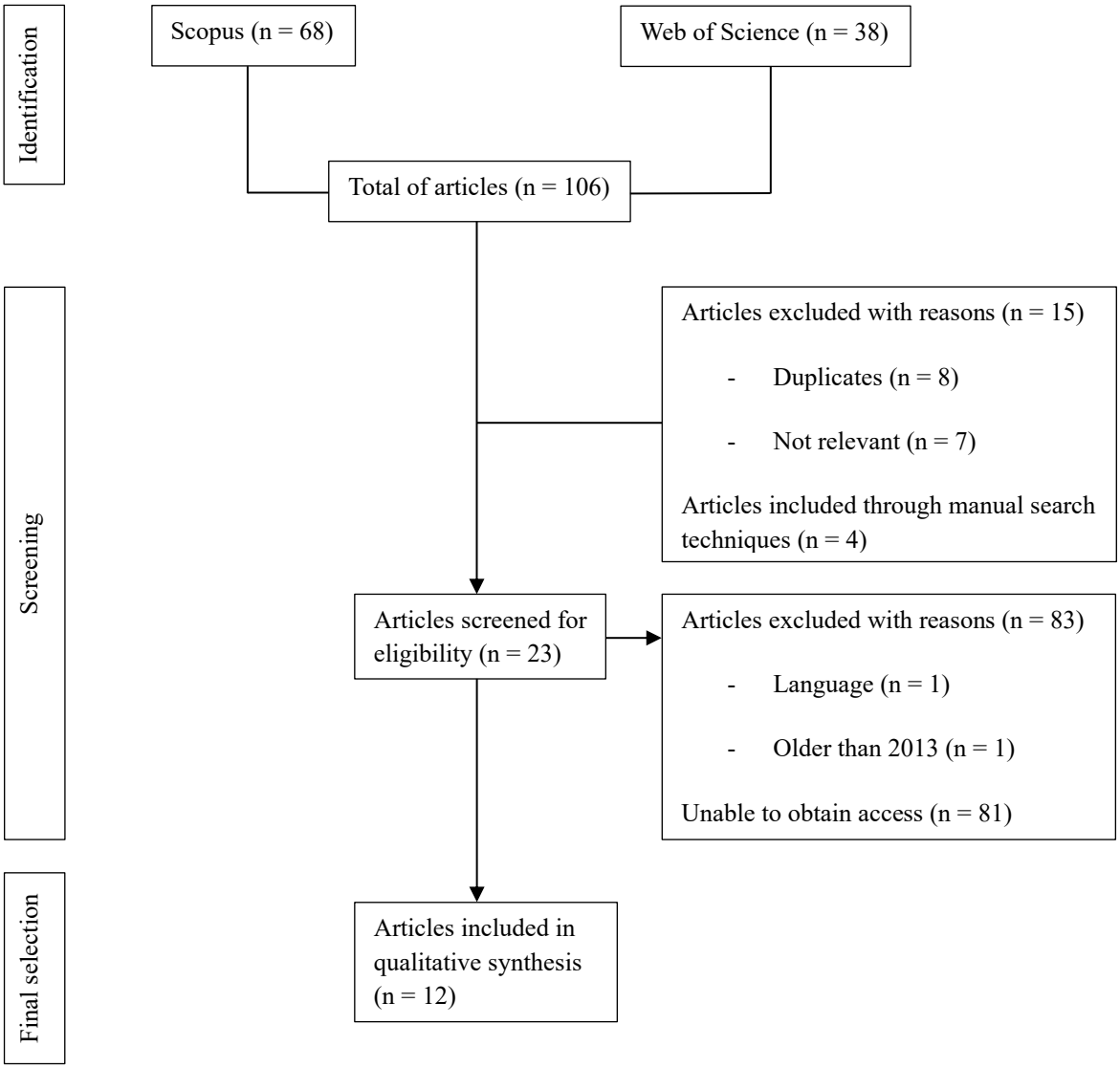
Zhang, X., Ghosh, A. & Ali, D. A. (2024). Research on Marketing Strategy Management based on Customer Retention. *Academic Journal of Management and Social Sciences*, *6*(2), 66–70. https://doi.org/10.54097/rdcx2907.

Zichermann, G., & Cunningham, C. (2011). Gamification by Design: Implementing Game Mechanics in Web and Mobile Apps. *O'Reilly Media, Inc.*

