

## The Impact of Video Game Dimensions on Brand Love: A Guide for the Gaming Industry 2023-2024

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**Abstract:** This research paper investigates the factors contributing to brand love among gamers, with the aim of enhancing user experience and optimizing marketing strategies within the gaming industry. The study explores how specific gameplay elements and sensory triggers—such as rewards, personalization, music, and storytelling—affect emotional connections and foster brand loyalty. Additionally, it examines the application of neuromarketing techniques to gain a deeper understanding of consumer behavior and to promote stronger emotional engagement with gaming products, while also highlighting the importance of addressing ethical considerations and cultural differences in these strategies. Despite the growing popularity of video games, there is a notable lack of comprehensive research on the factors that elicit brand love, which limits developers' and marketers' ability to create engaging experiences that drive loyalty. Utilizing qualitative analysis involving professional gamers, developers, and bloggers, the study provides valuable insights for stakeholders aiming to develop more engaging and intuitive gaming experiences. It contributes to the academic literature on brand love and consumer behavior by identifying key dimensions of video games that evoke brand love. Specifically, the research focuses on: (1) analyzing how gameplay and sensory triggers enhance emotional connections, (2) exploring the impact of neuromarketing techniques on emotional responses, and (3) offering actionable recommendations for improving user experience and boosting customer loyalty. The major research question investigates which video game dimensions can trigger brand love, with subsidiary questions examining the effects of game and sensory triggers, and the potential role of neuromarketing in this context.

**Keywords:** Video Games, Gamers, Video Game Industry, Video Game Dimensions, Brand Love, Brand Love Dimensions, Neuroscience, Neuromarketing

### تأثير أبعاد ألعاب الفيديو على حب العلامة التجارية: دليل لصناعة الألعاب 2023-2024

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**المستخلص:** تستكشف هذه الورقة البحثية العوامل التي تسهم في تعزيز حب العلامة التجارية بين اللاعبين، بهدف تحسين تجربة المستخدم وتحسين استراتيجيات التسويق في صناعة الألعاب. يتناول البحث كيفية تأثير عناصر اللعب المحددة والمحفزات الحسية—مثل المكافآت، والتخصيص، والموسيقى، وسرد القصص—على الروابط العاطفية وحب العلامة التجارية. بالإضافة إلى ذلك، يبحث البحث في تطبيق تقنيات التسويق العصبي لفهم سلوك المستهلكين بشكل أفضل وتعزيز الانخراط العاطفي الأعمق مع المنتجات الألعاب، مع التركيز أيضاً على أهمية معالجة الاعتبارات الأخلاقية والاختلافات الثقافية في هذه الاستراتيجيات. على الرغم من الشعبية المتزايدة للألعاب الإلكترونية، هناك نقص ملحوظ في الأبحاث الشاملة حول العوامل التي تثير حب العلامة التجارية، مما يقيد قدرة المطورين والمسوقين على إنشاء تجارب مثيرة تعزز الولاء.

من خلال التحليل النوعي الذي يشمل اللاعبين المحترفين، والمطورين، والمدونين، توفر الدراسة رؤى قيمة للأطراف المعنية الراغبة في تطوير تجارب ألعاب أكثر جذباً وبديهية. تساهم الدراسة في الأدبيات الأكاديمية المتعلقة بحب العلامة التجارية وسلوك المستهلك من خلال تحديد الأبعاد الرئيسية للألعاب التي تثير حب العلامة التجارية. بشكل محدد، تركز الدراسة على: (1) تحليل كيفية تعزيز عناصر اللعب والمحفزات الحسية للروابط العاطفية، (2) استكشاف تأثير تقنيات التسويق العصبي على الاستجابات العاطفية، و(3) تقديم توصيات عملية لتحسين تجربة المستخدم وزيادة الولاء. تسعى الدراسة للإجابة عن السؤال البحثي الرئيسي حول الأبعاد التي يمكن أن تثير حب العلامة التجارية، مع التركيز على تأثير المحفزات في اللعب والحسية، والدور المحتمل للتسويق العصبي في هذا السياق.

**الكلمات المفتاحية:** ألعاب الفيديو، اللاعبين، صناعة ألعاب الفيديو، أبعاد ألعاب الفيديو، حب العلامة التجارية، أبعاد حب العلامة التجارية، علم الأعصاب، التسويق العصبي.

## Introduction

Motivated by individual experiences with his two children, the researcher aims to investigate the effects of video games on children. Concerned about the extensive screen time his children spend on gaming, he is particularly interested in the potential negative impacts on their behavior and development. Additionally, the researcher plans to pursue a Doctor of Business Administration (DBA) to gain the skills and knowledge necessary for conducting more rigorous and in-depth research on this topic.

The industry faces potential market share loss to other forms of entertainment, such as AI applications, music, and video platforms, which can be equally engaging and often more affordable. If video game companies do not find ways to differentiate themselves from these emerging threats, they risk being left behind, losing customers, advertising market share, and experiencing a decline in revenues.

It is estimated that 90% of our purchasing decisions are made unconsciously, driven by thoughts, feelings, and actions of which we are not aware (Álvarez del Blanco, 2010). This implies that decisions are often based on emotional rather than logical reasoning. Gaming companies have yet to fully leverage the dimensions of games that could foster brand love among consumers.

