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# MDDDM

Master's Degree Program in  
**Data-Driven Marketing**

**GAMIFIED CHATBOTS. HOW THEY IMPACT CUSTOMER  
ENGAGEMENT, BRAND IMAGE, AND PURCHASE INTENTION**

Aisulu Mukhamejanova

Master Thesis

presented as partial requirement for obtaining a Master's Degree in Data-Driven Marketing

**NOVA Information Management School**  
**Instituto Superior de Estatística e Gestão de Informação**

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November, 2024

## **STATEMENT OF INTEGRITY**

I hereby declare having conducted this academic work with integrity. I confirm that I have not used plagiarism, any form of undue use of information or falsification of results along the process leading to its elaboration. I further declare that I have fully acknowledged the Rules of Conduct and Code of Honor from the NOVA Information Management School.

*[Lisbon, November 2024]*

## **DEDICATION**

This work is dedicated to my family, whose constant support and encouragement have always been the foundation of my academic journey. I dedicate it to my parents, for instilling the value of perseverance and education, and to my sisters, for their support and belief in my potential.

I also dedicate this thesis to my friends that supported me through challenges and celebrated my achievements. Their wisdom, advice, and companionship have been invaluable throughout this process.

I dedicate this work to my academic mentors, whose guidance and insights have inspired me to strive for excellence.

Finally, to all future researchers in the field of marketing and AI-driven technologies—may this work inspire you to continue exploring and innovating to build a bright future for all of us together.

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## ABSTRACT

Growing integration of artificial intelligence in marketing enables unique opportunities to enhance user experience and drive business outcomes in gamified chatbots. This Master thesis explores the impact of gamified chatbots on brand image, customer engagement and purchase intention, focusing on points and rewards as gamification elements. The research employed a mixed-method approach, gathering data from 228 participants interacting with gamified and non-gamified chatbots on Telegram. Results demonstrate that gamification significantly enhances cognitive, emotional, and behavioral customer engagement, with behavioral engagement showing the strongest influence on purchase intention. Additionally, both points and rewards positively contribute to brand image, a key mediator between engagement and purchase intention.

This study contributes to the research in area of gamification for marketing by addressing its application in social media contexts, extending insights beyond traditional e-commerce platforms. Practical implications include designing gamified chatbots prioritizing interactive experiences to drive customer engagement and conversions. This research underscores the transformative potential of gamified chatbots as strategic tools for enhancing customer-brand relationships and achieving marketing objectives.

## KEYWORDS

Gamification, Chatbots, Customer Engagement, Brand Image, Purchase Intention.

### Sustainable Development Goals (SDG):



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## **LIST OF ABBREVIATIONS AND ACRONYMS**

**AI:** Artificial Intelligence

**BCE:** Behavioral Customer Engagement

**BI:** Brand Image

**CCE:** Cognitive Customer Engagement

**ECE:** Emotional Customer Engagement

**MICOM:** Measurement Invariance of Composite Models

**MGA:** Multi-Group Analysis

**PLS:** Partial Least Squares

**P:** Points

**PI:** Purchase Intention

**R:** Rewards

**SEM:** Structural Equation Modeling

**SDG:** Sustainable Development Goals

# 1. INTRODUCTION

Nowadays, businesses are pressured to reconsider their approach to customer interaction and distinguish themselves by providing superior customer experiences (Luo et al., 2019). Chatbots have emerged to engage with consumers and drive service and sales processes.

Businesses increasingly adopt chatbots to deliver 24/7 support during purchasing processes, often replacing human frontline service roles (Belk et al., 2023; Belanche et al., 2020; Flavián et al., 2023). Chatbots have become essential tools in marketing strategies designed to enhance sales. According to the Aspect Consumer Experience Index (Aspect, 2018), many consumers regularly use chatbot applications, highlighting a rising trend in interactions with conversational agents. The expansion of chatbot commerce presents a profitable opportunity for brands and retailers, with market forecasts predicting \$10.5 billion by 2026 (Mathwick et al., 2011).

Today, businesses progressively apply game design activities as a key marketing strategy to boost customer engagement and drive sales. Many companies are now gamifying their conversational agents (Natanson, 2021). The rapid progress in technology have led companies to realize chatbots' potential for enhancing customer engagement and achieving positive outcomes (Flavián et al., 2023). Companies are continually seeking new methods to enhance user interactions and maximize the benefits of AI agents. Gamification is one such method that incorporates game elements into user interactions, along with implementing rewards (Eppmann et al., 2018).

Many retailers incorporate gamification into chatbot tools (Natanson, 2021). By merging AI with gamification, retailers aim to make conversational interactions more enjoyable, encourage customer engagement with the chatbot, and ultimately drive higher purchase rates (Schepers et al., 2022). While companies using conversational agents to engage with users is steadily increasing, there is a limited number of studies focused on the marketing strategies of Artificial Intelligence (Kumar et al., 2021, Martínez-López & Casillas, 2013). Moreover, limited research has explored whether integrating gamification components into chatbots designed for boosting sales can improve customer engagement. Furthermore, the influence of customer engagement with gamified chatbots on essential performance indicators, such as purchase behavior, remains uncertain (Elmashhara et al., 2024). Also, most researchers concentrated on chatbots within e-commerce platforms and websites, while a more profound knowledge of social media chatbots still needs to be improved (Tsai et al., 2021).

This work investigates an impact of gamified chatbots on customer engagement, brand image, and purchase intention. By examining how specific gamified components such as points and rewards influence these outcomes, the research aims to provide insights about gamified elements in chatbots as a marketing and customer engagement tool.

Therefore, this study comprises the following research objectives:

- To evaluate the influence of chatbot gamification features such as points and rewards on cognitive, emotional, and behavioral customer engagement and brand image.
- To examine how different types of customer engagement (emotional, cognitive and behavioral) mediate relationship between gamified elements, like points and rewards, and purchase intention.
- This to evaluate the effect of an enhanced brand image on purchase intention. We will assess how a positive brand image, fostered through gamified chatbot interactions, influences the likelihood of customers purchasing.

This study aims to extend the current knowledge by investigating these dynamics in a social media context. It provides practical insights for marketers seeking to leverage gamified chatbots in their strategies. This study distinguishes itself by focusing on the commercial applications of gamified chatbots, emphasizing practical experiments with fully developed chatbots rather than prototypes and graphics.

## 2. LITERATURE REVIEW

### 2.1. CHATBOTS IN MARKETING

Chatbots are automated computer programs designed to engage in human language conversations with users. They act as conversational agents, integrated to platforms, such as websites, social media platforms and various mobile applications (Lukanova & Ilieva, 2019). The most important benefit is its ability to provide 24/7 customer support without experiencing breaks, illness, or vacations as human (Berezina et al., 2019).

Conversational agents are widely utilized globally in many fields such as education (Smutny & Schreiberova, 2020; Kane, 2016), healthcare (Chukhleb, 2020; Viswanath Prakash & Das, 2020), and finance (Li et al., 2020). While they are becoming more popular, we still have limited knowledge about how they can be utilized in marketing. Often, they are considered as a quick solution for customer service, rather than a long-term strategy for businesses (Van den Broeck et al., 2019).

Companies rely on conversational agents to help marketers understand their customers better and deliver personalized data, enhancing direct connection with clients (Cheng & Jiang, 2021). Users find online conversational agents helpful for experimenting with new computer-based decision-making platforms and meeting their information and purchase needs (Klaus & Zaichkowsky, 2020). Recently, researchers have become interested in how chatbots affect customer behavior. Earlier researchers investigated user engagement to chatbots (Sidaoui et al., 2020) and its impact to business transformations (Jain & Gandhi, 2021).

Over 0,1 million of IT companies are creating chatbots for the Meta platforms, supporting the idea that future advertising will involve a combination of human and chatbot services (Rouhiainen, 2018). According to Vova (2019), 47% of users are willing to buy items through Artificial Intelligence (AI) agents, and 37% buy via Meta platforms.

Chatbots significantly impact customer perceptions of communication strategies. With advancements in AI, chatbots can provide more accurate and personalized responses to customer needs, enhancing the online shopping experience and creating additional value for users (Van den Broeck et al., 2019).

Table 1 presents a comprehensive literature review on gamified chatbots, and their impact on customer engagement, brand, and purchase intention. Recent research highlights the diverse effects of gamification on brand interaction, consumer engagement, and therefore, purchase outcomes. Bekk et al. (2022) found that while gamification reduces attention to product information, it enhances enjoyment and purchase intention, with meaningful gamification improving information recognition. Similarly, García-Jurado et al. (2021) demonstrated that various gamified features increase e-commerce user engagement through perceived usability and novelty. Elmashhara et al. (2024) revealed that hedonic motivation in gamified chatbots

enhances purchase intention via behavioral engagement, while utilitarian motivation has the opposite effect, with game-of-chance styles outperforming knowledge-sharing ones. Tsou & Putra (2023) established that game-based components positively affect engagement and brand love, moderated by immersion. Hsu (2023) showed that gamification as a mediator serves as a strong link between engagement to the purchase process, brand preference, and repurchase intentions, fostering brand experience and customer loyalty. Finally, Silva et al. (2023) highlighted that hedonic value in gamified chatbots positively impacts cognitive, emotional, and behavioral engagement, while utilitarian value primarily influences emotional and behavioral dimensions. Together, these studies underscore gamification's diverse roles in driving consumer engagement, brand connections, and purchase intention across contexts.

Table 2 –Literature review

Author	Research goals	Independents variables	Moderator	Dependent variable	Results	Limitations
Bekk et. al (2022)	To explore the influence of meaningful gamification on product information recognition and purchase intention.	Gamification (vs. no gamification) Type of Gamification (meaningful vs. non-meaningful) Disclosure of Distraction Potential (disclosure vs. no disclosure)	Meaningfulness of Gamification Disclosure of Distraction Potential of Game Elements.	product information recognition, Purchase Intention	Gamification decreased attention to product information, negatively impacting recognition. Gamification increased enjoyment, which positively influenced willingness to purchase.	The studies used fictitious brands, limiting insights into well-known brands. Different platforms and categories can lead to different outcomes.
García-Jurado et. al (2021)	To investigate how gamified elements impact on the engagement. To determine if gamification, as implemented through points, badges, and leaderboards (PBL), could positively impact users' engagement.	Gamification (measured through points, badges, and leaderboards - PBL).		User engagement	Game-based interaction significantly enhances engagement, concentration, functionality, originality, and aesthetic appeal, but not endurance. The research model showed strong predictive power for engagement variables.	The research was limited to the e-commerce sector and the Spanish context. The specific gamification elements may also limit insights and results.
Elmashhara et. al (2024)	Examine the effects motivations from gamified chatbots on customer engagement and purchase outcomes. Test the model's predictive capability for customer engagement and purchase behavior.	Utilitarian motivation, Hedonic motivation, Gamification styles (knowledge-sharing game, game-of-chance).		Purchase intention.	Customers are more willing to buy when motivated hedonically and engaged behaviorally. Their buying behavior is negative when motivated utilitarianly and engaged emotionally. Game-of-chance chatbots activate a more favorable motivational path and enhance purchase outcomes better than knowledge-sharing chatbots.	Participants engaged in simulated purchases, limiting external validity. The focus on suitcases restricts generalizability to other products. The study mainly examined purchase intention and behavior, neglecting other outcomes.