Appendices

A –PRISMA flow diagram

Illustrating steps in the selecting process (PRISMA) for first and primary query



B – Table of reviewed papers

Overview of the 12 reviewed papers

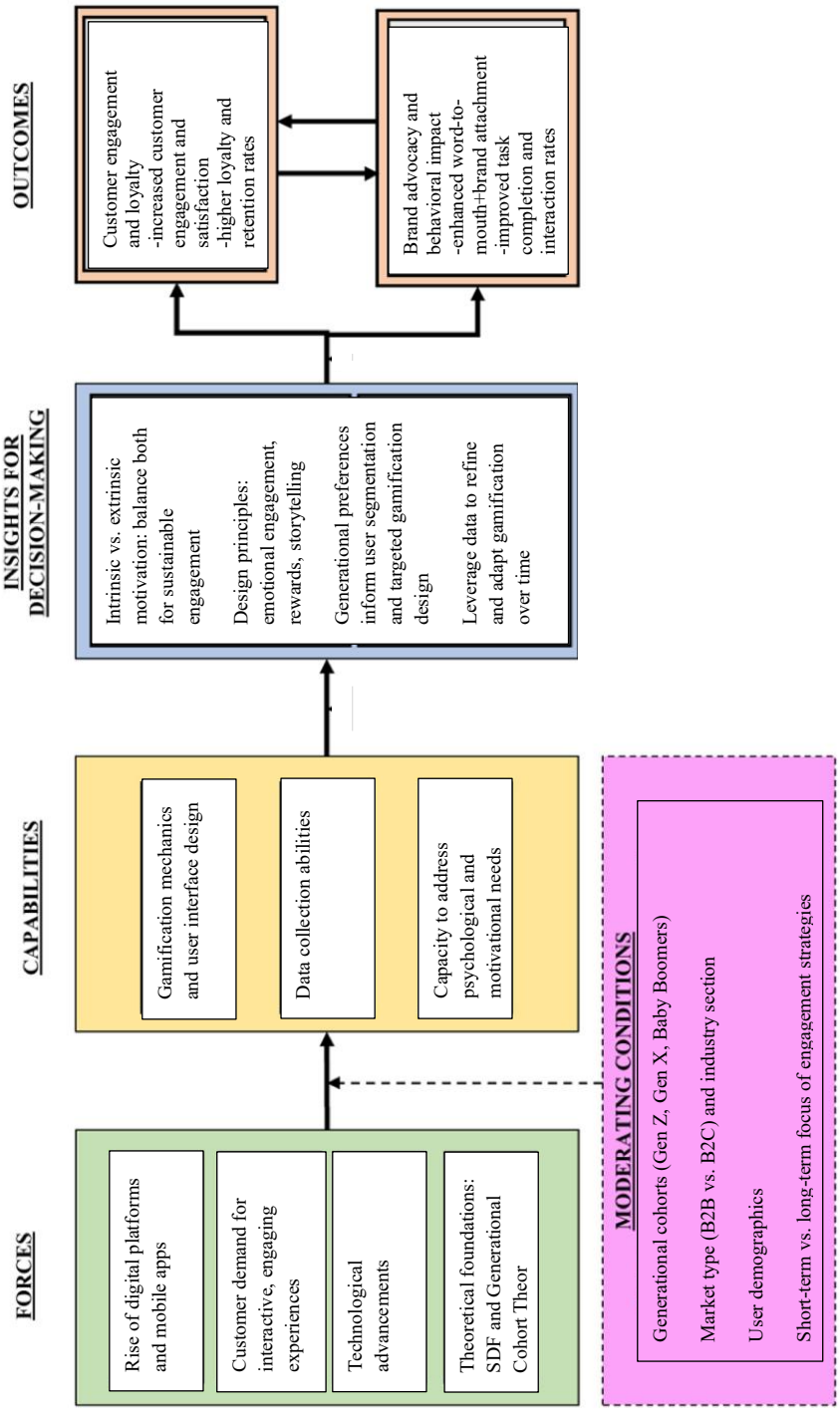
Year	*Author(s)*	*Journal*	*Keywords*	*Type of paper*	*Geographical area*	*Methodology (if empirical)*
2021	Behl & Pereira	Australasian Journal of Information Systems	Gamification, Scratch cards, Mobile App, Self-determination theory, stimulus organism response, Experiment	Empirical	India	Quantitative Experimental app study App users
2024	Butt et al.	Spanish Journal of Marketing	Gamification, Generation, Playfulness, Enjoyment, Mobile payment, Intimacy	Empirical	China	Quantitative Survey + SEM Consumers
2023	Caserman et al.	Multimedia Tools & Applications	Gamification, Generations, Acceptance, Large-scale Evaluation	Empirical	Germany	Quantitative Survey Focus group Professionals
2022	Ho, Liu & Wang	Information Systems Research	Gamification, badge, Leaderboard, Location-based technology, Randomized field experiment, Heterogeneous treatment effect	Empirical	Asia	Quantitative Randomized field experiment A/B testing Retail app users
2021	Hosseini & Rezvani	Bulletin of Electrical Engineering and Informatics	Customer satisfaction, Gamification, Loyalty, Online shopping, Trust	Empirical	Iran	Quantitative Survey Online consumers

2024	Jacobides et al.	California Management Review	Gamification, Digital economy, Innovation, Digital ethics	Conceptual	International	-
2024	Liu et al.	Journal of Behavioral and Experimental Finance	Gamification, Microfinance, Valence framework, Customer relationship management	Empirical	China	Quantitative Survey Professionals
2020	Prott & Ebner	International Journal of Interactive Mobile Technologies	Online questionnaire, Customer satisfaction, Gamification, Game elements	Empirical	Austria	Quantitative Online questionnaire Users of KUBO app
2016	Sailer et al.	Computers in Human Behavior	Gamification, Game design elements, Psychological need satisfaction, Motivation, Self-determination theory, Simulation	Empirical	Switzerland	Experimental Lab Study Students
2022	Sam-Epelle, Olayinka & Jones	Sustainability	Gamification, Enterprise gamification, Technology acceptance models, Value framework, Conceptual model, Digital transformation	Conceptual	Europe	-
2019	Triantoro et al.	International Journal of Information	Big Five, Human computer interaction, Online surveys, Signalizing, S-O-R framework, User	Empirical	U.S.	Quantitative A/B testing Comparison Survey Students

			experience design			
2025	UNSW Team	UNSW BusinessThink	User experience, Customer Experience, Brands, Marketing, Digital, Innovation	Conceptual	Australia	-

C – Graphical summary

Research Model: Graphical Summary



D – Screenshots of surveys

Survey 1

Non-gamified version

Master Thesis Survey

Start of Block: Non-gamified survey

Welcome! You are invited to take part in a research study on **gamification** as part of my master's thesis at the University of Twente. Participation is **voluntary**, and you may withdraw at any time without any consequences. Your responses will remain **completely anonymous** and will be used solely for academic research. No personal data will be collected or shared. The survey will take no more than 10 minutes to complete. If you have any questions, please feel free to contact me at t.brinkmann@student.utwente.nl.

By starting the survey, you confirm that you: 1. Have read and understood the study's purpose and procedures. 2. Are aware that participation is voluntary and that you can withdraw at any time. 3. Agree to the anonymous collection and use of your data for this research.

- ○ Yes, I agree
- ○ No, I do not agree

Have you heard of the term "Gamification" before?

- ○ Yes
- ○ No

What is Gamification? Gamification means adding game-like elements to non-game settings to boost engagement, motivation, and loyalty. Examples include: -Loyalty programs like Payback, where you earn points for every purchase that can be exchanged for rewards. -Apps like Snapchat or Duolingo, where you earn streaks or points by sending pictures or completing tasks, purely as motivation - not for money. This survey explores your experiences and opinions with gamification, especially in apps, shopping, and brand interactions.

Which of the following gamified platforms and apps have you used? *Select all that apply*

- ☐ Duolingo
- ☐ Snapchat
- ☐ Payback
- ☐ Nike Run Club
- ☐ Starbucks
- ☐ eBay
- ☐ Strava
- ☐ Miles & More
- ☐ Decathlon
- ☐ Google
- ☐ Lidl Plus
- ☐ Rewe App
- ☐ Edeka App
- ☐ None
- ☐ Other (please specify) _____

How often do you interact with platforms that use gamification?