We propose the use of neuromarketing techniques to create more effective marketing campaigns and design better games. Neuromarketing, as discussed by Lindstrom (2009a, 2009b) and Dooley (2010), cited in Fortunato et al. (2014), involves using neuroscience to understand consumer thoughts and feelings about products and services. While some opinions suggest that neuromarketing could manipulate consumers and affect their ability to choose, it remains a valuable tool for understanding consumer behavior.

## Background:

The gaming industry has experienced significant growth, projected to expand from \$197 billion in 2022 to \$285 billion by 2027. This rapid development raises concerns about the effects of video games, particularly on children, as excessive screen time may lead to negative behavioral and developmental impacts. Understanding the motivations behind gamers' engagement and the emotional connections they form with games is crucial for both academic inquiry and industry practices.

## Research Problem:

Despite the increasing popularity of video games, there is a lack of comprehensive understanding regarding the factors that trigger brand love among gamers. This gap in knowledge limits the ability of game developers and marketers to create engaging experiences that foster loyalty and positive word-of-mouth.

## Objectives:

The primary aim of this research is to identify the video game dimensions that can trigger brand love among gamers. Specifically, the study seeks to:

1. Understand the gameplay and sensor triggers that enhance emotional connections to brands.
2. Explore the role of neuromarketing techniques in influencing gamers' emotional responses.
3. Provide insights for game developers and marketers to improve user experience and increase customer loyalty.

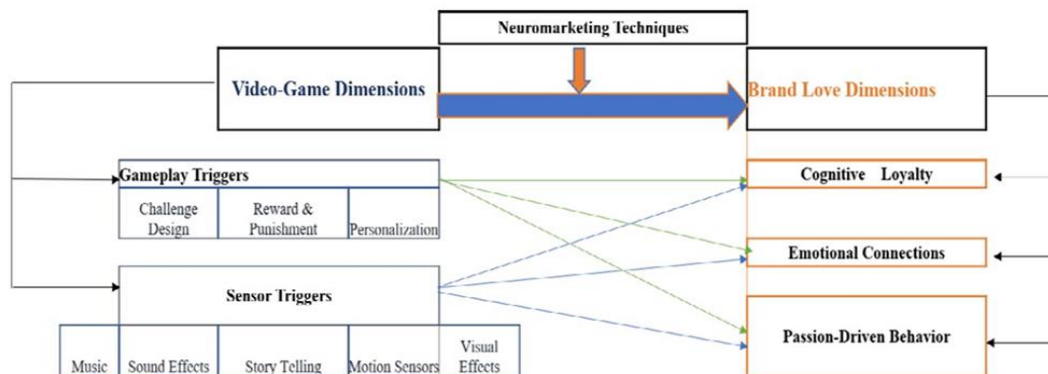
## Research Questions:

- Major Research Question: What are the video game dimensions that could trigger brand love?
- Minor Research Questions:
  - 1- Can game triggers (such as rewards and punishment, personalization, and challenge design) impact different brand love dimensions?
  - 2- Can sensor triggers (such as music, visual effects, storytelling, and sound effects) affect brand love dimensions in the gaming industry?
  - 3- Can neuromarketing techniques assist in triggering brand love in the gaming industry?

### Conceptual model

With regarding for the interviewees answers and matching with the information below, we will discover that most of the feedback on some features were really typically prove the potential implications of neuromarketing for the games industry are significant, because the players are really realize the updates on the game even without recognize the neuromarketing as a technique of research methodology.

Conceptual Model



(Conceptual Model)

### Literature Review

The aim of this study is to identify the research gap through a comprehensive literature review while acknowledging the study's constraints. The literature review was conducted systematically, identifying relevant articles through comprehensive searches of databases such as Google Scholar, Scopus, and JSTOR. The inclusion criteria for studies were publication within the last ten years, a focus on video gaming, brand love, neuromarketing, and empirical research design. Exclusion criteria included publication date, study design, theoretical framework, and data availability. Approximately thirty articles were identified and reviewed.

The literature review played a crucial role in shaping this research by providing a foundation of existing knowledge and identifying gaps that this study aimed to fill. It helped in several ways:

**Identifying Key Dimensions:** Previous studies highlighted various game dimensions and their potential impact on brand love, which guided the focus of this research.

**Theoretical Framework:** The literature review provided theories such as subliminal theory and self-determination theory, which were used to frame the research questions and interpret the findings.

**Methodological Insights:** Insights from previous research helped in designing the methodology, including the use of neuromarketing techniques to understand consumer behavior.

The literature on brand love in the gaming industry highlights the significance of emotional connections between gamers and their favorite games or brands. Self-Determination Theory (Ryan & Deci, 2000b) posits that intrinsic motivation, driven by perceptions of competence, autonomy, and relatedness, plays a crucial role in the enjoyment of video games. This theory suggests that when gamers feel challenged and rewarded, their engagement and emotional attachment to the game increase, which can lead to brand loyalty.

Previous studies, such as those by Teng and Chen (2017), have demonstrated that self-determination motivation influences gamers' continuance intention, mediated by enjoyment and perceived value. This indicates that the emotional satisfaction derived from gaming experiences is a key factor in fostering brand love.

Additionally, the impact of game triggers—such as rewards, personalization, and challenge design—has been widely acknowledged in the literature. These elements significantly affect brand love dimensions, enhancing cognitive loyalty and emotional connections. Sensor triggers, including music, visual effects, and storytelling, are also recognized for their role in creating immersive experiences that deepen emotional attachment to brands.