Tsou & Putra (2023)	Investigate how game features impact customer engagement and brand love.	Game features: rewards, challenges, points, enjoyment	Immersion	Brand love	All the game features investigated have an impact on customer engagement, which enhances brand love.	The research was limited to Shopee users in Indonesia, limiting generalizability. The study only considered one platform which is Shopee Games. Depending on the platform there can be different outcomes. Only four commonly used elements were examined, which also can limit results.
Hsu (2023)	To study the influence of gamification, examine relationships between brand dimensions: identification, brand love, and experience. Measure its possible impact on engagement and purchase behavior. Analyze gamification's moderating effect between brand and engagement.	Brand identification, self-expressiveness, gamification	Gamification	Brand love, customer engagement, brand experience, repurchase intention	Brand Identity and Self-Expressiveness create a positive tenor towards brand love, enhancing engagement, brand experience, and repurchase intention. Gamification boosts all investigated dimensions.	The research was conducted among users of applications. Data collected from the sport app in one country limits generalizability. Hypothesized relationships were only examined in the sports industry. The scenario and various game elements could bring different outcomes.
Silva et.al (2023)	To examine how gamified chatbots enhance customer-brand engagement.	Hedonic and Utilitarian value		Cognitive, Emotional and Behavioral engagement	Hedonic Value has a significant positive influence on all three dimensions of brand engagement. The cognitive brand engagement was especially influenced by hedonic value. Utilitarian value positively impacted emotional and behavioral engagement but not cognitive engagement.	The study used a snowball sampling method and a single chatbot interaction context, limiting generalizability. The limited gamified elements may limit results and potential in interactions.
Nguyen et.al (2023)	To understand how engagement and buying intention can be impacted by different styles of gamified chatbots. influence customer motivation, engagement, and purchase intention.	Gamified and non-gamified chatbots, Utilitarian and hedonic motivations.	Technology anxiety Brand credibility	Customer engagement (emotional, cognitive, behavioral) Purchase intention	Different gamification styles significantly influence emotional, cognitive, and behavioral engagement, affecting purchase intentions.	Data collected from an online crowdsourcing platform, which may introduce variability in participant environments. Study context was limited to the apparel sector, in different industries the results might show different insights.

Sun et.al (2024)	To understand the impact of human-like features on chatbots for advertising purposes.	Utilitarian Motivation: Practical, goal-oriented engagement with the chatbot. Hedonic Motivation: Fun, enjoyment-driven interaction with the chatbot. Gamification Styles.	Type of Gamification Style: The style of gamification (purposive vs. reward-based) used in chatbot interactions.	Behavioral Intentions: Customer intentions to purchase because of engaging with the gamified chatbot. Actual Purchase Behavior: The actual purchase actions taken by customers.	High message interactivity in chatbots reduces expectation violations and enhances perceptions of chatbot expertise, friendliness, and overall ad effectiveness.	The differences in background music and artistic style between the narrative and factual ads could have influenced participants' responses.
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## **2.2. GAMIFICATION**

Brito et al. (2015) describes gamification as the strategic application of game features to non-game reality. This includes incorporating elements like points, badges, leaderboards, rewards, and punishment systems, as highlighted by Prastowo et al. (2018). Coined by game designer Nick Pelling in 2002, gamification presents game principles in non-gaming environments to enhance enjoyment, target specific behaviors, and increase engagement (Calvert, 2016; Nicholson et al., 2012; Yildiz et al., 2021). Due to its ability to engage attention deeply involve users in activities, and shape behavior, gamification stands out as a highly effective tool (Calvert, 2016).

Holbrook et al. (1984) were among the first to explore the integration of games into marketing, emphasizing gamification as engaging interactions between a brand and its customers. Today, many companies see gamification as a key form of amusement that enhances brand presence. Incorporating gamification into companies' apps aims to boost sales, customer loyalty, value and advocacy (Tseng et al., 2021). However, the application of gamification within the chatbot domain has not been extensively researched. Existing studies have been constrained by factors including platform variety, game design, mechanics and elements, game context, and the impact on constructs and business fields.

### **2.2.1. GAMIFICATION ELEMENTS – POINTS**

Gamification can take various forms and incorporate different game design features; however, points are a fundamental component of gamification (Attali & Arieli-Attali, 2015). Users are more motivated to contribute with digital platforms when they engage with points (Bouchrika et al., 2021). The accumulation of points can lead to social recognition, such as increased status or reputation (García-Jurado et al., 2018). Additionally, points can visually represent a player's achievements and engagement level, providing psychological rewards for continued participation (Sailer et al., 2017).

Recent research by García-Jurado et al. (2021) revealed that points, as a core component of gamification, significantly enhance user engagement within e-commerce. The study explored gamification as a system of points, demonstrating that such elements directly improve user focus, perceived ease of use, involvement, and overall aesthetic appeal within online shopping environments.

Similarly, Tsou & Putra (2023) investigated the influence of gamification elements on e-commerce platforms. They found that elements like challenges and points drive users' engagement. Their research indicates that points motivate customers to participate in gamified activities, increasing their engagement and enhancing brand image.

### **2.2.2. GAMIFICATION ELEMENTS – REWARDS**

Rewards are a key gamified component that can significantly influence engagement (Da Rocha Seixas et al., 2016). They motivate consumers to participate in brief gamified activities (Nicholson, 2015). Research consistently shows that rewards enhance engagement (Islam & Rahman, 2017; Eisingerich et al., 2019). Both tangible and intangible rewards can positively influence customer engagement (Wirtz et al., 2013). Consumers often seek both monetary and non-monetary rewards through their involvement in brand communities (Braun et al., 2016).

Nicholson (2015) indicated that rewards attract individuals to interact in a brief gamified interaction. However, these studies were limited by platform differences, game scenarios, and interaction goals. García-Jurado et al. (2021) measured game components within e-commerce platforms. The findings revealed that these gamification elements strongly impact user engagement, enhancing factors like focused attention, involvement, and overall user experience. Thus, they reinforced the effectiveness of gamification in driving active participation in online shopping environments.

Recent research by Hsu (2023) showed that gamification in mobile apps can significantly impact brand affection and perception, customer engagement and repeat purchases. The study also employed rewards as a gamification element, highlighting their positive impact on brand outcomes. These insights underscore the importance of gamified interactions in fostering brand affection. Rewards, as a gamification element, further strengthen these connections, supporting the effectiveness of gamification in driving brand loyalty and engagement.

### **2.3. CUSTOMER ENGAGEMENT**

Consumer engagement is the positive and motivated mindset individuals have with a specific brand or offering (Hollebeek et al., 2014; Santos et al., 2022). It can take various forms based on the different contextual cues and exhibit cognitive reactions, affective reactions, and behavioral reactions (Dessart et al., 2016). Understanding how clients interact with a brand is crucial, as it directly impacts a company's overall valuation and its ability to generate long-term value (Xi & Hamari, 2020), which in turn leads to greater customer experience and retention (Wirtz et al., 2013).

Marketing practitioners actively seek innovative solutions to overcome obstacles in consumer engagement, drawing insights from research in gamification (Hofacker et al., 2016; Huotari & Hamari, 2016; Wolf et al., 2020). By leveraging gamified approaches, such as iteratively using gamified services, brands can foster interactive and co-created customer experiences, thus promoting brand engagement (Högberg et al., 2019).

According to Vivek et al. (2012), consumer engagement is seen as the level of contact and participation of a single individual with offers and activities owned by the company triggered either by the consumer or the company.

While a study of Van Doorn et al. (2010) states that engagement is primarily behavioral others contend it is a multifaceted concept requiring a more nuanced understanding (Hollebeek et al., 2014). A single-dimensional view needs to adequately capture the complexity of engagement (Hollebeek, 2011). Therefore, this study incorporates three key dimensions of engagement, cognitive, emotional, and behavioral, to provide a more comprehensive and detailed perspective:

- Cognitive Engagement involves individuals' psychological investment or interest level when interacting with a brand (Vivek et al., 2014).
- Emotional Engagement relates to the emotional bonds and feelings of affection that develop toward a brand (Hollebeek et al., 2014).
- Behavioral Engagement represents the extent to which consumers participate and are positively involved in their brand experiences (Fredricks et al., 2004).

As we already know from previous studies about impact of game elements on customer engagement (Da Rocha Seixas et al., 2016; Eisingerich et al., 2019; Islam & Rahman, 2017; Sigala, 2015; Tsou & Putra, 2023; Wirtz et al., 2013) and the gap in how they can impact on a multi-dimensional engagement (Hollebeek, 2011), we propose the following hypothesis to make more comprehensive insights:

H1a: Rewards positively influence Cognitive customer engagement

H1b: Rewards positively influence Emotional customer engagement.

H1c: Rewards positively influence Behavioral customer engagement.

H2a: Points positively influence Cognitive customer engagement.

H2b: Points positively influence Emotional customer engagement.

H2c: Points positively influence Behavioral customer engagement.

## **2.4. BRAND IMAGE**

Brand image refers to consumers' associations and beliefs about specific brands, as noted by Tjiptono & Chandra (2016). According to Aaker (1991), brand image includes the organized associations and meanings consumers attribute to a brand, reflecting the perceptions based on these connections retained in their memory, as explained by Keller (1993).

Therefore, brand image can be understood as a compilation of ideas, perceptions, and viewpoints that individuals develop regarding a business (Cretu & Brodie, 2007; Keller, 1993).

A favorable brand perception can strengthen a brand image and market presence, enhance its performance, and protect from competitors, as Aaker (1996) discussed. Additionally, brand image plays an intermediary role in influencing customers' decision-making and purchasing behavior, as observed by Bian and Moutinho (2011). It also impacts customer retention and purchasing behavior, as Huo et al. (2022) indicated.