▼ Never ... Daily

What makes a gamified app or platform fun or interesting for you? *Select all that apply*

- ☐ Earning rewards (like points, discounts)
- ☐ Achieving milestones or badges
- ☐ Competing with others (leaderboards)
- ☐ Maintaining a streak or daily habit
- ☐ Receiving recognition or feedback
- ☐ Pure enjoyment
- ☐ Other (please specify) _____

Please answer the following questions about your behavior and preferences regarding gamified loyalty features.

	Yes	No	Unsure
Have you ever chosen one brand or platform over another because of gamified features?	○	○	○
Would you be more likely to return to a brand or platform that uses gamified loyalty programs?	○	○	○
Do you actively check your points, badges, or levels in apps or loyalty programs?	○	○	○
Do financial rewards motivate you more than non-financial (e.g., badges, status)?	○	○	○

How important are gamified elements in your decision to stay loyal to a brand or platform?

▼ Not important at all ... Very important

Please indicate how strongly you agree or disagree with the following statements about your experience with gamified systems.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I feel a sense of achievement when completing tasks or reaching goals within gamified platforms.	○	○	○	○	○
Gamified rewards make me feel competent.	○	○	○	○	○
I feel emotionally connected to brands that offer engaging, gamified experiences.	○	○	○	○	○
Gamified interactions make the experience more meaningful.	○	○	○	○	○

Please indicate how much you agree or disagree with the following statements about gamification and brand loyalty.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I am likely to recommend a brand or platform that uses gamified elements.	○	○	○	○	○
I would be less loyal to a platform if it removed its gamified features.	○	○	○	○	○
Feeling rewarded is important to me when interacting with brands or platforms.	○	○	○	○	○
I believe gamified rewards help build long-term customer loyalty.	○	○	○	○	○

I'd love to hear your thoughts and feedback. Please answer the following optional questions to share more about your personal experience and views on gamification.

○ What is the best gamified experience you have encountered? Why?
_____

○ What improvements would you suggest for gamified programs?
_____

○ Among your family or friends, how do older and younger people use gamified platforms? Can you share any differences or examples?
_____

What is your age?

○ Under 18

○ 18-30

○ 31-45

○ 46-60

○ 61-79

○ 80 or older

I confirm that I am at least 16 years old.

○ Please click here to confirm.

What is your highest level of education?

▼ No formal education ... Prefer not so say

End of Block: Non-gamified survey

Gamified version

(The included screenshots display the gamified elements, such as memes, only as static snapshots; during the actual survey experience, these elements were animated.)

Master Thesis Survey

Start of Block: Gamified version

Welcome! You are invited to take part in a research study on **gamification** as part of my master's thesis at the University of Twente. Participation is **voluntary**, and you may withdraw at any time without any consequences. Your responses will remain **completely anonymous** and will be used solely for academic research. No personal data will be collected or shared. The survey will take no more than 10 minutes to complete. At the end of the survey, you will have the option to enter a **raffle to win a €20 Amazon voucher** as a thank-you for your participation. If you have any questions, please feel free to contact me at t.brinkmann@student.utwente.nl.

By starting the survey, you confirm that you: 1. Have read and understood the study's purpose and procedures. 2. Are aware that participation is voluntary and that you can withdraw at any time. 3. Agree to the anonymous collection and use of your data for this research.

- ○ Yes, I agree
- ○ No, I do not agree

Thanks for joining – now let's dive in! 🚀

Have you heard of the term "Gamification" before?

- ○ Yes
- ○ No

What is Gamification? Gamification means adding game-like elements to non-game settings to boost engagement, motivation, and loyalty. Examples include: -Loyalty programs like Payback, where you earn points for every purchase that can be exchanged for rewards. -Apps like Snapchat or Duolingo, where you earn streaks or points by sending pictures or completing tasks, purely as motivation - not for money. This survey explores your experiences and opinions with gamification, especially in apps, shopping, and brand interactions.

Which of the following gamified platforms or apps have you used? *Select all that apply*

- ☐ Duolingo
- ☐ Snapchat
- ☐ Payback
- ☐ Nike Run Club
- ☐ Starbucks
- ☐ eBay
- ☐ Strava
- ☐ Miles & More
- ☐ Decathlon
- ☐ Google
- ☐ Lidl Plus
- ☐ Rewe App
- ☐ Edeka App
- ☐ None
- ☐ Other (please specify) _____

How often do you interact with platforms or apps that use gamification?

▼ Never ... Very often

What makes a gamified app or platform fun or interesting for you? *Select all that apply*

- ☐ Earning rewards (like points, discounts)
- ☐ Achieving milestones or badges
- ☐ Competing with others (leaderboards)
- ☐ Maintaining a streak or daily habit
- ☐ Receiving recognition or feedback
- ☐ Pure enjoyment
- ☐ Other (please specify) _____

Please answer the following questions about your behavior and preferences regarding gamified loyalty features.

	Yes	No	Unsure
Have you ever chosen one platform or brand over another because of gamified features?	○	○	○
Would you be more likely to return to a brand or platform that uses gamified loyalty programs?	○	○	○
Do you actively check your points, badges, or levels in apps or loyalty programs?	○	○	○
Do financial rewards motivate you more than non-financial (e.g., badges, status)?	○	○	○

How important are gamified elements in your decision to stay loyal to a brand, app or platform?

▼ Not important at all ... Very important

Nice job - Keep going!💪🚀

Please indicate how strongly you agree or disagree with the following statements about your experience with gamified systems.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I feel a sense of achievement when completing tasks or reaching goals within gamified platforms.	○	○	○	○	○
Gamified rewards make me feel competent.	○	○	○	○	○
I feel emotionally connected to brands that offer engaging, gamified experiences.	○	○	○	○	○
Gamified interactions make the experience more meaningful.	○	○	○	○	○

Great job! Just a few more questions to go ✅📝

Please indicate how much you agree or disagree with the following statements about gamification and brand loyalty.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
I am likely to recommend a brand, app or platform that uses gamified elements.	○	○	○	○	○
I would be less loyal to a platform if it removed its gamified features.	○	○	○	○	○
Feeling rewarded is important to me when interacting with brands or platforms.	○	○	○	○	○
I believe gamified rewards help build long-term customer loyalty.	○	○	○	○	○

I'd love to hear your thoughts and feedback. Please answer the following optional questions to share more about your personal experience and views on gamification.