Neuromarketing techniques have emerged as valuable tools for gaining insights into consumer behavior, allowing marketers to understand gamers' emotional responses better. However, ethical concerns regarding the manipulation of consumer behavior and privacy issues have been raised, indicating a need for careful consideration in the application of these techniques.

Numerous studies have explored the relationship between gaming and personality traits. According to a study by McClure and Mears (1984), individuals play games for several reasons, such as for fun, stress relief, social connection, or competition. Richard Bartle, as cited in Fencott et al. (2023), suggests that gamers' motivations for playing video games often align with their personality traits. For the research topic, considering other demographics and sociocultural factors, we categorized gamers as follows:

1. Achievers & Hardcore: High self-esteem, high impulsivity.
2. Escapers: High self-esteem, play to avoid difficult emotions.
3. Socializers: Low self-esteem, low impulsivity.
4. Casual: High self-esteem, low impulsivity.

#### **Video Games Definition:**

The definition of a video game can vary depending on the context. For instance, the Entertainment Software Association (ESA) defines a video game as an electronic game ranging from simple arcade games to complex role-playing games, involving interaction with a user interface to generate visual feedback on devices such as consoles, computers, and mobile devices (Entertainment Software Association, 2023). The International Organization for Standardization (ISO) defines it as an electronic game where interaction with a user interface, triggered by physical input devices such as a joystick, moves images displayed on a screen (ISO 29110:2011, 2011). The Merriam-Webster Dictionary defines a video game as an electronic game played on any kind of screen through manipulating images shown on that screen (Merriam-Webster, 2023). Similarly, the Cambridge Dictionary defines a video game as a game played on a computer or special electronic device, where gamers control the actions of a character or object (Cambridge Dictionary, 2023).

#### **Types of Adult Video Games:**

There are diverse categories of adult video games, with no clear dividing line between them. Individuals may move from one category to another over time and may exhibit characteristics of more than one category:

1. Recreational gaming: Playing games for fun and relaxation, with no negative consequences.
2. At-risk gaming: Excessive gaming that could lead to negative consequences.
3. Problematic gaming: Severe negative consequences from gaming, such as addiction, depression, or anxiety.
4. Disordered gaming: Loss of control over gaming behavior, with symptoms of addiction.

#### **Adults' Video Game Dimensions:**

Video game dimensions encompass the various elements of a video game world that players can explore, interact with, and experience. Calvillo-Gómez et al. (2010) proposed the Core Elements of the Gaming Experience (CEGE) theory, identifying two essential factors that influence immersion, flow, and presence in digital games:

1. Puppetry: Refers to the player's interaction with the game, shaped by the player's sense of control, including gameplay, challenge, and rewards.
2. Video-game perception: Relates to the player's experience of the game world, including graphics, sound, story, characters, environment, and customization.

According to Huizinga (2013), three dimensions can be distinguished:

1. (Socio-)psychological: The player's internal experience of the game, including thoughts, feelings, and emotions, influenced by the player's personality, the game's design, and the player's social environment.
2. Behavioral: The player's observable actions while playing the game, such as facial expressions, body language, and actions, influenced by the player's (socio-)psychological experience and the game's design.
3. Physiological: The player's physiological reactions to the game, such as changes in heart rate, blood pressure, and brain activity, influenced by the player's (socio-)psychological experience and behavioral level.

4. Core Elements of the Gaming Experience (CEGE): The identification of puppetry and video-game perception as core elements that influence immersion, flow, and presence in digital games provides a theoretical framework for understanding how these dimensions lead to gamer brand love. This section directly supports the goal of developing a theoretical framework that explains how game dimensions lead to brand love.

These are just some of the many different gameplay and sensor triggers that exist. Depending on the research model, we decided to select and group these dimensions for investigation as follows:

1. Game-Play Triggers:
  - Reward & Punishment: Gamification, incentives, feedback.
  - Challenge Design: Difficulty, progression, skill ceiling.
  - Personalization: Customization, tailored experience, player agency.
2. Sensor Triggers:
  - Music: Evokes emotions, creates a sense of atmosphere, sets the tone for the game.
  - Sound Effects: Enhances realism, excitement.
  - Visual Effects: Generates excitement, suspense, conveys information to the player.
  - Haptic Feedback: Increases immersion, simulates object or character movements.
  - Storytelling: Provides a sense of purpose, emotional engagement.

#### **Researcher's points of Agreement and Disagreement:**

##### **Agreement:**

1. Those gaming communities have their own unique culture and language, which can be used to create more effective marketing campaigns (Hackman and Björkqvist 2014; Zorn et al. 2013 as cited by Hassan, A. E. (2020)). For example,
2. Gamers often use acronyms and slang terms that are not familiar to non-gamers.
3. Gamers are also a loyal and engaged audience, who are more likely to spend money on games and gaming-related products (Hazan and Shaver 1994)
4. Gamers are loyal to brands they love. A study by Think with Google (Ramdurai, G. (2014) as cited by Lee, D., Lin, D., Bezemer, C. P., & Hassan, A. E. (2020), initiate that gamers have a strong emotional connection to their favorite games and brands, and they are less likely to switch to a competitor if they are happy with their current experience.
5. Gamers recommend brands they love to their friends. A study by (Nielsen Egenfeldt-Nielsen, S., Smith, J. H., & Tosca, S. P. (2019), found that gamers are more likely to recommend brands they love to their friends than non-gamers. This is because gamers are passionate about their hobby, and they want to share their experiences with others (Holt 1997)