Several empirical studies suggest that game-based strategies can impact consumer connections with brands. Gatautis et al. (2016) explored the influence of gamified approach on customer brand perception and engagement. However, their findings indicated that the correlation could have been more robust. In contrast, Berger et al. (2017) demonstrated that gamified experience positively affects brand connection, especially emotional and intellectual aspects.

Xi & Hamari (2020) found that gamified elements related to accomplishment and social connection favorably influenced brand engagement. The study revealed that brand awareness has a strong connection with brand interaction. However, contrary to their initial hypothesis, only emotional and cognitive engagement were deemed significant, with brand loyalty not aligning with their expectations. These findings suggest that while gamification significantly affects brand engagement, interaction with game-based elements on brand engagement might be insignificant.

From previous studies, we know that points and rewards as gamification elements demonstrate a positive impact on customer and brand experience (Hsu, 2023; Tsou & Putra, 2023)

Following the observations where gamified features impact brand and research limitations in the platforms, scenarios, and research design, we propose the following hypothesis:

H3: Rewards positively influence Brand Image.

H4: Points positively influence Brand Image.

## **2.5. PURCHASE INTENTION**

"Purchase intention" denotes the probability associated by consumers with the likelihood of buying an item (Rita et al., 2024; Yeo et al., 2023). Within the framework of the Theory of Planned Behavior (TPB) suggested by Ajzen (1991), an intention is considered the as the close predictor of any resulting behavior (Haris et al., 2021). Research indicates that purchase intention has a significant correlation with real purchase behavior (Khan et al., 2023).

Therefore, online purchase intention is crucial for predicting the effectiveness of various online instruments, such as chatbots (McLean et al., 2020). According to Kumar & Pansari (2016), Marketing professionals strive to enhance customer engagement to boost sales outcomes and purchasing intention. Studies show aggregates concerning engagement along with behavioral intention to be related positively (Schepers et al., 2022), however, studies have not established a specific connection between the distinct aspects of engagement and purchase intention (Prentice et al., 2019).

Additionally, new conversational technologies can provide cognitive and emotional rewards to customers through their engaging nature, potentially leading them to forgo purchasing in favor of continued interaction for more benefits (Elmashhara & Soares, 2022). Chatbots also provide personalized services and streamline the purchase decision-making process (Kasilingam, 2020).

Engaging with gamified conversational agents by having a dialog or receiving virtual rewards may be embarked on a "serendipitous journey" that fulfills customers enough to conclude their interaction without making a purchase (Xu et al., 2017). This supports the findings of Holbrook & Hirschman (1982), which suggest that cognitive and emotional engagement can be satisfying enough to reduce the likelihood of a purchase while interacting with the chatbot.

In essence, while increasing cognitive and emotional engagement might hinder the goal of buying behavior, encouraging behavioral engagement is anticipated to lead customers toward completing a purchase. Such a favorable effect of engagement behaviors in gamified chatbots is expected to have a strong impact, wherein simple and straightforward retailer activities are gamified, likely promote without significant cognitive burden or emotional gratification that might replace necessity to purchase (Grewal et al., 2019; Hirschman & Holbrook, 1982).

In the context of gamified chatbot, purchase intention was recently investigated by Elmashamara et al. (2024). However, their study did not specifically address the impact of individual game elements, such as points and rewards.

From previous studies we know that brand image plays a role as an intermediary influencing customers' decision-making and purchasing behavior and impacts on purchase intention (Bian & Moutinho, 2011; Huo et al., 2022).

Given the limited research on gamified chatbots within the marketing context and purchase intention, we postulate the following hypothesis:

H5a: Cognitive customer engagement positively influences purchase intention.

H5b: Emotional customer engagement positively influences purchase intention.

H5c: Behavioral customer engagement positively influences purchase intention.

H6: Brand Image positively influences purchase intention.

The conceptual model summarizing the hypotheses is presented below (Figure 1):

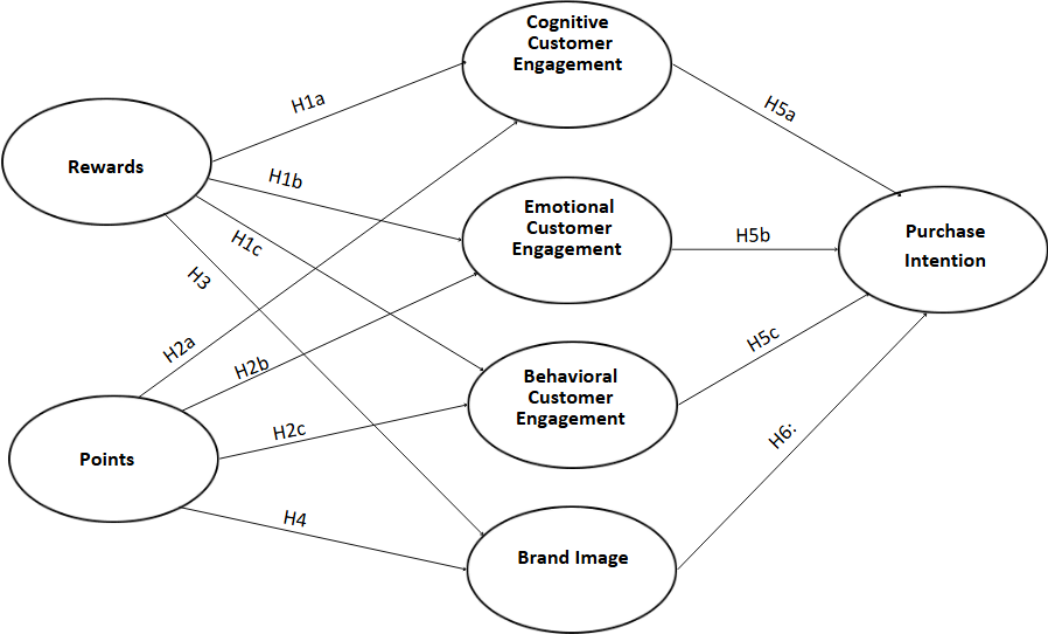


Figure 1 – Conceptual Model of the proposed hypothesis of the thesis

### 3. METHODOLOGY

The methodology employed in this research aims to investigate the effectiveness of gamified chatbots in marketing, specifically in the context of customer engagement, brand image, and purchase intention. To achieve this objective, an experiment was developed in which two groups of participants engaged in conversations with two chatbots using different scenarios on a “Telegram” social media platform.

#### 3.1. SCALES AND MEASUREMENTS

The survey included three main sections. The first section covered general demographic questions, including gender, age, educational level, and employment status. In the second section, participants were directed to interact with a chatbot via a provided link. After interacting with the chatbot, participants answered test questions related to the chatbot’s topic. The test questions were designed to filter out irrelevant responses from participants who did not engage carefully with the chatbot.

The final section of the survey assessed various constructs: cognitive, emotional, and behavioral engagement. Besides, participants had to evaluate gamified elements, such as points and rewards, brand image, and purchase intentions. This structure ensured a comprehensive evaluation of the participants' experiences and perceptions.

To assess the constructs, we adapted established scales from previous studies. Items from Elmashhara et al. (2024) were used to measure the three dimensions of engagement (cognitive, emotional, and behavioral). Additionally, items from Hsu (2023) were employed to measure rewards and from Tsou & Putra (2023) to measure points. We adapted items from Tam et al. (2024) to evaluate brand image. Lastly, we adopted items from Le (2021) to measure purchase intention. It was slight modification in the items’ wording to ensure clarity without altering their meaning and purpose. Before starting the survey, we tested the questionnaire on seven volunteers to improve it and eliminate potential risks and misunderstandings. All items were measured using a 5-point Likert scale (1 = strongly disagree; 5 = strongly agree).

The adapted measurement scales are available in Appendix A.

The study's participants exhibited various characteristics across age, gender, employment status, and education. The largest group was aged 35-44, comprising 42.0% of the sample, followed by those aged 25-34 (30.0%) and 18-24 (14.0%). Participants aged 45-54 and 55+ accounted for 14.0% and 1.0%, respectively, while no participants were under 18. The sample was predominantly female, representing 70.0%, while males comprised 28.0%. Non-binary or third-gender individuals and those preferring not to disclose their gender each constituted 1.0%. Regarding employment status, 48.0% of participants were employed, 36.0% were self-employed, 28.0% were retired, 10.0% were unemployed, and 7.0% were students. Regarding

education, 46.0% held a bachelor’s degree, 36.0% had a master’s degree, 13.0% had a college education, 3.0% held a high school diploma, and 2.0% had a doctorate or professional degree, while none had less than a high school diploma.

Table 3 – Demographic Information (%)

Age	Education	Employment	Gender
Up to 18	Less than high school diploma	Retired	Male
18-24	High school diploma or equivalent	Employed	Female
25-34	College	Employed	Non-binary / third gender
35-44	Bachelor's degree	Self-employed	Prefer not to say
45-54	Master's degree	Student	
55+	Doctorate or professional degree		

**3.2. DATA COLLECTION AND SAMPLE**

The final sample includes 228 participants, excluding invalid/incomplete answers and those not willing to take part in the study. To motivate participants to engage in the experiment and complete the survey, a list of rewards was offered upon completion. The reward list comprised four educational guides related to chatbots and social media marketing.

The questionnaire was created using the Qualtrics platform (Qualtrics, n.d.) and utilized adapted validated measurement scales to evaluate the model’s construct, considering a 1 to 5 Likert scale (1 = Strongly disagree, 5 = Strongly agree). In addition, demographic and behavioral multiple-choice questions were also included to describe the group of respondents (Appendix D).

As for the stimuli, two conversational chatbots were linked to a fictional brand of an online marketing school called “Elevate”. The chatbots were developed on the Chatplace platform (ChatPlace, n.d.). The research aimed to measure the impact of gamification existence during the interaction with the chatbot, with the scenarios featuring the following differences:

- Chatbot #1 - Gamified: This version included a multiple-choice quiz designed to test knowledge in social media marketing, enhanced with gamified elements such as points and

rewards. Participants received points for each answer, which could be exchanged for rewards at the end of the test;

- Chatbot #2 - Non-Gamified: This version presented the same multiple-choice quiz as Chatbot #1 but without gamification elements like points and rewards.

Participants were instructed to engage with a chatbot designed to test their knowledge of social media marketing (Appendix B and Appendix C). They were guided to access the chatbot via a URL and afterward redirected to Qualtrics to complete the questionnaire.

Participants were allocated at random to one of two versions of the chatbot.