○ What is the best gamified experience you have encountered? Why?
_____

○ What improvements would you suggest for gamified programs?
_____

○ Among your family or friends, how do older and younger people use gamified platforms? Can you share any differences or examples?
_____

Finally, here are the last three questions about your experience with this survey: Which gamified feature did you find most motivating? Put all three gamified elements from this survey into a ranking from most motivating to least motivating.

_____ Humorous items (memes)
_____ Feedback messages
_____ Raffle to win a voucher

To what extent do you agree with the following statement?

Did the gamified elements make the survey more enjoyable for you?	▼ Strongly disagree ... Strongly agree
Did you feel more engaged because of the gamified elements?	▼ Strongly disagree ... Strongly agree
Did the gamified elements motivate you to complete the survey?	▼ Strongly disagree ... Strongly agree
Would you prefer future surveys to include gamification elements?	▼ Strongly disagree ... Strongly agree

Please share any comments on your experience with the gamified survey.

_____

_____

_____

_____

_____

Level Complete! To wrap up, we just need a few quick facts about you

What is your age?

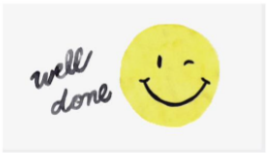
- Under 18
- 18-30
- 31-45
- 46-60
- 61-79
- 80 or older

I confirm that I am at least 16 years old.

- Please click here to confirm.

What is your highest level of education?

▼ No formal education ... Prefer not so say



Let's move on to the raffle!

Would you like to enter the raffle to win a prize?

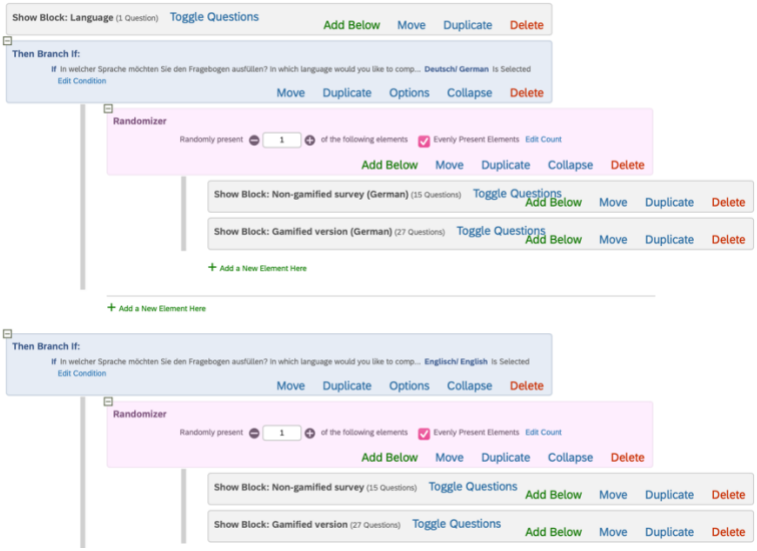
- Yes
- No

As a thank-you, you can enter a raffle for a €20 Amazon voucher. Please copy and paste the following link into a new browser window to enter your contact details:
https://qualtricsxmfxblv9tyb.qualtrics.com/jfe/form/SV_brxD3WbqiXOzPaC

End of Block: Gamified version

Both versions (gamified and non-gamified) of the survey were also available in German. However, they are not included here in full, as they represent a direct 1:1 translation of the English versions. The survey can be accessed via the following link:
https://qualtricsxmfxblv9tyb.qualtrics.com/jfe/form/SV_bNsIrr6dGBC9efQ

This image illustrates the survey flow, showing the branching logic and randomizer used to assign participants either to the gamified or non-gamified version of the questionnaire, following their initial selection of the survey language:



Survey 2

This is the second survey created exclusively for the prize draw, designed to ensure that responses to the main survey remain fully anonymous and cannot be linked back to individual participants:

Prize draw

Start of Block: Gutschein/ Voucher

Es freut mich, dass Sie am Gewinnspiel teilnehmen möchten! Bitte tragen Sie dazu unten Ihre Kontaktdaten ein. Ihre Angaben werden ausschließlich für die Verlosung verwendet, streng vertraulich behandelt und nach Benachrichtigung des Gewinners gelöscht. Ihre Kontaktdaten werden nicht mit Ihren Umfrageantworten verknüpft. Die Angabe der Kontaktdaten ist freiwillig und hat keinen Einfluss auf Ihre Teilnahme an der Umfrage.
Great to hear you'd like to join the raffle! Please enter your contact details below. Your information will be used solely for the purpose of the raffle, kept strictly confidential, and deleted after the winner has been notified. Your contact details will not be linked to your survey responses. Providing your contact information is voluntary and does not affect your participation in the survey.

- ○ Vorname/ First name _____
- ○ Nachname/ Surname _____
- ○ E-Mail Adresse/ Email address _____

End of Block: Gutschein/ Voucher

E – Survey results I

Results of section “General evaluation of gamification and user experience” from JASP

Descriptive Statistics and frequency tables for question 1: *Have you heard of the term "Gamification" before?*

Descriptive Statistics

	Term Gamification_Total
Valid	109
Missing	0
Mean	1.615
Std. Deviation	0.489
Minimum	1.000
Maximum	2.000

Frequency Tables

Frequencies for Term Gamification_Total

Term Gamification_Total	Frequency	Percent	Valid Percent	Cumulative Percent
1	42	38.532	38.532	38.532
2	67	61.468	61.468	100.000
Missing	0	0.000		
Total	109	100.000		

	Have you heard of the term "Gamification" before?
Yes	42 participants = 39.5%
No	67 participants = 61.5%

Table E1. Prior awareness of the term “gamification” among participants.

The following table presents the number of mentions for question 2: *Which of the following gamified platforms or apps have you used?*

Which of the following gamified platforms or apps have you used?	Mentions
Google	68
Payback	60
eBay	56
Snapchat	40
Duolingo	33
Lidl Plus	33
Rewe App	32
Edeka	18
Miles & More	18
Decathlon	11
Strava	10
Nike Run Club	5
Starbucks	1

None	4

Table E2. Reported usage of gamified platforms and apps.