##### **Disagreement:**

1. The gaming industry is not closed only on the game themselves, but also having fast growth across influencers, who have different definitions and recognition in this field. They maybe current, previous gamers, games developers, content creators, video editors ...etc.
2. Even use different social platforms like Twitch in barrier of course with YouTube. Where, they invited gamer to their live streaming videos not only the previous recorded ones.
3. Also, sponsorship, ads, media rights, merchandising, even tickets for attended that live streams are all sources of generating revenues. Moreover, now the video games have been considered as a new kind of sport in different countries. (statista)
4. Recently, the E-Sport is controlling and guidance at some of the them by the country government, not only that but they encourage and support them to grow and attract more audience. The gaming torments are authorized and take a great part of the society intentions.

**Brand Love Definition:**

According to Ahuvia (2005a, as cited by Anjani & Astuti, 2022), brand love is characterized by a strong emotional connection between the consumer and the brand. This connection can be based on factors such as the brand's personality, values, or story. Research by Drennan et al. (2015) and Pandir and Yasin (2017, cited by Salem et al., 2019) provides further evidence of the positive relationship between brand love and brand loyalty. Other studies have found that consumers who love a brand are more likely to be loyal to it and recommend it to others (Maisam & Mahsa, 2016).

For this study, brand love is identified as a concept where brand relationships refer to the positive feelings and emotional attachment that consumers have towards a brand. This predicts important post-consumption behaviors, such as repurchase intention, word-of-mouth communication, customer loyalty, and price sensitivity, leading to increased sales.

**Brand Love Dimensions:**

Salem et al. (2019) suggests that the relationship between brand love and brand loyalty is complex, involving several dimensions:

1. Intimacy: The feeling of familiarity and liking between the consumer and the brand.
2. Passion: The consumer's excitement and enthusiasm for the brand.
3. Commitment: The decision to continue using the brand.
4. Devotion: The willingness to go out of one's way to use the brand.
5. Admiration: The consumer's respect and appreciation for the brand.
6. Pride: The feeling of satisfaction and accomplishment when using the brand.

These components can be combined into the most important dimensions of brand love relevant to the research topic:

1. Cognitive Loyalty: The belief that a brand is superior to its competitors, motivating repurchase even when other options are available, influenced by the brand's reputation, quality, and value (Khan, 2013).
2. Positive Emotional Connections: The feelings of happiness, satisfaction, and excitement that consumers experience when interacting with the brand, making them willing to pay a premium, influenced by the brand's personality, values, and story (Härtel & Russell-Bennett, 2010).
3. Passion-Driven Behavior: The willingness to go out of one's way to use and recommend the brand, even without being asked (Batra, Ahuvia, & Bagozzi, 2012; Belk, 1988; Escalas & Bettman, 2003, 2005).
4. There are no evident models in the literature that correlate game dimensions with brand love, hence this study aims to establish such a model.

**Neuromarketing**

Traditional research tools, including qualitative and quantitative techniques, can help identify video game dimensions that trigger brand love. However, neuromarketing techniques can provide deeper insights into gamers' minds. Neuromarketing can be a powerful tool for creating more engaging and immersive games (Naim, 2022). The following section will investigate neuromarketing techniques applicable to the gaming industry.

Combining definitions from our research, neuromarketing is defined as a set of tools that use the latest neuroscience techniques to understand and recognize the human brain's influence on consumer buying behavior. This allows us to predict how consumers perceive marketing messages, considering culture, gender, age group, and other external factors (Crick, 1978, as cited by Rose, 2015; Lindell & Kidd, 2013, cited in Meckl-Sloan, 2015).

**Neuromarketing Techniques**

According to Fugate (2007, as cited by Ali Gaafar & Al-Romeedy, 2022), significant updates have been made to neuroimaging techniques. These can be categorized into two main groups (Krajnovic, Sikiric, & Jasic, 2012):

1. Neurophysiological Tools: Measure the electrical activities of the human brain directly, including functional magnetic resonance imaging (fMRI), electroencephalography (EEG), and magnetoencephalography (MEG).

2. Psychological Tools: Measure conscious thoughts and feelings indirectly through physical changes in the body, such as heart rate, blood pressure, and skin conductance. These include galvanic skin response (GSR), eye-tracking (ET), and electrocardiogram (ECG).
3. There is some connection between neurophysiological and physiological tools.

#### **Neuromarketing Application in the Gaming Industry:**

Many companies, such as Google, CBS, Frito-Lay, and A&E Television, have used neuromarketing to better understand their customers' thoughts (Nilashi et al., 2020; Plassmann et al., 2015; Klinčeková, 2016). The gaming industry also employs neuromarketing techniques for various purposes (Chen & Hsu, 2020, cited by Naim, 2022):

1. Eye-Tracking Technology: Used by Sony and Ubisoft in games like Assassin's Creed III to make games more visually appealing and easier to play (Brooks, 2018).
2. EEG Technology: Used by Electronic Arts to understand player motivations and decision-making processes (Morris, 2015).
3. fMRI Technology: Used by King in the game Candy Crush Saga to develop interventions for gaming addiction (Morris, 2014).