Upon completing the quiz, participants received feedback about the topics covered and their importance in social media marketing to stimulate interest in the school's online course. At the end of the quiz, participants received instructions on how to proceed to consultation with the online school about their online course.

The quiz scenario for the chatbots was inspired by recent works of Elmashhara et al. (2024) and Silva et al. (2023), who used multiple-choice quizzes to share knowledge and test understanding. Combining chatbots with game elements like points and rewards was derived from Werbach and Hunter's Dynamics-Mechanics-Components Pyramid (Werbach & Hunter, 2012). The survey instrument was created in English and then independently translated into Russian to increase the number of participants. It was then distributed via social media channels and chat groups.

## 4. RESULTS

### 4.1. RELIABILITY AND VALIDITY TESTS

A reflective Partial Least Squares - Structural Equation Modeling (PLS-SEM) model was employed to analyze IVA Coolness and A-A relationships, treating them as a second-order construct. This approach was chosen because PLS-SEM is well-suited for analyzing latent variables under non-normal data distributions and is particularly effective in accommodating categorical moderating variables, such as the influence of past experiences (Hair et al., 2011; Hair et al., 2012). Hair et al. (2012) recommend that the minimum sample size for PLS-SEM should be at least ten times the highest number of direct paths targeting any latent variable. With a sample size of 228 participants, this study met the minimum requirement for applying the PLS-SEM method.

As shown in Table 3, the item's reliability was established as each outer loading assumes values exceeding the 0.7 threshold (Hair et al., 2010). However, items P1, P4, and R3 were excluded as the inherent Variance Inflated Factors (VIF) were greater than 5.0, evidencing possible multicollinearity issues (Hair et al., 2021). Composite reliability (CR) was assessed with Cronbach's Alpha (CA), CR(rho\_c), and CR(rho\_a) indexes, also meeting the 0.70 to 0.95 thresholds (Hair et al., 2019).

Convergent validity was evaluated through the Average Variance Extracted (AVE), adhering to standards outlined by Hair et al. (2010) and Bagozzi and Yi (1988).

The final reliability and validity evaluations, summarized in Table 3, were conducted using a systematic three-step method recommended by Van Riel et al. (2017). Discriminant validity was examined using the Fornell-Larcker criterion, which specifies that a construct's AVE square root must exceed its correlations with other constructs (Fornell & Larcker, 1981). The findings in Table 4 confirmed that all constructs satisfied this criterion, ensuring discriminant validity.

Table 3 – Reliability and validity test for the complete data

Construct	Item ID	Outer Loadings	Cronbach's Alpha	Composite Reliability (rho_a)	Composite Reliability (rho_c)	AVE
BRAND IMAGE	B11	0.877	0.919	0.920	0.943	0.806
	B12	0.904				
	B13	0.898				
	B14	0.910				
BEHAVIORAL CE	BCE1	0.782	0.891	0.894	0.925	0.755

	BCE2	0.898				
	BCE3	0.904				
	BCE4	0.886				
COGNITIVE CE	CCE1	0.832	0.882	0.883	0.919	0.739
	CCE2	0.849				
	CCE3	0.885				
	CCE4	0.870				
EMOTIONAL CE	ECE1	0.877	0.911	0.911	0.937	0.789
	ECE2	0.894				
	ECE3	0.892				
	ECE4	0.889				
POINTS	P1 *	0.945	0.970	0.970	0.976	0.892
	P2	0.935				
	P3	0.934				
	P4 *	0.962				
	P5	0.947				
PURCHASE INTENTION	PI1	0.930	0.908	0.909	0.942	0.844
	PI2	0.911				
	PI3	0.915				
REWARDS	R1	0.941	0.904	0.919	0.940	0.840
	R2	0.846				
	R3 *	0.958				

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Note: (\*) items removed due to having high multicollinearity (VIF > 5) (Hair et al. ,2021).

Table 4 – Discriminant validity test (Fornell and Larcker criterion)

	BI	BCE	ECE	P	PI	R	CCE
BI	0.897						
BCE	0.694	0.869					
ECE	0.699	0.779	0.888				
P	0.754	0.764	0.710	0.946			
PI	0.866	0.719	0.668	0.744	0.919		
R	0.803	0.706	0.690	0.835	0.785	0.911	
CCE	0.695	0.732	0.800	0.726	0.698	0.725	0.859

Note: BI = Brand Image; P =Points; BCE = Behavioral Customer Engagement; ECE =Emotional Customer Engagement; PI =Purchase Intention; R = Rewards; CCE = Cognitive Customer Engagement.

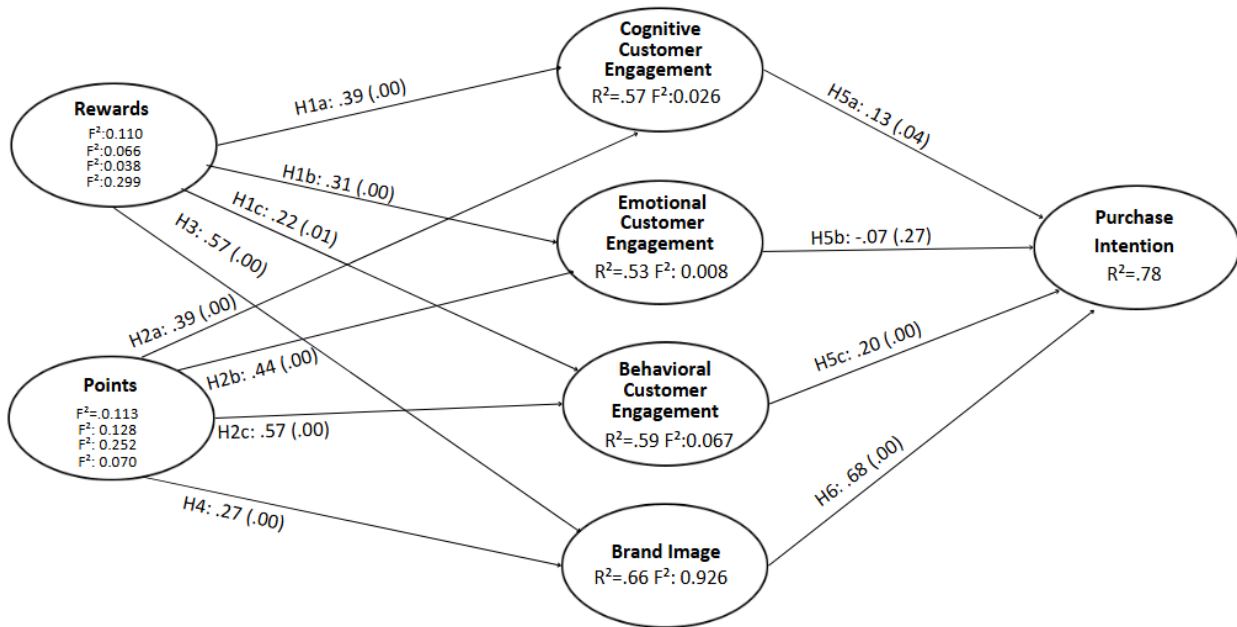
#### 4.2. STRUCTURAL MODEL

For the structural model fit assessment, the Standardized Root Mean Square Residual (SRMR) was computed, and a value of 0.09 was obtained. Hu and Bentler (1999) consider this value reasonable, as they recommend values below 0.10, particularly in complex models.

The PLS-SEM bootstrapping results offer insight into the relationships among key constructs, with most hypotheses supported. Rewards (R) significantly influence Cognitive Customer Engagement (CCE) (H1a supported,  $\beta = 0.392$ ,  $p < 0.001$ ), Emotional Customer Engagement (ECE) (H1b supported,  $\beta = 0.319$ ,  $p = 0.002$ ), and Behavioral Customer Engagement (BCE) (H1c supported,  $\beta = 0.223$ ,  $p = 0.018$ ), highlighting their effectiveness in driving different types of engagement. Similarly, Points (P) positively impact CCE (H2a supported,  $\beta = 0.399$ ,  $p < 0.001$ ), ECE (H2b supported,  $\beta = 0.444$ ,  $p < 0.001$ ), and BCE (H2c supported,  $\beta = 0.578$ ,  $p < 0.001$ ), demonstrating the pivotal role of points in engaging customers.

Rewards also strongly influence Brand Image (BI) (H3 supported,  $\beta = 0.573$ ,  $p < 0.001$ ). At the same time, Points also significantly affect BI (H4 supported,  $\beta = 0.275$ ,  $p < 0.001$ ), suggesting that both rewards and points contribute positively to brand perception. Furthermore, CCE (H5a supported,  $\beta = 0.135$ ,  $p = 0.046$ ) and BCE (H5c supported,  $\beta = 0.207$ ,  $p = 0.001$ ) significantly influence Purchase Intention (PI). However, ECE does not significantly impact PI (H5b not supported,  $\beta = -0.079$ ,  $p = 0.273$ ), indicating that emotional engagement alone may not directly drive purchasing decisions in this context.

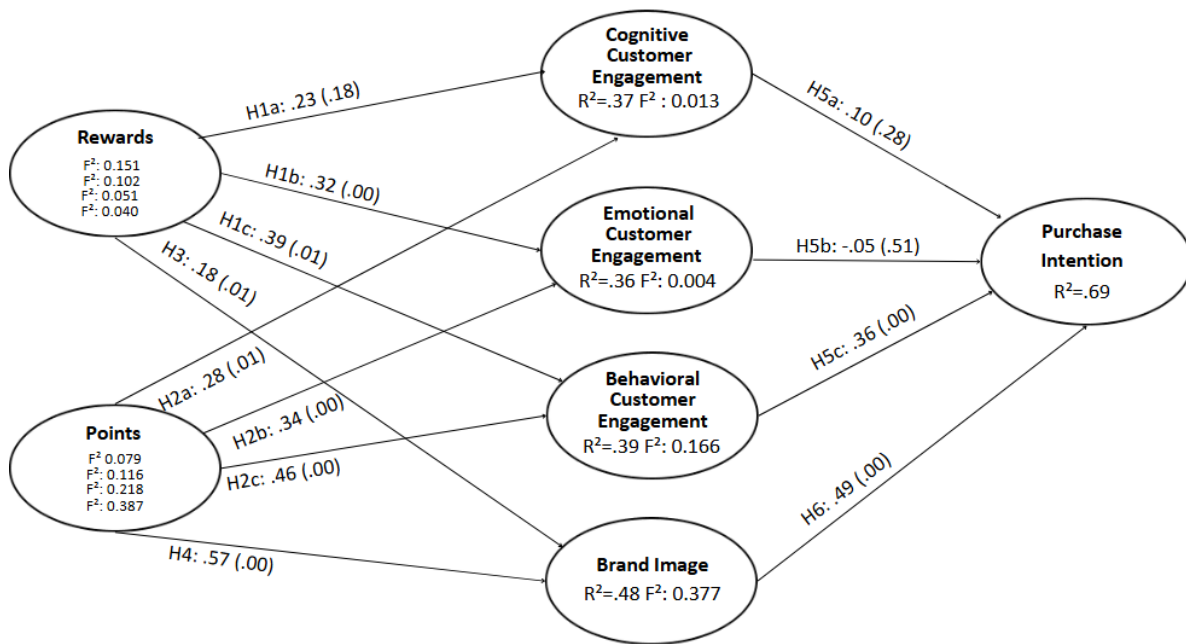
Finally, Brand Image strongly and positively predicts PI (H6 supported,  $\beta = 0.685$ ,  $p < 0.001$ ,  $f^2 = 0.926$ ), underscoring the critical role of brand perception and its' an influence on purchase intention. Overall, following results demonstrated the significant roles of points, rewards, and brand image in fostering engagement and purchase behaviour while also revealing the limited direct influence of emotional engagement on purchase intention.