Descriptive Statistics and frequency tables for question 3: *How often do you interact with platforms or apps that use gamification?*

Descriptive Statistics

	Use_Total
Valid	109
Missing	0
Mean	3.349
Std. Deviation	1.150
Minimum	1.000
Maximum	5.000

Frequency Tables

Frequencies for Use_Total

Use_Total	Frequency	Percent	Valid Percent	Cumulative Percent
1	4	3.670	3.670	3.670
2	29	26.606	26.606	30.275
3	19	17.431	17.431	47.706
4	39	35.780	35.780	83.486
5	18	16.514	16.514	100.000
Missing	0	0.000		
Total	109	100.000		

How often do you interact with platforms or apps that use gamification?	
Never	4 participants = 3.7%
Rarely	29 participants = 26.6%
Sometimes	19 participants = 17.4%
Often	39 participants = 35.8%
Very often/ daily	18 participants = 16.5%

Table E3. Self-reported frequency of interaction with gamified platforms or apps.

Descriptive Statistics for question 4: *What makes a gamified app or platform fun or interesting for you?*

Descriptive Statistics

	Earning rewards	Milestones/ badges	Competition with others	Streak	Feedback	Enjoyment
Valid	82	19	7	29	6	28
Missing	27	90	102	80	103	81
Mean	1.000	1.000	1.000	1.000	1.000	1.000
Std. Deviation	0.000	0.000	0.000	0.000	0.000	0.000
Minimum	1.000	1.000	1.000	1.000	1.000	1.000
Maximum	1.000	1.000	1.000	1.000	1.000	1.000

What makes a gamified app or platform fun or interesting for you?	Mentions
Earning rewards	82
Achieving milestones or badges	19
Competing with others	7
Maintaining a streak or daily habit	29
Receiving recognition or feedback	6
Pure enjoyment	28

Table E4. Factors that make gamified apps or platforms enjoyable according to participants.

Descriptive Statistics and frequency tables for question 5: *Have you ever chosen one platform or brand over another because of gamified features?*

Descriptive Statistics

	Choose one over another
Valid	109
Missing	0
Mean	1.642
Std. Deviation	0.660
Minimum	1.000
Maximum	3.000

Frequency Tables

Frequencies for Choose one over another

Choose one over another	Frequency	Percent	Valid Percent	Cumulative Percent
1	50	45.872	45.872	45.872
2	48	44.037	44.037	89.908
3	11	10.092	10.092	100.000
Missing	0	0.000		
Total	109	100.000		

Have you ever chosen one platform or brand over another because of gamified features?	
Yes	50 participants = 45.9%
No	48 participants = 44%
Unsure	11 participants = 10.1%

Table E5. Participants' decisions influenced by gamified features.

Descriptive Statistics and frequency tables for question 6: *Would you be more likely to return to a brand or platform that uses gamified loyalty programs?*

Descriptive Statistics

	Return to brand
Valid	109
Missing	0
Mean	1.862
Std. Deviation	0.799
Minimum	1.000
Maximum	3.000

Frequency Tables

Frequencies for Return to brand

Return to brand	Frequency	Percent	Valid Percent	Cumulative Percent
1	43	39.450	39.450	39.450
2	38	34.862	34.862	74.312
3	28	25.688	25.688	100.000
Missing	0	0.000		
Total	109	100.000		

Would you be more likely to return to a brand or platform that uses gamified loyalty programs?	
Yes	43 participants = 39.5%
No	38 participants = 35.9%
Unsure	28 participants = 25.7%

Table E6. Participants' likelihood of returning to brands with gamified loyalty programs-

Descriptive Statistics and frequency tables for question 7: *Do you actively check your points, badges, or levels in apps or loyalty programs?*

Descriptive Statistics

	Checking points etc.
Valid	109
Missing	0
Mean	1.807
Std. Deviation	0.518
Minimum	1.000
Maximum	3.000

Frequency Tables

Frequencies for Checking points etc.

Checking points etc.	Frequency	Percent	Valid Percent	Cumulative Percent
1	27	24.771	24.771	24.771
2	76	69.725	69.725	94.495
3	6	5.505	5.505	100.000
Missing	0	0.000		
Total	109	100.000		

Do you actively check your points, badges, or levels in apps or loyalty programs?	
Yes	27 participants = 24.8%

No	76 participants = 69.7%
Unsure	6 participants = 5.5%%

Table E7. Participants' engagement with loyalty-related progress indicators.

Descriptive Statistics and frequency tables for question 8: *Do financial rewards motivate you more than non-financial (e.g., badges, status)?*

Descriptive Statistics

	Financial rewards
Valid	109
Missing	0
Mean	1.394
Std. Deviation	0.667
Minimum	1.000
Maximum	3.000

Frequency Tables

Frequencies for Financial rewards

Financial rewards	Frequency	Percent	Valid Percent	Cumulative Percent
1	77	70.642	70.642	70.642
2	21	19.266	19.266	89.908
3	11	10.092	10.092	100.000
Missing	0	0.000		
Total	109	100.000		

Do financial rewards motivate you more than non-financial (e.g., badges, status)?	
Yes	77 participants = 70.6%
No	21 participants = 19.3%
Unsure	11 participants = 10.1%

Table E8. Participants' preference for financial over non-financial rewards.

Descriptive Statistics and frequency tables for question 9: *How important are gamified elements in your decision to stay loyal to a brand, app or platform?*

Descriptive Statistics

	Stay loyal_Total
Valid	109
Missing	0
Mean	2.541
Std. Deviation	1.183
Minimum	1.000
Maximum	5.000

Frequency Tables

Frequencies for Stay loyal_Total

Stay loyal_Total	Frequency	Percent	Valid Percent	Cumulative Percent
1	23	21.101	21.101	21.101
2	38	34.862	34.862	55.963
3	19	17.431	17.431	73.394
4	24	22.018	22.018	95.413
5	5	4.587	4.587	100.000
Missing	0	0.000		
Total	109	100.000		

How important are gamified elements in your decision to stay loyal to a brand, app or platform?	
Not important at all	23 participants = 21.1%
Slightly important	38 participants = 34.9%
Moderate important	19 participants = 17.4%
Important	24 participants = 22%
Very important	5 participants = 4.6%

Table E9. Perceived importance of gamified elements for brand loyalty.

Descriptive Statistics and frequency tables for question 10: *I feel a sense of achievement when completing tasks or reaching goals within gamified platforms.*

Descriptive Statistics

	Achievement
Valid	109
Missing	0
Mean	2.734
Std. Deviation	1.191
Minimum	1.000
Maximum	5.000

Frequency Tables

Frequencies for Achievement

Achievement	Frequency	Percent	Valid Percent	Cumulative Percent
1	23	21.101	21.101	21.101
2	22	20.183	20.183	41.284
3	29	26.606	26.606	67.890
4	31	28.440	28.440	96.330
5	4	3.670	3.670	100.000
Missing	0	0.000		
Total	109	100.000		

I feel a sense of achievement when completing tasks or reaching goals within gamified platforms.	
Strongly disagree	23 participants = 21.1%
Disagree	22 participants = 20.2%
Neutral	29 participants = 26.6%
Agree	31 participants = 28.4%
Strongly agree	4 participants = 3.7%

Table E10. Participants' responses to the statement on achievement in gamified platforms.