#### **Researcher's points of Agreement and Disagreement:**

##### **Agreement:**

1. Impact of Game Triggers: There is a consensus that game triggers such as rewards, personalization, and challenge design significantly impact brand love dimensions.
2. Role of Sensor Triggers: Studies agree that elements like music, visual effects, and storytelling enhance the gaming experience and emotional attachment to brands.
3. Effectiveness of Neuromarketing: There is general agreement on the potential of neuromarketing techniques to provide deeper insights into consumer behavior and improve marketing strategies.

##### **Disagreement:**

1. Ethical Concerns: While some studies highlight the benefits of neuromarketing, others raise ethical concerns about manipulating consumer behavior and privacy issues.
2. Cultural Differences: There is disagreement on whether findings from one cultural context can be generalized to others, suggesting the need for cross-cultural studies.

##### **How to Benefit from These Points:**

1. Addressing Ethical Concerns: Future research should include ethical considerations and guidelines for using neuromarketing techniques to ensure consumer privacy and trust.
2. Cross-Cultural Validation: Conducting studies in different cultural contexts can help validate the findings and make them more generalizable.
3. Longitudinal and Experimental Studies: These can provide stronger evidence of the causal effects of game triggers and neuromarketing techniques, addressing some of the disagreements in the literature.

By addressing these areas, future research can provide a more comprehensive understanding of the factors that influence brand love in the gaming industry and how neuromarketing techniques can be effectively utilized.

#### **Video Gaming Industry:**

This section will provide insights into both the global gaming industry and the gaming industry in Egypt and the MENA regions.

#### **Global and Regional Insights:**

Providing insights into the global gaming industry and the specific context of Egypt and the MENA regions helps in understanding the broader market dynamics and cultural factors that influence gaming behavior. This information is crucial for

identifying opportunities for game developers and marketers to improve brand love among gamers, addressing one of the study's key goals.

Mobile games are the most popular type of game, generating nearly \$150 billion in revenue, followed by PC games and console games with \$46 billion and \$92 billion, respectively. The Asia Pacific region is the largest market for gaming, followed by North America and Europe (J. Clement, Nov 14, 2022, Statista; Newzoo 2023 report).

### Market Trends and Revenue:

Highlighting the popularity and revenue generation of several types of games (mobile, PC, console) and the largest markets (Asia Pacific, North America, Europe) provides a comprehensive overview of the gaming industry's economic landscape. This data is essential for understanding the market potential and guiding strategic decisions for game developers and marketers, aligning with the goal of identifying opportunities to enhance brand love.

Understanding the reasons why people play games can help us better comprehend the psychology of gamers and how games can be designed to meet their needs.

The MENA games market has rapidly emerged as a key growth region for the global video game industry, focusing on KSA, UAE, and Egypt, considering cultural aspects and purchasing power. Revenue is expected to reach \$2.89 billion by 2026. Egypt has the largest gaming population in the region, followed by Saudi Arabia and the UAE. Most gamers in the MENA region are under the age of thirty-five, with a significant interest in esports (Christina Gough, Jul 13, 2023, Statista).

As per (Christina Gough, Jul 13, 2023) published in (Statista) we could state major figures:

1. When it comes to the revenue, it is predictable to grow from \$1.78 billion in 2022 to \$2.89 billion by year 2026,.)
2. By estimated to number of gamers as 67.4 million in 2022, to enhance to 87.3 million by year 2027.
3. When we specified the age group, 76% of gamers in the MENA region are under the age of 35.
4. The higher percentage of gamers under 25 years old are allocated in Egypt.
5. With average of 73% of gamers in MENA engage with esports in watching esports content, playing esports games, or competing in amateur or professional tournaments.
6. A fantastic opportunity for investment due to that growth to serious public and private sector investors.
7. In addition to influencers, the gaming industry relies on sponsorships, where companies pay to have their products or services associated with a game or event. Government support also plays a role, either through funding for research and development or regulations that protect gamers and the industry (Statista).

### Methodology:

#### Research Design:

This study employs a qualitative research design to explore the factors influencing brand love among gamers. The primary method of data collection involved in-depth interviews, which allowed for a comprehensive understanding of participants' experiences and perceptions regarding video games and their emotional connections to brands. The qualitative approach facilitated the exploration of nuanced insights that quantitative methods may not capture.

The researcher tried to apply the study in several ways:

1. **Loyal and Engaged Audience:** Gamers are more likely to spend money on games and gaming-related products (Hazan and Shaver, 1994).
2. **Strong Emotional Connection:** Gamers have a strong emotional connection to their favorite games and brands, making them less likely to switch to competitors if they are satisfied with their current experience (Ramdurai, 2014, as cited by Lee et al., 2020).
3. **Word-of-Mouth Recommendations:** Gamers recommend brands they love to their friends because they are enthusiastic about their hobby and want to share their experiences (Nielsen Egenfeldt-Nielsen et al., 2019).
4. **Influencer Marketing:** The gaming industry has seen rapid growth in the use of influencers to promote games, generate excitement, and build a community around a game.



To demonstrate how gaming companies can utilize data to generate more revenue by increasing gamers' brand love components, we will conduct a limited pilot study.