Note: The values correspond to the path coefficients. p-values are in parentheses.

Figure 2 - Research model with PLS-algorithm and bootstrapping results for the complete dataset.

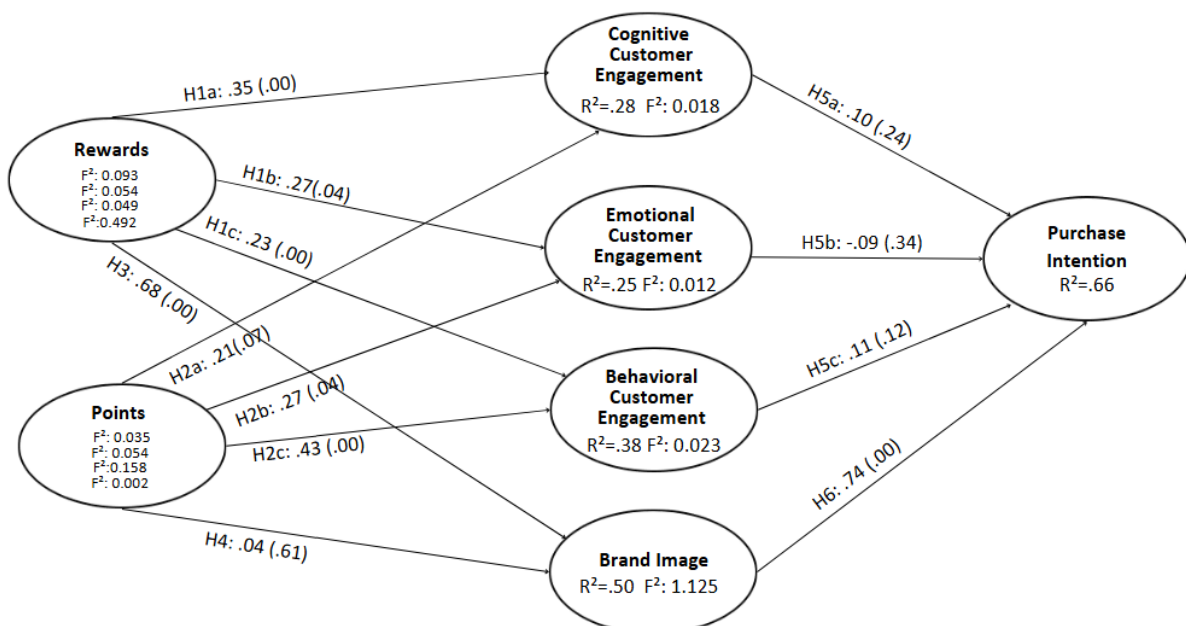
The comparison of the PLS-SEM models for Chatbot 1 and Chatbot 2 demonstrates differences in the relationships among the constructs: Rewards (R), Points (P), Behavioral Customer Engagement (BCE), Emotional Customer Engagement (ECE), Cognitive Customer Engagement (CCE), Brand Image (BI), and Purchase Intention (PI). For both models, H1a (R -> CCE) and H1b (R -> ECE) are supported, showing that Rewards positively influence Cognitive Customer Engagement (Chatbot 1:  $\beta = 0.392$ ,  $p = 0.001$ ; Chatbot 2:  $\beta = 0.357$ ,  $p = 0.005$ ) and Emotional Customer Engagement (Chatbot 1:  $\beta = 0.324$ ,  $p = 0.005$ ; Chatbot 2:  $\beta = 0.276$ ,  $p = 0.041$ ). However, H1c (R -> BCE) is supported only in Chatbot 2 ( $\beta = 0.238$ ,  $p = 0.008$ ), indicating that Rewards significantly influence Behavioral Customer Engagement in that model. For H2a (P -> CCE), Chatbot 1 supports the hypothesis ( $\beta = 0.285$ ,  $p = 0.014$ ), while Chatbot 2 does not ( $p = 0.075$ ). Both models support H2b (P -> ECE) (Chatbot 1:  $\beta = 0.346$ ,  $p = 0.003$ ; Chatbot 2:  $\beta = 0.275$ ,  $p = 0.043$ ) and H2c (P -> BCE) (Chatbot 1:  $\beta = 0.464$ ,  $p = 0.002$ ; Chatbot 2:  $\beta = 0.431$ ,  $p < 0.001$ ), showing that Points positively influence Emotional and Behavioral Customer Engagement.



Note: The values correspond to the path coefficients. p-values are in parentheses.

Figure 3 - Research model with PLS-algorithm and bootstrapping results for chatbot 1.

Regarding Brand Image, H3 (R → BI) is supported in both models (Chatbot 1:  $\beta = 0.181$ ,  $p = 0.014$ ; Chatbot 2:  $\beta = 0.681$ ,  $p < 0.001$ ), but H4 (P → BI) is supported only in Chatbot 1 ( $\beta = 0.570$ ,  $p < 0.001$ ). For Purchase Intention, neither model supports H5a (CCE → PI) or H5b (ECE → PI), while H5c (BCE → PI) is supported only in Chatbot 1 ( $\beta = 0.362$ ,  $p = 0.002$ ). Finally, H6 (BI → PI) is strongly supported in both models, with Brand Image significantly influencing Purchase Intention (Chatbot 1:  $\beta = 0.494$ ,  $p < 0.001$ ; Chatbot 2:  $\beta = 0.749$ ,  $p < 0.001$ ).



Note: The values correspond to the path coefficients. p-values are in parentheses.

Figure 4 - Research model with PLS-algorithm and bootstrapping results for chatbot 2.

Overall, Chatbot 1 demonstrates stronger support for hypotheses involving Points and Behavioral Customer Engagement, while Chatbot 2 emphasizes the role of Rewards and Brand Image (see Table 6 and table 7).

Table 5 –PLS-SEM Bootstrapping results, Complete

Hypothesis	Relationship	Std $\beta$	P values	confidence intervals		f-square	Decision
				2.5%	97.5%		
H1a	R -> CCE	0.392	0.000	0.200	0.564	0.110	Supported
H1b	R -> ECE	0.319	0.002	0.116	0.518	0.066	Supported
H1c	R -> BCE	0.223	0.018	0.032	0.404	0.038	Supported
H2a	P -> CCE	0.399	0.000	0.226	0.579	0.113	Supported
H2b	P -> ECE	0.444	0.000	0.234	0.634	0.128	Supported
H2c	P -> BCE	0.578	0.000	0.394	0.746	0.252	Supported
H3	R -> BI	0.573	0.000	0.409	0.723	0.299	Supported
H4	P -> BI	0.275	0.000	0.124	0.434	0.070	Supported
H5a	CCE -> PI	0.135	0.046	0.009	0.270	0.026	Supported
H5c	BCE -> PI	0.207	0.001	0.083	0.326	0.067	Supported
H5b	ECE -> PI	-0.079	0.273	-0.225	0.056	0.008	Not supported
H6	BI -> PI	0.685	0.000	0.577	0.789	0.926	Supported

Note: BI = Brand Image; P =Points; BCE = Behavioral Customer Engagement; ECE =Emotional Customer Engagement; PI =Purchase Intention; R = Rewards; CCE = Cognitive Customer Engagement.

Table 6 – PLS-SEM Bootstrapping results, Chatbot 1

Hypothesis	Relationship	Std $\beta$	P values	confidence intervals		f-square	Decision
				2.5%	97.5%		
H1a	R -> CCE	0.392	0.001	0.133	0.601	0.151	Supported
H1b	R -> ECE	0.324	0.005	0.088	0.540	0.102	Supported
H1c	R -> BCE	0.223	0.182	-0.097	0.542	0.051	Not supported
H2a	P -> CCE	0.285	0.014	0.058	0.515	0.079	Supported
H2b	P -> ECE	0.346	0.003	0.106	0.563	0.116	Supported
H2c	P -> BCE	0.464	0.002	0.168	0.741	0.218	Supported
H3	R -> BI	0.181	0.014	0.045	0.336	0.040	Supported
H4	P -> BI	0.570	0.000	0.400	0.707	0.387	Supported
H5a	CCE -> PI	0.100	0.285	-0.076	0.294	0.013	Not supported
H5b	ECE -> PI	- 0.058	0.510	-0.239	0.106	0.004	Not supported
H5c	BCE -> PI	0.362	0.002	0.114	0.578	0.166	Supported
H6	BI -> PI	0.494	0.000	0.316	0.681	0.377	Supported

Note: BI = Brand Image; P =Points; BCE = Behavioral Customer Engagement; ECE =Emotional Customer Engagement; PI =Purchase Intention; R = Rewards; ; CCE = Cognitive Customer Engagement.