Descriptive Statistics and frequency tables for question 11: *Gamified rewards make me feel competent.*

Descriptive Statistics

	Feel competent
Valid	109
Missing	0
Mean	2.257
Std. Deviation	0.985
Minimum	1.000
Maximum	4.000

Frequency Tables

Frequencies for Feel competent

Feel competent	Frequency	Percent	Valid Percent	Cumulative Percent
1	30	27.523	27.523	27.523
2	33	30.275	30.275	57.798
3	34	31.193	31.193	88.991
4	12	11.009	11.009	100.000
Missing	0	0.000		
Total	109	100.000		

Gamified rewards make me feel competent.	
Strongly disagree	30 participants = 27.5%
Disagree	33 participants = 30.3%
Neutral	34 participants = 31.2%
Agree	12 participants = 11%
Strongly agree	0 participants = 0%

Table E11. Participants' responses to the statement on competence from gamified rewards.

Descriptive Statistics and frequency tables for question 12: *I feel emotionally connected to brands that offer engaging, gamified experiences.*

Descriptive Statistics

	Feel connected to brand
Valid	109
Missing	0
Mean	2.266
Std. Deviation	1.103
Minimum	1.000
Maximum	4.000

Frequency Tables

Frequencies for Feel connected to brand

Feel connected to brand	Frequency	Percent	Valid Percent	Cumulative Percent
1	34	31.193	31.193	31.193
2	33	30.275	30.275	61.468
3	21	19.266	19.266	80.734
4	21	19.266	19.266	100.000
Missing	0	0.000		
Total	109	100.000		

I feel emotionally connected to brands that offer engaging, gamified experiences.	
Strongly disagree	34 participants = 31.2%
Disagree	33 participants = 30.3%
Neutral	21 participants = 19.3%
Agree	21 participants = 19.3%
Strongly agree	0 participants = 0%

Table E12. Participants' responses to the statement on emotional connection with gamified brands.

Descriptive Statistics and frequency tables for question 13: *Gamified interactions make the experience more meaningful.*

Descriptive Statistics

	Meaningful
Valid	109
Missing	0
Mean	2.725
Std. Deviation	1.261
Minimum	1.000
Maximum	5.000

Frequency Tables

Frequencies for Meaningful

Meaningful	Frequency	Percent	Valid Percent	Cumulative Percent
1	25	22.936	22.936	22.936
2	26	23.853	23.853	46.789
3	16	14.679	14.679	61.468
4	38	34.862	34.862	96.330
5	4	3.670	3.670	100.000
Missing	0	0.000		
Total	109	100.000		

Gamified interactions make the experience more meaningful.	
Strongly disagree	25 participants = 22.9%
Disagree	26 participants = 23.9%
Neutral	16 participants = 14.7%
Agree	38 participants = 34.9%
Strongly agree	4 participants = 3.7%

Table E13. Participants' responses to the statement on meaningfulness of gamified interactions.

Descriptive Statistics and frequency tables for question 14: *I am likely to recommend a brand, app or platform that uses gamified elements.*

Descriptive Statistics

	Recommend a brand
Valid	109
Missing	0
Mean	2.275
Std. Deviation	1.129
Minimum	1.000
Maximum	5.000

Frequency Tables

Frequencies for Recommend a brand

Recommend a brand	Frequency	Percent	Valid Percent	Cumulative Percent
1	36	33.028	33.028	33.028
2	28	25.688	25.688	58.716
3	25	22.936	22.936	81.651
4	19	17.431	17.431	99.083
5	1	0.917	0.917	100.000
Missing	0	0.000		
Total	109	100.000		

I am likely to recommend a brand, app or platform that uses gamified elements.	
Strongly disagree	36 = 33%
Disagree	28 = 25.7%
Neutral	25 = 22.9%
Agree	19 = 17.4%
Strongly agree	1 = 0.9%

Table E14. Participant's responses show limited endorsement for recommending gamified platforms.

Descriptive Statistics and frequency tables for question 15: *I would be less loyal to a platform if it removed its gamified features.*

Descriptive Statistics

	Less loyal
Valid	109
Missing	0
Mean	2.514
Std. Deviation	1.168
Minimum	1.000
Maximum	5.000

Frequency Tables

Frequencies for Less loyal

Less loyal	Frequency	Percent	Valid Percent	Cumulative Percent
1	27	24.771	24.771	24.771
2	29	26.606	26.606	51.376
3	26	23.853	23.853	75.229
4	24	22.018	22.018	97.248
5	3	2.752	2.752	100.000
Missing	0	0.000		
Total	109	100.000		

I would be less loyal to a platform if it removed its gamified features.	
Strongly disagree	27 = 24.8%
Disagree	29 = 26.6%
Neutral	26 = 23.9%
Agree	24 = 22%
Strongly agree	3 = 2.8%

Table E15. Participant's responses reflect weak connection between loyalty and gamified features.

Descriptive Statistics and frequency tables for question 16: *Feeling rewarded is important to me when interacting with brands or platforms.*

Descriptive Statistics

	Feeling rewarded
Valid	109
Missing	0
Mean	2.532
Std. Deviation	1.167
Minimum	1.000
Maximum	5.000

Frequency Tables

Frequencies for Feeling rewarded

Feeling rewarded	Frequency	Percent	Valid Percent	Cumulative Percent
1	27	24.771	24.771	24.771
2	28	25.688	25.688	50.459
3	25	22.936	22.936	73.394
4	27	24.771	24.771	98.165
5	2	1.835	1.835	100.000
Missing	0	0.000		
Total	109	100.000		

Feeling rewarded is important to me when interacting with brands or platforms.	
Strongly disagree	27 = 24.8%
Disagree	28 = 25.7%
Neutral	25 = 22.9%
Agree	27 = 24.8%
Strongly agree	2 = 1.8%

Table E16. Participant's responses show split opinions on the importance of feeling rewarded.