#### **Participants:**

The research targeted three specific populations for participant selection:

1. Professional Gamers: Individuals who have experience in gaming and have participated in multiple gaming tournaments.
2. Game Developers: Professionals who have developed or contributed to the development of at least five games, providing insights from the industry perspective.
3. Gaming Bloggers: Influencers with a minimum of 10,000 followers and at least five years of experience publishing content related to gaming, offering a viewpoint on consumer engagement and brand perception.

The sampling units were carefully chosen to ensure a diverse range of perspectives, enhancing the richness of the data collected.

#### **Data Analysis:**

The data collected from the interviews were analyzed using thematic analysis. This involved coding the responses to identify recurring themes and patterns related to gameplay and sensor triggers that influence brand love. The analysis aimed to uncover the emotional responses of gamers and the effectiveness of neuromarketing techniques in enhancing their gaming experiences. By synthesizing the findings, the study sought to draw meaningful conclusions about the dimensions of video games that can trigger brand love.

The in-depth interviews aimed to identify game dimensions and how they could develop brand love for gamers. This pilot study was conducted with approximately one hundred gamers (amateurs and lead players) and ten experts (game developers and marketers).

General trends observed about the specific triggers of video games that gamers find most effective, with examples from popular games such as FIFA, Fortnite, and Call of Duty, include:

1. Music and Soundtrack:
  - FIFA playlists create a nostalgic feeling for players.
  - Fortnite's musical events are innovative and engaging.
2. Sound Effects:
  - Call of Duty's gun sounds are realistic and immersive.
3. Motion Sensors:
  - FIFA's motion sensors make players feel like they are on the field.
  - Call of Duty's vibration feedback adds to the immersion.
4. Storytelling:

Hitman's story is engaging and memorable.
5. Visual Effects:

Call of Duty's diligence is impressive.

Most participants are aware that game companies use their personal data to market games to them, believing this increases motivation, enjoyment, and loyalty. Only two participants were aware of neuromarketing, having learned about it through neuroscience studies.

#### **Differences Among Gamers:**

1. Younger-Age Gamers (10 to 15 years old):
  - Spend more than 30 hours per week playing video games.
  - Prefer battle royale titles.
  - Spend money on in-game items, such as skins, weapons, and upgrades.

- Motivated by the challenge and reward system, enjoying the feeling of accomplishment from completing challenging tasks or earning rare items.
  - More likely to stay with a game if it is personalized to their interests and needs, feeling part of a community.
  - Willing to participate in marketing research for game companies, curious about game development and marketing.
  - Interested in learning more about neuromarketing techniques.
2. Mid-Age Gamers (25-35 years old):
- Spend about 6 hours per week playing video games.
  - Prefer PC games.
  - Spend more money on buying the game itself rather than in-game items.
  - Motivated by the quality of gameplay and story, seeking well-made games that provide long-term entertainment.
  - More likely to buy games with social features, such as leaderboards, achievements, and chat, enjoying interaction with other players.
  - Willing to participate in neuromarketing research but concerned about the ethical implications of using such techniques on children.
3. Older-Age Gamers (up to 45 years old):
- Spend about 1 hour per day playing video games.
  - Prefer mobile games.
  - Less likely to spend money on games.
  - Prefer puzzle and casino games for their relaxing experience and slower pace.
  - Willing to spend money on games they have an emotional connection to, potentially supporting developers they believe create high-quality games.
  - Not interested in switching to other games, content with games they enjoy.
  - Skeptical of neuromarketing research, concerned about the privacy implications of having their brain activity analyzed.

We asked gaming industry interviewees about the most effective psychological triggers that game companies can use to create gamer engagement, loyalty, and playing time:

- They agreed that the most crucial factor is to make the game enjoyable. We discussed how these triggers can be used to influence gamer behavior both within and towards the game.
- This can be achieved through sensor triggers like music, sound effects, motion sensors, storytelling, and visual effects, or through gameplay triggers like rewards and punishments, challenge design, and personalization.

From a business perspective, we explored how companies generate revenue using these elements to create buzz and excitement around their games:

1. Music and Soundtrack:

- The FIFA playlists have been downloaded over one hundred million times.
- Fortnite's musical events have attracted over one million viewers.
- The soundtrack for "Grand Theft Auto V" sold over ten million copies.

2. Sound Effects:

- Sony has sold over ten million PlayStation 4 controllers with haptic feedback, and partnerships to develop dedicated headsets for gamers are a growing market.

3. Motion Sensors:

Sony has sold over ten million PlayStation 4 controllers with haptic feedback.

4. Visual Effects:

EA incorporated realistic graphics and animations into FIFA games, simulating a feeling of realism.

5. Rewarding & Emotional Connections:

- Selling merchandise: For example, Nintendo has sold over two hundred million Mario-related items.

- Selling in-game items: EA Electronic Arts generated over \$3 billion from in-game purchases in the past year.
6. Rewards & Punishments:
    - Creating a sense of FOMO (fear of missing out): Limited-time items in Fortnite can create excitement and urgency for players to purchase them but can also pressure players to spend money on items they may not need.
  7. Challenge Designs:
    - Candy Crush: Matching three candies of the same color, creating special candies, or reaching a certain score.
  8. Personalization:
    - Call of Duty uses personalization to recommend modes to players based on their past preferences or to customize their weapons and equipment.
- We also discussed their thoughts on using neuromarketing in gaming:
1. Leading to better ROI and increasing sales by targeting more effective marketing.
  2. Saving time and money by identifying potential problems with products before they are launched.
  3. Neuromarketing techniques are still in the initial stages of awareness, with most clients more interested in sample quantities than sample quality.
  4. The cost of neuromarketing research versus the outcome volume is a costly undertaking.
  5. The accuracy and difficulty of interpreting results, as the technology is not yet sophisticated enough.
  6. Always obtaining consent from participants before using the technology.
  7. The gaming industry should work with marketing agencies and gaming influencers to educate consumers about neuromarketing.
  8. Governments should update laws to organize and protect consumer privacy.