Table 7 – PLS-SEM Bootstrapping results, Chatbot 2

Hypothesis	Relationship	Std $\beta$	P values	confidence intervals		f-square	Decision
				2.5%	97.5%		
H1a	R -> CCE	0.357	0.005	0.084	0.581	0.093	Supported
H1b	R -> ECE	0.276	0.041	-0.012	0.523	0.054	Supported
H1c	R -> BCE	0.238	0.008	0.058	0.417	0.049	Supported
H2a	P -> CCE	0.218	0.075	-0.008	0.472	0.035	Not supported
H2b	P -> ECE	0.275	0.043	0.026	0.558	0.054	Supported
H2c	P -> BCE	0.431	0.000	0.217	0.612	0.158	Supported
H3	R -> BI	0.681	0.000	0.510	0.823	0.492	Supported
H4	P -> BI	0.042	0.616	-0.120	0.212	0.002	Not supported
H5a	CCE -> PI	0.106	0.248	-0.052	0.308	0.018	Not supported
H5b	ECE -> PI	-0.098	0.349	-0.334	0.076	0.012	Not supported
H5c	BCE -> PI	0.119	0.122	-0.024	0.278	0.023	Not supported
H6	BI -> PI	0.749	0.000	0.621	0.858	1.125	Supported

Note: BI = Brand Image; P =Points; BCE = Behavioral Customer Engagement; ECE =Emotional Customer Engagement; PI =Purchase Intention; R = Rewards; CCE = Cognitive Customer Engagement.

### 4.3. MULTI GROUP ANALYSIS

An analysis of MGA has been performed to test the hypothesis across chatbot groups. However, to make sure that the moderation can be validly applied through the MGA, a MICOM (Measurement Invariance of Composite Models) test was conducted in three stages according to the recommendation of Henseler et al. (2017).

Configural invariance (step 1) was assessed and confirmed as the basic factor structure was identical across groups. This included the same number of indicators, identical data treatment

procedures, and consistent algorithm settings. The questionnaire remained consistent across groups, and sample sizes met the minimum threshold recommended for PLS-SEM (Hair et al., 2017). Compositional invariance (step 2) was tested using 5000 permutations in SmartPLS. The results demonstrated that the correlations were close to 1, and permutation p-values were non-significant, confirming compositional invariance. However, scalar invariance (step 3) revealed that most of the means and variances for measures were different. Despite this, partial measurement invariance was achieved, allowing a structural model comparison across groups (Henseler et al., 2016).

The MGA results (Table 5) reveal significant relationship differences across chatbot 1 and chatbot 2. Brand Image → Purchase Intention exhibits a significant dissimilarity between the chatbot groups, with a negative difference of -0.255 ( $p = 0.022$ ). This recommends that the influence of brand image on purchase intention is weaker for one chatbot than the other. However, other relationships, such as Cognitive Customer Engagement (CCE) → Purchase Intention (PI) showed no significant group differences ( $p = 0.968$ ), indicating consistency across chatbot groups. Similarly, no significant gender differences were found across relationships like Rewards (R) → Brand Image (BI) ( $p = 0.863$ ) or Points (P) → Cognitive Customer Engagement (CCE) ( $p = 0.620$ ). Multi group analysis (MGA) has been performed to test the hypothesis across chatbot groups. However, to make sure that the moderation can be validly applied through the MGA, a MICOM (

Table 8 – Multi group analysis (MGA) for chatbots

Relationship	Difference (Chatbot1 - Chatbot2)	p-value
BI -> PI	-0.255	0.022
BCE -> PI	0.244	0.088
ECE -> PI	0.040	0.783
P -> BI	0.528	0.000
P -> BCE	0.033	0.856
P -> ECE	0.070	0.685
P -> CCE	0.067	0.682
R -> BI	-0.500	0.000
R -> BCE	-0.015	0.944
R -> ECE	0.048	0.794

R -> CCE	0.035	0.840
CCE -> PI	-0.007	0.971

Note: BI = Brand Image; P =Points; BCE = Behavioral Customer Engagement ; ECE =Emotional Customer Engagement; PI =Purchase Intention; R = Rewards; ; CCE = Cognitive Customer Engagement.

#### 4.4. MEDIATION ANALYSIS

The model was tested to assess the variables' direct and specific indirect effects on purchase intention (PI). Table 6 shows the direct effects, and Table 7 presents the specific indirect effects. Results reveal that the direct effects of brand image (BI) ( $\beta = 0.685$ ,  $p < 0.001$ ) and behavioral customer engagement (BCE) ( $\beta = 0.207$ ,  $p = 0.001$ ) on purchase intention are significant, while emotional customer engagement (ECE) ( $\beta = -0.079$ ,  $p = 0.273$ ) is not significant. Additionally, rewards (R) demonstrate significant direct effects on brand image, BCE, ECE, and cognitive customer engagement (CCE), which, in turn, significantly affect purchase intention through both direct ( $\beta = 0.134$ ,  $p = 0.046$ ) and indirect paths ( $\beta = 0.483$ ,  $p < 0.001$  via BI).

Table 9 – Direct effects

Relationships	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics ( O/STDEV )	P values	Bias Corrected Confidence Interval	
						2.5%	97.5%
BI -> PI	0.685	0.683	0.054	12.606	0.000	0.577	0.789
BCE -> PI	0.207	0.209	0.063	3.313	0.001	0.083	0.326
ECE -> PI	-0.079	-0.085	0.072	1.097	0.273	-0.226	0.055
P -> BI	0.126	0.129	0.094	1.343	0.179	-0.051	0.320
P -> BCE	0.547	0.551	0.103	5.294	0.000	0.340	0.747
P -> ECE	0.341	0.354	0.129	2.647	0.008	0.099	0.600
P -> CCE	0.317	0.325	0.117	2.711	0.007	0.097	0.557

R -> BI	0.706	0.703	0.091	7.742	0.000	0.507	0.872
R -> BCE	0.242	0.240	0.108	2.245	0.025	0.019	0.446
R -> ECE	0.414	0.402	0.127	3.245	0.001	0.148	0.647
R -> CCE	0.463	0.457	0.119	3.887	0.000	0.215	0.683
CCE -> PI	0.134	0.141	0.067	1.997	0.046	0.009	0.269

Note: BI = Brand Image; P =Points; BCE = Behavioral Customer Engagement ; ECE =Emotional Customer Engagement; PI =Purchase Intention; R = Rewards; ; CCE = Cognitive Customer Engagement.

The specific indirect effects highlight important insights: rewards (R) significantly impact PI indirectly through BI ( $\beta = 0.483$ ,  $p < 0.001$ ) and BCE ( $\beta = 0.050$ ,  $p = 0.050$ ), indicating the critical role of these constructs as mediators. Furthermore, points (P) indirectly influence PI through BCE ( $\beta = 0.113$ ,  $p = 0.011$ ). Still, the indirect effects through BI ( $\beta = 0.086$ ,  $p = 0.186$ ), ECE ( $\beta = -0.027$ ,  $p = 0.386$ ), and cognitive customer engagement (CCE) ( $\beta = 0.043$ ,  $p = 0.130$ ) are nonsignificant. Similarly, R impacts PI through CCE ( $\beta = 0.062$ ,  $p = 0.092$ ), but this path approaches significance without reaching it. These findings emphasize that while BI and BCE are effective mediators in driving purchase intention, emotional and cognitive engagement have limited indirect effects, suggesting their influence may require further investigation or alternative pathways.

However, the indirect effects through emotional engagement (ECE) and cognitive engagement (CCE) were largely nonsignificant. These results demonstrate the significant role of rewards and behavioral engagement as key drivers of purchase intention, while emotional engagement shows limited impact.

Table 10 – Indirect effects

Relationship	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics ( O/STDEV )	P value	Bias Corrected Confidence Interval	
						2.5%	97.5%
P -> CCE -> PI	0.043	0.046	0.028	1.514	0.130	0.004	0.115
R -> CCE -> PI	0.062	0.065	0.037	1.685	0.092	0.007	0.152

P -> ECE -> PI	-0.027	-0.032	0.031	0.868	0.386	-0.108	0.015
P -> BCE -> PI	0.113	0.116	0.044	2.558	0.011	0.041	0.214
P -> BI -> PI	0.086	0.089	0.065	1.323	0.186	-0.032	0.227
R -> ECE -> PI	-0.033	-0.033	0.031	1.062	0.288	-0.108	0.016
R -> BCE -> PI	0.050	0.049	0.026	1.963	0.050	0.011	0.116
R -> BI -> PI	0.483	0.480	0.072	6.680	0.000	0.345	0.630

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Note: BI = Brand Image; P =Points; BCE = Behavioral Customer Engagement; ECE =Emotional Customer Engagement; PI =Purchase Intention; R = Rewards; CCE = Cognitive Customer Engagement.

## 5. CONCLUSIONS

This research offers valuable contributions to the importance of gamified chatbots in improving customer engagement, brand perception, and purchase intent, contributing to the knowledge on gamification and AI-driven marketing tactics. The findings reveal that gamified elements such as points and rewards significantly enhance cognitive, emotional, and behavioral engagement, with behavioral engagement being the strongest predictor of purchase intent. Additionally, the research highlights the mediating role of brand image, demonstrating that gamified interactions positively influence brand perception, which, in turn, drives purchase behavior. By extending gamification research to social media platforms like Telegram, this study emphasizes the versatility of gamified chatbots in informal and conversational contexts, revealing their potential to engage users beyond traditional e-commerce settings. The comparative analysis between gamified and non-gamified chatbots further confirms the strategic value of incorporating game mechanics to create more engaging and interactive experiences.

### 5.1. THEORETICAL CONTRIBUTIONS

This work advances theoretical understanding of gamified chatbots in marketing by addressing gaps in the existing literature. First, it extends the application of gamification theories (e.g., Werbach & Hunter, 2012) and customer engagement frameworks (Hollebeek et al., 2014) to social media platforms, demonstrating how specific elements like points and rewards enhance engagement dimensions (cognitive, emotional, and behavioral). The study also supports the growing consensus that gamification can positively impact behavioral results such as purchase intention (Elmashhara et al., 2024; Hsu, 2023).

Second, by exploring the brand image as a mediator, this research builds on Aaker's (1991) and Keller's (1993) theories on brand perception, demonstrating that gamified chatbots are practical tools for fostering positive brand associations. These findings align with studies indicating that a strong brand image significantly drives purchase intention (Bian & Moutinho, 2011; Huo et al., 2022).

Third, the study establishes that not all engagement dimensions affect purchase behavior. While behavioral engagement strongly predicts purchase intention, emotional engagement was found to have limited direct influence, suggesting a need for refined strategies to leverage emotional connection in gamified environments (Elmashhara & Soares, 2022; Hollebeek et al., 2019).

Finally, the study demonstrates the relevance of social media chatbots, addressing a gap noted in prior studies focused predominantly on e-commerce platforms (Tsai et al., 2021). This novel context underscores the adaptability and versatility of gamified chatbot strategies in diverse digital ecosystems.