Descriptive Statistics and frequency tables for question 17: *I believe gamified rewards help build long-term customer loyalty.*

Descriptive Statistics

	Long-term loyalty
Valid	109
Missing	0
Mean	3.642
Std. Deviation	0.908
Minimum	1.000
Maximum	5.000

Frequency Tables

Frequencies for Long-term loyalty

Long-term loyalty	Frequency	Percent	Valid Percent	Cumulative Percent
1	3	2.752	2.752	2.752
2	8	7.339	7.339	10.092
3	29	26.606	26.606	36.697
4	54	49.541	49.541	86.239
5	15	13.761	13.761	100.000
Missing	0	0.000		
Total	109	100.000		

I believe gamified rewards help build long-term customer loyalty.	
Strongly disagree	3 = 2.8%
Disagree	8 = 7.3%
Neutral	29 = 26.6%
Agree	54 = 49.5%
Strongly agree	15 = 13.8%

Table E17. Participant's responses reflect perceived impact of gamified rewards on customer loyalty.

F – Survey results II

Results of section “Generational differences in gamification perception and use” from JASP

ANOVA output for question 1:*Have you heard of the term "Gamification" before?*

ANOVA - Term Gamification_Total

Cases	Sum of Squares	df	Mean Square	F	p
Age_Total	1.017	1	1.017	4.311	0.041
Residuals	21.457	91	0.236		

Note. Type III Sum of Squares

ANOVA output and descriptive statistics for question 3: *How often do you interact with platforms or apps that use gamification?*

ANOVA - Use_Total

Cases	Sum of Squares	df	Mean Square	F	p
Age_Total	8.747	1	8.747	7.165	0.009
Residuals	111.081	91	1.221		

Note. Type III Sum of Squares

Descriptives ▼

Descriptives - Use_Total ▼

Age_Total	N	Mean	SD	SE	Coefficient of variation
2	42	3.714	1.088	0.168	0.293
4	51	3.098	1.118	0.157	0.361

Contingency tables and chi-squared tests for question 4: *What makes a gamified app or platform fun or interesting for you?*

Earning rewards:

Contingency Tables

	Age_Total		
Earning rewards_CAT	2	4	Total
0	10	14	24
1	32	37	69
Total	42	51	93

Chi-Squared Tests

	Value	df	p
X^2	0.160	1	0.690
N	93		

Achieving milestones or badges:

Contingency Tables

	Age_Total		
Milestones/badges_CAT	2	4	Total
0	28	47	75
1	14	4	18
Total	42	51	93

Chi-Squared Tests

	Value	df	p
X^2	9.588	1	0.002
N	93		

Competing with others (leaderboards):

Contingency Tables

	Age_Total		
Competition with others_CAT	2	4	Total
0	39	48	87
1	3	3	6
Total	42	51	93

Chi-Squared Tests

	Value	df	p
X^2	0.061	1	0.805
N	93		

Maintaining a streak or daily habit:

Contingency Tables

	Age_Total		
Streak_CAT	2	4	Total
0	21	46	67
1	21	5	26
Total	42	51	93

Chi-Squared Tests

	Value	df	p
X^2	18.477	1	< .001
N	93		

Receiving recognition or feedback:

Contingency Tables

	Age_Total		
Feedback_CAT	2	4	Total
0	38	50	88
1	4	1	5
Total	42	51	93

Chi-Squared Tests

	Value	df	p
X^2	2.590	1	0.108
N	93		

Pure enjoyment:

Contingency Tables

	Age_Total		
Enjoyment_CAT	2	4	Total
0	28	41	69
1	14	10	24
Total	42	51	93

Chi-Squared Tests

	Value	df	p
X^2	2.266	1	0.132
N	93		

Contingency tables and chi-squared tests for question 5: *Have you ever chosen one platform or brand over another because of gamified features?*

Contingency Tables

	Age_Total		
Choose one over another	2	4	Total
1	21	22	43
2	16	24	40
3	5	5	10
Total	42	51	93

Chi-Squared Tests

	Value	df	p
X^2	0.759	2	0.684
N	93		

Contingency tables and chi-squared tests for question 6: *Would you be more likely to return to a brand or platform that uses gamified loyalty programs?*

Contingency Tables

	Age_Total		
Return to brand	2	4	Total
1	24	15	39
2	6	23	29
3	12	13	25
Total	42	51	93

Chi-Squared Tests

	Value	df	p
X^2	11.317	2	0.003
N	93		

Contingency tables and chi-squared tests for question 7: *Do you actively check your points, badges, or levels in apps or loyalty programs?*

Contingency Tables

Checking points etc.	Age_Total 2	4	Total
1	16	10	26
2	22	40	62
3	4	1	5
Total	42	51	93

Chi-Squared Tests ▼

	Value	df	p
X^2	7.611	2	0.022
N	93		

Contingency tables and chi-squared tests for question 8: *Do financial rewards motivate you more than non-financial (e.g., badges, status)?*

Contingency Tables

Financial rewards	Age_Total 2	4	Total
1	33	32	65
2	5	13	18
3	4	6	10
Total	42	51	93

Chi-Squared Tests

	Value	df	p
X^2	3.129	2	0.209
N	93		

ANOVA output and descriptive statistics for question 9: *How important are gamified elements in your decision to stay loyal to a brand, app or platform?*

ANOVA - Stay loyal_Total

Cases	Sum of Squares	df	Mean Square	F	p
Age_Total	14.627	1	14.627	11.998	< .001
Residuals	110.943	91	1.219		

Note. Type III Sum of Squares

Descriptives

Descriptives - Stay loyal_Total

Age_Total	N	Mean	SD	SE	Coefficient of variation
2	42	3.071	1.091	0.168	0.355
4	51	2.275	1.115	0.156	0.490

ANOVA output and descriptive statistics for question 10: *I feel a sense of achievement when completing tasks or reaching goals within gamified platforms.*

ANOVA – Achievement

Cases	Sum of Squares	df	Mean Square	F	p
Age_Total	26.440	1	26.440	21.983	< .001
Residuals	109.452	91	1.203		

Note. Type III Sum of Squares

Descriptives

Descriptives – Achievement

Age_Total	N	Mean	SD	SE	Coefficient of variation
2	42	3.405	1.106	0.171	0.325
4	51	2.333	1.089	0.153	0.467

ANOVA output and descriptive statistics for question 11: *Gamified rewards make me feel competent.*