#### **Researcher's points of Agreement and Disagreement**

Although, the perceived value of FOMO within a gaming context is highly individualized, with some players finding it a positive motivator and others perceiving it as a potentially exploitative design element. Game developers should be cognizant of the potential negative implications of FOMO and employ it ethically, ensuring transparency and providing players with agency in their gaming experiences.

#### **Agreement:**

In the context of video games, the strategic implementation of limited-time items, lives, or game modes can be a positive application of FOMO. This tactic can create a sense of urgency and exclusivity, fostering a sense of community and excitement among players as they strive to acquire limited-time resources or participate in temporary experiences. Examples include limited-time items in Fortnite, limited-time lives in Candy Crush, and limited-time modes in Call of Duty.

#### **Disagreement:**

In-contrast, the implementation of battle passes in Fortnite, limited-time levels in Candy Crush, and limited-time challenges in Call of Duty can inadvertently create negative consequences associated with FOMO. These elements can induce pressure on players to complete them within a specific timeframe, potentially leading to excessive spending, frustration, or decreased engagement. Such negative outcomes can diminish the overall gaming experience.

#### **Theoretical Approaches Utilized in the Research:**

This study depending on two social theories: the subliminal theory and the self-determination theory.

#### **Subliminal Theory:**

According to Zanut et al. (1983), people can be influenced by messages they are not consciously aware of when exposed to an object. Moore (1982) defines subliminal stimuli as those below the threshold of conscious perception. This theory can be applied to subliminally influence gamers to feel more positive emotions towards certain brands. By using backward subliminal techniques,

messages can be embedded in games that are only perceived subconsciously by gamers, making them feel more excited about playing a game that features their brand (Rosen and Singh, 1992).

The researcher applied this theory to explore how subliminal stimuli within video games can influence gamers' emotional responses to brands. By embedding subtle cues—such as music, visual effects, and narrative elements—into the gaming experience, the study posits that these elements can evoke positive feelings towards certain brands without gamers being consciously aware of this influence. This approach allows for a deeper understanding of how emotional connections are formed and how they can be leveraged in marketing strategies.

#### **Self-Determination Theory:**

This framework explores the motivations that drive people to engage in activities they find intrinsically rewarding (Osbaldiston & Sheldon, 2003). According to Ryan and Deci (2000b), self-determination is closely related to the enjoyment of video games, mediated by perceptions of competence, autonomy, and relatedness. Teng and Chen (2017) found that self-determination motivation influences continuance intention, mediated by enjoyment and perceived value. Neuromarketing techniques can be used to make gaming more intrinsically rewarding by making gamers feel more challenged and rewarded when they play games that feature their brands.

This theory was employed to examine the intrinsic motivations that drive gamers' engagement with video games. The researcher focused on how perceptions of competence, autonomy, and relatedness enhance the enjoyment of gaming experiences, which in turn fosters brand loyalty. By analyzing gameplay elements such as rewards, personalization, and challenge design, the study highlights how these factors contribute to gamers' emotional attachment to brands. The findings suggest that when games fulfill these intrinsic needs, they not only enhance player satisfaction but also strengthen the emotional bond with the associated brands.

#### **Results:**

the researcher reached the study's goals by systematically addressing the research problem and objectives through a comprehensive exploration of gameplay and sensor triggers, as well as the application of neuromarketing techniques as following:

1. **Identifying Video Game Dimensions:** The researcher conducted a thorough investigation into various gameplay and sensor triggers that enhance emotional connections to brands. By focusing on elements such as rewards, personalization, challenge design, music, visual effects, and storytelling, the study provided a detailed analysis of how these dimensions contribute to brand love among gamers. This aligns with the primary aim of identifying the specific factors that can trigger brand love.
2. **Exploring Neuromarketing Techniques:** The study examined the role of neuromarketing techniques in influencing gamers' emotional responses. By utilizing insights from neuromarketing, the researcher was able to identify which game triggers resonate most with players and how these triggers can be strategically implemented to enhance emotional engagement. This exploration not only addressed the second objective but also provided practical implications for game developers and marketers.
3. **Providing Insights for Game Developers and Marketers:** The findings of the study offered valuable insights into how game developers and marketers can create more engaging experiences that foster loyalty and positive word-of-mouth. By understanding the specific gameplay and sensor elements that resonate with gamers, the research provided actionable recommendations for enhancing user experience and increasing customer loyalty, thus fulfilling the third objective.
4. **Answering Research Questions:** The researcher effectively answered the major and minor research questions by demonstrating how both gameplay and sensor triggers impact brand love dimensions. The study confirmed that game triggers, such as rewards and personalization, as well as sensor triggers like music and storytelling, significantly influence emotional connections to brands. Additionally, the research highlighted the potential of neuromarketing techniques in triggering brand love, thereby addressing all the research questions posed.