## **5.2. MANAGERIAL IMPLICATIONS**

The findings suggest insights for practitioners aiming to integrate gamified chatbots into their marketing strategies. The study revealed that chatbots incorporating gamification components like points and rewards significantly enhance customer engagement. Marketers should focus on crafting interactive and gamified user experiences to maximize consumer involvement. Additionally, the significant influence of gamified interactions on brand image highlights the importance of investing in strategies that align game mechanics with brand identity. As demonstrated, enhanced brand perception leads to higher purchase intentions.

According to the results, behavioral engagement most strongly predicts purchase intention. Therefore, marketers should prioritize actions that encourage user participation and tangible interactions, such as completing tasks or achieving goals, within their chatbots.

Regarding platforms, the study demonstrated that social media platforms like Telegram offer unique opportunities for chatbot deployment. These platforms enable brands to reach users in informal and engaging ways, extending the application of gamification beyond traditional e-commerce settings. Finally, it is recommended that marketers personalize gamification elements to cater to specific user preferences, such as age or motivation type. This can amplify their effectiveness, leading to deeper engagement and stronger purchase intentions.

## **5.3. LIMITATIONS AND FUTURE RESEARCH**

While this research provides valuable insights, it is not without limitations, which creates avenues for future investigation. The focus on points and rewards excludes other potentially impactful mechanics such as leaderboards, badges, or narrative-driven gamification. Future research should explore how these additional elements influence engagement, brand image, and purchase behavior (Bekk et al., 2022; Silva et al., 2023). Besides, the study focused on the Telegram platform may lack valuable findings in comparison with other platforms. Research on WhatsApp, Facebook Messenger, or proprietary brand applications could provide comparative insights (Van den Broeck et al., 2019). The study is also limited in its understanding of long-term engagement dynamics. Longitudinal studies could explore the sustainability of gamification effects over time (Grewal et al., 2019; Wolf et al., 2020). Additionally, the study did not deeply examine how factors like age, gender, or cultural differences moderate responses to gamification. This presents a valuable opportunity for future research (Hofacker et al., 2016; Hollebeek et al., 2021). Beyond purchase intention, future studies could investigate outcomes like customer satisfaction, loyalty, and advocacy to get a more holistic understanding of gamification's impact (Kasilingam, 2020; Xu et al., 2017).

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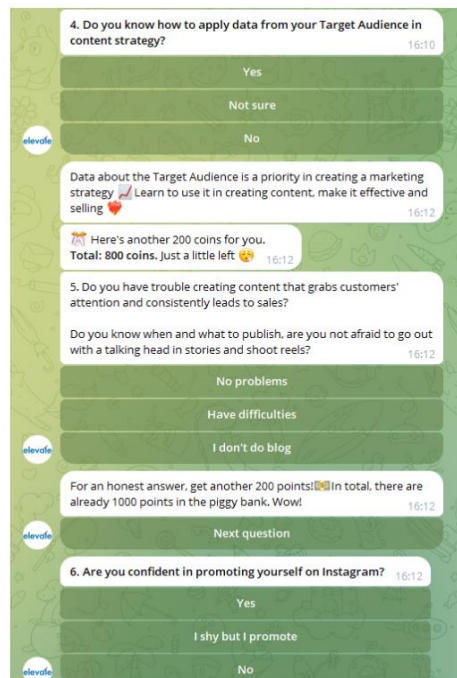
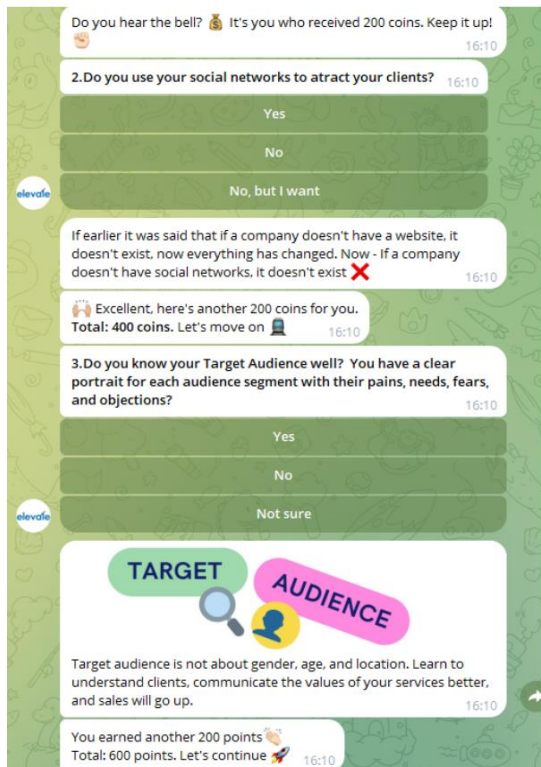
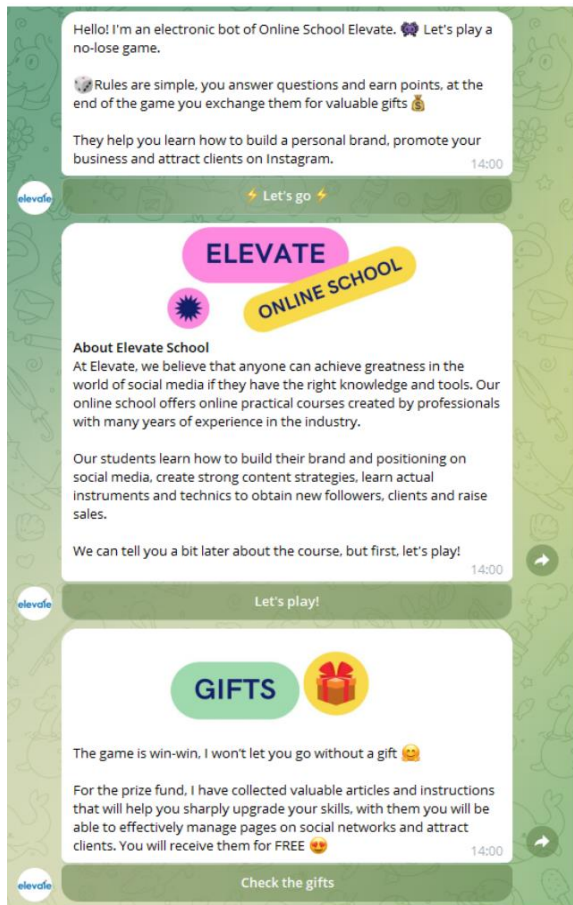
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## APPENDIX A - CONSTRUCTS, ITEMS AND REFERENCES

Construct	Original item:	Reference:	Adapted item:
<b>Cognitive Customer Engagement (CCE)</b>	During chatbot usage, I ... 1. ... invested a lot of concentration. 2. ... fully attached myself to the chatbot. 3. ... had difficulties to detach myself. 4. ... forgot everything around me	(Elmashhara et al, 2024)	During chatbot usage, I ... CCE1 invested a lot of concentration. CCE2 ... fully attached myself to the chatbot. CCE3. ... had difficulties to detach myself. CCE4 ... forgot everything around me
	During chatbot usage, I ... 1. ... devoted a lot of enthusiasm. 2. ... devoted a lot of dedication. 3. ... was emotionally attached. 4. ... was emotionally satisfied.		During chatbot usage, I ... ECE1 ... devoted a lot of enthusiasm. ECE2 ... devoted a lot of dedication. ECE3 ... was emotionally attached. ECE4 ... was emotionally satisfied.
	During chatbot usage, I ... 1. ... spent a lot of time seeking ideas and information from the chatbot. 2. ... sought help from the chatbot. 3. ... I thought of promoting the chatbot. 4. ... I thought of getting others interested in the chatbot.		During chatbot usage, I ... BCE1 ... spent a lot of time seeking ideas and information from this chatbot. BCE2 ... sought help from the chatbot. BCE3 ... I thought of promoting the chatbot. BCE4 ... I thought of getting others interested in the chatbot.
<b>Points (P)</b>	PE1 Shopee games will increase my points according to my behaviors (e.g. watering plants) PE2 Shopee games can precisely evaluate my behaviors and increase my points PE3 Points is a critical measurement for my competence in Shopee games PE4 The presence of a points system increases my engagement with Shopee games PE5 The presence of a points makes me feel more likely to do actions to obtain them	(Tsou & Putra, 2023)	PE1 Gamified chatbot increased my points according to my answers  PE2 Gamified chatbot evaluated my answers and increased my points  PE3 Points is a critical measurement for my competence in this chatbot  PE4 The presence of a points system increases my engagement with this chatbot  PE5 The presence of a points makes me feel more likely to do actions to obtain them
<b>Rewards (R)</b>	RE1: This app rewards me when I keep using it. RE2: The app has different levels. RE3: The app encourages me to achieve the different levels in the app.	(Hsu, 2023)	RE1 This Chatbot rewards me when I keep using it. RE2 This Chatbot has different questions RE3 This Chatbot encourages me to achieve the different questions

<p><b>Brand Image (BI)</b></p>	<p>BI1 - this e-commerce booking platform's brands offer a broad range of products</p> <p>BI2 - this website brand is credible</p> <p>BI3 – The brand associated with this website demonstrates character (personality)</p> <p>BI4 - I have a good feeling about this brand</p>	<p>(Tam et al, 2024)</p>	<p>BI1 This chatbot's brand offers a broad range of products</p> <p>BI2 This brand is credible</p> <p>BI3 – This brand associated with this chatbot demonstrates character (personality)</p> <p>BI4 - I have a good feeling about this brand</p>
<p><b>Purchase intention (PI)</b></p>	<p>PUR1. I intend to purchase products about which I have read messages via chatbots</p> <p>PUR2. If somebody asks me for advice on purchase, I would recommend products about which I have read messages via chatbots</p> <p>PUR3. In the future, I will purchase products about which I have read messages via chatbots</p>	<p>(Le, 2021)</p>	<p>PI1 I intend to purchase product about which I have read messages via this chatbots</p> <p>PIR2 If somebody asks me for advice on purchase, I would recommend the course about which I have read messages via this chatbots</p> <p>PI3 I might purchase products about which I have read messages via this chatbots in the future</p>

# APPENDIX B - CHATBOT#1



**PERSONAL BRAND**

Personal brand on social networks plays a key role in shaping business reputation. It helps you stand out from competitors, attract clients, and increase your sales and income. By not declaring yourself, you miss out on clients and many opportunities.

In Social media marketing course, we learn techniques for building a personal brand and fight the imposter syndrome.

Your piggy bank is getting heavier, which means the prizes are more valuable. Another plus 200 coins for this question!  
Total: 1200 coins

And the final question!