ANOVA – Feel competent

Cases	Sum of Squares	df	Mean Square	F	p
Age_Total	5.694	1	5.694	6.271	0.014
Residuals	82.629	91	0.908		

Note. Type III Sum of Squares

Descriptives

Descriptives – Feel competent

Age_Total	N	Mean	SD	SE	Coefficient of variation
2	42	2.595	0.964	0.149	0.372
4	51	2.098	0.944	0.132	0.450

ANOVA output and descriptive statistics for question 12: *I feel emotionally connected to brands that offer engaging, gamified experiences.*

ANOVA – Feel connected to brand

Cases	Sum of Squares	df	Mean Square	F	p
Age_Total	10.237	1	10.237	9.015	0.003
Residuals	103.333	91	1.136		

Note. Type III Sum of Squares

Descriptives

Descriptives – Feel connected to brand

Age_Total	N	Mean	SD	SE	Coefficient of variation
2	42	2.667	1.052	0.162	0.394
4	51	2.000	1.077	0.151	0.539

ANOVA output and descriptive statistics for question 13: *Gamified interactions make the experience more meaningful.*

ANOVA - Meaningful

Cases	Sum of Squares	df	Mean Square	F	p
Age_Total	23.944	1	23.944	17.528	< .001
Residuals	124.314	91	1.366		

Note. Type III Sum of Squares

Descriptives

Descriptives - Meaningful

Age_Total	N	Mean	SD	SE	Coefficient of variation
2	42	3.333	1.141	0.176	0.342
4	51	2.314	1.191	0.167	0.515

ANOVA output and descriptive statistics for question 14: *I am likely to recommend a brand, app or platform that uses gamified elements.*

ANOVA - Recommend a brand

Cases	Sum of Squares	df	Mean Square	F	p
Age_Total	15.198	1	15.198	14.546	< .001
Residuals	95.081	91	1.045		

Note. Type III Sum of Squares

Descriptives

Descriptives - Recommend a brand

Age_Total	N	Mean	SD	SE	Coefficient of variation
2	42	2.714	0.995	0.153	0.366
4	51	1.902	1.044	0.146	0.549

ANOVA output and descriptive statistics for question 15: *I would be less loyal to a platform if it removed its gamified features.*

ANOVA - Less loyal

Cases	Sum of Squares	df	Mean Square	F	p
Age_Total	21.635	1	21.635	17.965	< .001
Residuals	109.591	91	1.204		

Note. Type III Sum of Squares

Descriptives

Descriptives - Less loyal

Age_Total	N	Mean	SD	SE	Coefficient of variation
2	42	3.048	1.103	0.170	0.362
4	51	2.078	1.093	0.153	0.526

ANOVA output and descriptive statistics for question 16: *Feeling rewarded is important to me when interacting with brands or platforms.*

ANOVA - Feeling rewarded

Cases	Sum of Squares	df	Mean Square	F	p
Age_Total	9.353	1	9.353	7.747	0.007
Residuals	109.873	91	1.207		

Note. Type III Sum of Squares

Descriptives

Descriptives - Feeling rewarded

Age_Total	N	Mean	SD	SE	Coefficient of variation
2	42	2.833	0.986	0.152	0.348
4	51	2.196	1.184	0.166	0.539

ANOVA output and descriptive statistics for question 17: *I believe gamified rewards help build long-term customer loyalty.*

ANOVA - Build long-term loyalty

Cases	Sum of Squares	df	Mean Square	F	p
Age_Total	6.732	1	6.732	8.478	0.005
Residuals	72.258	91	0.794		

Note. Type III Sum of Squares

Descriptives

Descriptives - Build long-term loyalty

Age_Total	N	Mean	SD	SE	Coefficient of variation
2	42	3.952	0.909	0.140	0.230
4	51	3.412	0.876	0.123	0.257

G – Survey results III

Results of section "Assessing the role of gamification in survey participation and motivation" from JASP

Descriptive statistics and frequencies for questions 22-24: *Did the gamified elements make the survey more enjoyable for you?, Did you feel more engaged because of the gamified elements?, Did the gamified elements motivate you to complete the survey?, Would you prefer future surveys to include gamification elements?*

Descriptive Statistics

	Enjoyable	More engaged	More motivation	Future surveys
Valid	53	53	49	52
Missing	56	56	60	57
Mean	3.434	2.868	2.755	2.962
Std. Deviation	1.135	1.093	1.283	1.204
Minimum	1.000	1.000	1.000	1.000
Maximum	5.000	5.000	5.000	5.000

Frequencies for Enjoyable

Enjoyable	Frequency	Percent	Valid Percent	Cumulative Percent
1	4	3.670	7.547	7.547
2	6	5.505	11.321	18.868
3	15	13.761	28.302	47.170
4	19	17.431	35.849	83.019
5	9	8.257	16.981	100.000
Missing	56	51.376		
Total	109	100.000		

Frequencies for More engaged

More engaged	Frequency	Percent	Valid Percent	Cumulative Percent
1	5	4.587	9.434	9.434
2	18	16.514	33.962	43.396
3	11	10.092	20.755	64.151
4	17	15.596	32.075	96.226
5	2	1.835	3.774	100.000
Missing	56	51.376		
Total	109	100.000		

Frequencies for More motivation ▼

More motivation	Frequency	Percent	Valid Percent	Cumulative Percent
1	11	10.092	22.449	22.449
2	10	9.174	20.408	42.857
3	12	11.009	24.490	67.347
4	12	11.009	24.490	91.837
5	4	3.670	8.163	100.000
Missing	60	55.046		
Total	109	100.000		

Frequencies for Future surveys

Future surveys	Frequency	Percent	Valid Percent	Cumulative Percent
1	9	8.257	17.308	17.308
2	8	7.339	15.385	32.692
3	14	12.844	26.923	59.615
4	18	16.514	34.615	94.231
5	3	2.752	5.769	100.000
Missing	57	52.294		
Total	109	100.000		

Affidavit

I hereby certify that I have written this Master's thesis independently without the help of third parties and without using any sources or aids other than those indicated.

I have indicated all passages in the thesis that are taken from printed works or sources from the Internet, either in wording or in meaning, by citing the sources. This also applies to all illustrations.

The submitted work has not been the subject of any other examination procedure, neither in its entirety nor in essential parts.

I am aware that plagiarism is serious academic misconduct that will be reported to the examination board and will result in sanctions.

Enschede, 4 July 2025

Theresa Brinkmann