The findings of this research indicate that both gameplay and sensor trigger significantly impact brand love dimensions among gamers. The analysis revealed several key themes related to the factors that enhance emotional connections to brands:

1. **Gameplay Triggers:**
  - **Rewards:** Participants noted that in-game rewards, such as achievements and unlockable content, foster a sense of accomplishment and enhance cognitive loyalty.
  - **Personalization:** The ability to customize characters and gameplay experiences was highlighted as a crucial factor that increases emotional attachment to the game and its associated brand.
  - **Challenge Design:** Gamers expressed that well-designed challenges that balance difficulty and skill level lead to greater engagement and passion-driven behavior.
2. **Sensor Triggers:**
  - **Music and Sound Effects:** The use of immersive soundscapes and music was found to create emotional atmospheres that enhance the overall gaming experience, making players feel more connected to the game.
  - **Visual Effects:** High-quality graphics and visual storytelling elements were reported to significantly impact players' emotional responses, contributing to a deeper attachment to the brand.
  - **Storytelling:** Engaging narratives were identified as a vital component that not only captivates players but also strengthens their emotional bonds with the game.
3. **Neuromarketing Techniques:**
  - The study found that neuromarketing can effectively identify which game triggers resonate most with players, providing insights into their emotional responses. Participants acknowledged that they often notice updates and changes in games, even if they do not explicitly recognize the influence of neuromarketing.
  - These findings underscore the importance of both gameplay and sensor elements in cultivating brand love, offering valuable insights for game developers and marketers aiming to enhance user engagement and loyalty.

the researcher utilized the Literature Review in the study in several key aspects:

  1. **Identifying Research Gaps:** The literature review played a crucial role in identifying the existing gaps in knowledge regarding the factors that trigger brand love among gamers. By systematically reviewing relevant articles and studies, the researcher was able to highlight the lack of comprehensive understanding in this area, which justified the need for the current research. This foundational work set the stage for the study's objectives and research questions.
  2. **Guiding Research Focus:** The literature review helped the researcher identify key dimensions of video games that have been previously studied and their potential impact on brand love. This guided the focus of the research, ensuring that the study addressed relevant and significant factors, such as gameplay elements and sensor triggers, which could enhance emotional connections to brands.
  3. **Theoretical Framework:** The researcher effectively incorporated theories such as Subliminal Theory and Self-Determination Theory into the literature review. These theories provided a theoretical framework for understanding the emotional connections between gamers and brands, allowing the researcher to frame the research questions and interpret the findings in a meaningful way. This theoretical grounding strengthened the study's overall validity and relevance.
  4. **Methodological Insights:** The literature review also offered methodological insights that informed the research design. By examining previous studies, the researcher was able to adopt appropriate methods, such as qualitative interviews and neuromarketing techniques, to explore the emotional responses of gamers. This methodological alignment ensured that the study was well-structured and capable of capturing nuanced insights that quantitative methods might overlook.
  5. **Building on Existing Knowledge:** The literature review allowed the researcher to build on existing knowledge in the field, demonstrating how the current study contributes to the broader understanding of brand love in the gaming industry. By situating the research within the context of previous findings, the researcher was able to articulate the significance of the study and its potential implications for game developers and marketers.

## Discussion:

The results of this study provide valuable insights into the factors that trigger brand love among gamers, aligning closely with the research questions posed. The findings confirm that both gameplay and sensor triggers play a significant role in enhancing

emotional connections to brands. Specifically, the impact of rewards, personalization, and challenge design on brand love dimensions supports existing literature that emphasizes the importance of intrinsic motivation in gaming experiences.

The role of sensor triggers, such as music, visual effects, and storytelling, further corroborates previous studies that highlight how these elements can create immersive experiences that deepen emotional attachment. The findings suggest that game developers should prioritize these triggers in their design processes to foster stronger connections with players.

For game developers and marketers, the implications of these findings are profound. By understanding the specific gameplay and sensor elements that resonate with gamers, they can create more engaging and emotionally satisfying experiences. This, in turn, can lead to increased customer loyalty and positive word-of-mouth, ultimately enhancing brand love and driving sales.

However, the study acknowledges several limitations. The qualitative nature of the research, conducted within a limited time limit and geographical scope (focused on gamers in Egypt), may restrict the generalizability of the findings. Additionally, the study primarily examined short-term effects of neuromarketing techniques, suggesting a need for future research to explore long-term impacts on brand love.

#### Future research could benefit from:

1. Expanding the study to include a broader range of gaming cultures and demographics to validate findings across different contexts.
2. Conducting longitudinal studies to assess how the effects of game triggers evolve over time.
3. Implementing experimental designs to establish causal relationships between specific game elements and brand love.

#### Conclusion:

In summary, this study highlights the significant role of both gameplay and sensor triggers in influencing brand love within the gaming industry. The findings underscore the importance of understanding these factors to create more engaging gaming experiences that foster emotional connections. By leveraging insights from neuromarketing, game developers and marketers can enhance their strategies to build brand loyalty and improve overall consumer engagement.

Understanding the dynamics of brand love in gaming is crucial, as it not only impacts player satisfaction but also drives the economic success of gaming companies. As the industry continues to evolve, ongoing research in this area will be essential to adapt to changing consumer preferences and technological advancements.

Finally, the researcher believes it is important to remember that the gaming industry is a complex and ever-evolving field. There is no single formula for success, and what works for one company may not work for another.

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