7. Do you use Facebook ADS to attract new clients and followers? Your results satisfy you?

Yes, systematically

I tried but stopped

No

Traffic acquisition is an important stage in the development of a blog: It help you to grow much faster and attract new followers and raise sales. It takes a long time to grow your blog and make sales without paid ads.

Hooray! You successfully completed the game! Let me count your results...

You earned - 1400 points

**YOUR LEVEL IS ADVANCED**

Your level is **ADVANCED**

Congratulations! You're on the right track and perhaps doing well already. But are you using all the opportunities and tools available to you?

What if you could enhance your skills and approach, allowing yourself to significantly grow your followers, clients, and income?

If you've been considering this, it's a sign! I suggest scheduling a free consultation where we can discuss how to scale your results and develop a growth strategy.

But first let's choose your gifts!

Choose gifts

Take prize lots from the list, but remember that you only have 1400 points.

**CHECK LIST FOR BUSINESS INSTAGRAM ACCOUNT**

Check list for business instagram account. To attract clients and followers. Price - 600 points.

Get

**GUIDE FOR SUCCESSFUL FACEBOOK ADS**

Guide for successfull ads creatives. Price - 600 points.

Get

**CHAT GPT PROMPTS**

Chat GPT prompts. Price - 600 points

Get

**10 BLOG STRATEGIES FOR YOUR BLOG**

10 Blog Marketing Strategies. Price - 1000 points.

Get

**CHATGPT PROMPTS (2).pdf**  
442.5 KB  
OPEN WITH

Get your gift.

You have 800

**Guide for successfull ads Creatives.pdf**  
450.0 KB  
OPEN WITH

Get your gift.

You have 200 points.

Unfortunately You don't have not enough points.

You have 200 points.

If you have enough balance, you can choose a gift above or rate this chatbot in an easy questionnaire to receive all the materials for free at once

Go to survey

Finish

**THANK YOU!**

Thank you for participating in the game.

As part of our social media course, we are also glad to offer you a range of online courses that can help you obtain a new profession.

Courses we offer:

- Social Media Marketing
- Digital Marketing
- Google Ads
- UX Design
- Mobilography

For more information, follow our website:  
Elevate.com

## APPENDIX C - CHATBOT#2

Hello! I'm an electronic bot of Online School Elevate. 🤖

Are you into social media and want to know how to perform better?

Let's check your level in social media marketing and see your growth point?

The test includes 7 questions. 18:41

Let's go

**ELEVATE**

**ONLINE SCHOOL**

**About Elevate School**  
At Elevate, we believe that anyone can achieve greatness in the world of social media if they have the right knowledge and tools. Our online school offers online practical courses created by professionals with many years of experience in the industry.

Our students learn how to build their brand and positioning on social media, create strong content strategies, learn actual instruments and technics to obtain new followers, clients and raise sales.

We can tell you a bit later about the course, but first, let's check your skills! 18:41

Let's start the test

**1. Excellent, Choose the category you belong to:** 18:43

Marketing

Entrepreneur

Expert in ...

Other

Social media expert

**2. Do you use your social networks to attract your clients?** 18:43

Yes

No

No, but I want

If earlier it was said that if a company doesn't have a website, it doesn't exist, now everything has changed. Now - if a company doesn't have social networks, it doesn't exist ❌ 18:43

**3. Do you know your Target Audience well? You have a clear portrait for each audience segment with their pains, needs, fears, and objections?** 18:43

Yes

No

Not sure

**TARGET**

**AUDIENCE**

Target audience is not about gender, age, and location. Learn to understand clients, communicate the values of your services better, and sales will go up. 18:43

**4. Do you know how to apply data from your Target Audience in content strategy?** 18:43

Yes

Not sure

No

Data about the Target Audience is a priority in creating a marketing strategy 📈 Learn to use it in creating content, make it effective and selling 📈 18:43

**5. Do you have trouble creating content that grabs customers' attention and consistently leads to sales?**

Do you know when and what to publish, are you not afraid to go out with a talking head in stories and shoot reels? 18:43

No problems

Have difficulties

I don't do blog

**6. Are you confident in promoting yourself on Instagram?** 18:44

Yes

I shy but I promote

No

**PERSONAL BRAND**

Personal brand on social networks plays a key role in shaping business reputation.

It helps you stand out from competitors, attract clients, and increase your sales and income. By not declaring yourself, you miss out on clients and many opportunities.

In Social media marketing course, we learn techniques for building a personal brand and fight the imposter syndrome. 18:44

**7. Do you use Facebook ADS to attract new clients and followers? Your results satisfy you?** 18:44

Yes, systematically

I tried but stopped

No

👉 Traffic acquisition is an important stage in the development of a blog: It help you to grow much faster and attract new followers and raise sales. It takes a long time to grow your blog and make sales without paid ads. 18:45

You successfully completed the test. Let me count your results... 18:45

**YOUR LEVEL IS**

**ADVANCED**

**Your level is ADVANCED 🏆**

You're on the right track and perhaps doing well already. Are you using all the opportunities and tools available to you?

You could enhance your skills and approach, allowing yourself to significantly grow your followers, clients, and income.

We can schedule a free consultation with the Online School where you discuss how to scale your results and develop a growth strategy for your social media. 18:45

Finish

Get consultation

## APPENDIX D – QUALTRICS QUESTIONNAIRE

The images presented below represent the questionnaire completed by the respondents in the study in both scenarios.

English (United Kingdom) ▾

Dear participant,

My name is Aisulu, and I am conducting a study as part of my master's thesis in Data-Driven Marketing, with a specialization in Marketing Intelligence at Nova IMS.

This study aims to understand consumer behavior better when interacting with a chatbot.

At the end of the survey, you will find a link to select the reward for your participation in this study, which includes the following:

- Checklist for Instagram account
- Learn ten strategies to promote your Instagram
- A guide for the creation of more creative ads
- A guide for using ChatGPT for content creation

These rewards will help you build your brand on Instagram and increase your social media marketing knowledge.

Your participation should take approximately 3 minutes. It does not involve any risks, and it is entirely voluntary, as you can end your participation anytime.

All the data generated with your participation will be completely anonymous and confidential. It will be used only for the purpose of this study. If you have any questions, please e-mail me at 20221736@novaims.unl.pt.

Thank you in advance for your participation, which is crucial to help us understand the phenomenon at hand.


Aisulu

Informed Consent Form.

By selecting the "Yes, I agree to participate" option below, you declare that you have read and understood the information presented above and have been informed about the voluntary nature of your participation, the absence of risk, and the anonymity of the data acquired.

Yes, I agree

No, I disagree



### Demographic Questions

English (United Kingdom) ▾

Indicate your age range:

Less than 18

18-24

25-34

35-44

45-54

55 or older

Indicate your education level:

Less than high school diploma

High school diploma or equivalent

College

Bachelor's degree

Master's degree

Doctorate or professional degree

What is your current professional situation ?

Retired

Employed

Self-employed

Unemployed

Student

What is your gender?

Male

Female

Non-binary / third gender

Prefer not to say

## Instructions

English (United Kingdom) ▼

Before starting the second part of the survey, you will find a link below that will take you to the Telegram app, where you will interact with a chatbot.

### IMPORTANT NOTES BEFORE CLICKING IN THE LINK:

- **Please keep this window open;**
- After clicking on the link, please press 1 to activate the chatbot.
- As soon as you have finished interacting with the chatbot, **please return to this window to complete the survey.**

Please press the link below now:

[https://t.me/Aisulu\\_SMM\\_bot](https://t.me/Aisulu_SMM_bot)

## Customer Engagement construct

English (United Kingdom) ▼

Considering your interaction with the chatbot, please indicate your level of agreement with the following statements (1 = strongly disagree; 5 = strongly agree):

[Each sentence should be preceded by "During the interaction with the chatbot..."]

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I invested a lot of concentration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fully attached myself to the chatbot	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I Had difficulties to detach myself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Forgot everything around me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I was Devoted a lot of enthusiasm	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Devoted a lot of dedication	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Was emotionally attached	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Was emotionally satisfied	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
Spent a lot of time seeking ideas and information from the chatbot	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Sought help from the chatbot.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I thought of promoting the chatbot	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I thought of getting others interested in the chatbot.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Filtering Question

After using the chatbot, please select the best option that corresponds what the interaction is about:

- The offer of a special promotion
- To assess the level of Instagram skills
- To assess the level of programming skills
- To promote a new software
- To promote a new English language course

## Rewards construct

Based on the chatbot interaction you just had, please indicate your level of agreement with the following statements (1 = strongly disagree; 5 = strongly agree):

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
This Chatbot rewards me when I keep using it	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This Chatbot has different questions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This Chatbot encourages me to achieve the different questions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Brand Image construct

Based on the chatbot interaction you just had, please indicate your level of agreement with the following statements (1 = strongly disagree; 5 = strongly agree):

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
This chatbot's brand offers a broad range of products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This brand associated with this chatbot demonstrates character (personality)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have a good feeling about this brand	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This brand is credible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Purchase intention construct

Based on the chatbot interaction you just had, please indicate your level of agreement with the following statements (1 = strongly disagree; 5 = strongly agree):

	Strongly disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Strongly agree
I intend to purchase course about which I have read messages via this chatbot	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If somebody asks me for advice on purchase, I would recommend the course about which I have read messages via this chatbot	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I might purchase course about which I have read messages via this email chatbot in the future	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



## APPENDIX E: ETHICS COMMITTEE REPORT



This is to certify that

Project No.: **DDMKT2024-11-265829**

Project Title: **Master thesis "GAMIFIED CHATBOTS. HOW THEY IMPACT CUSTOMER ENGAGEMENT, AND BRAND IMAGE AND PURCHASE INTENTION"**

Principal Researcher: **Aisulu ,Mukhamejanova**

according to the regulations of the Ethics Committee of NOVA IMS and MagIC Research Center this project was considered to meet the requirements of the NOVA IMS Internal Review Board, being considered **APPROVED** on 11/26/2024.

It is the Principal Researcher's responsibility to ensure that all researchers and stakeholders associated with this project are aware of the conditions of approval and which documents have been approved.

The Principal Researcher is required to notify the Ethics Committee, via amendment or progress report, of

- Any significant change to the project and the reason for that change;
- Any unforeseen events or unexpected developments that merit notification;
- The inability of the Principal Researcher to continue in that role or any other change in research personnel involved in the project.

Lisbon, 11/26/2024

NOVA IMS Ethics Committee  
ethicscommittee@novaims.unl.pt

