

Article

The Impact of Gamification on Slovenian Consumers' Online Shopping

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Abstract: Gamification involves integrating game mechanics into non-game environments such as business intranets, online communities, websites, and learning management systems to boost participation. Its aim is to actively engage employees, customers, and other stakeholders, fostering collaboration, sharing, and interaction. Gamification is a relatively unfamiliar term in Slovenia. The objective of this study is to investigate the influence of gamification on Slovenian consumers, specifically how it affects the online shopping process and user engagement during purchases. To test the hypotheses, we used appropriate statistical tools: chi-square, Friedman, and Wilcoxon tests. The findings indicate that gamification's strongest influence is not on the post-purchase evaluation phase but rather on the alternative evaluation phase. It is interesting that highly rated reviewers significantly influence product purchases in online stores, while consumers are unwilling to increase their spending on online purchases in exchange for gamification-related benefits.

Keywords: gamification; online shopping; purchase decision-making; Slovenia; consumers; shopping process



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1. Introduction

Gamification is the process of integrating game mechanics and design techniques into non-game contexts to engage users and solve problems. It involves applying elements of game playing, such as competition, point scoring, rules of play, and rewards, to non-game activities with the aim of encouraging participation, engagement, and loyalty (Robson et al. 2015). Gamification has been applied in various fields, including education, business, health, and marketing, to drive user engagement, encourage desired behaviours, and achieve specific goals (Bitrián et al. 2021). It taps into human psychology, leveraging our natural inclination towards competition, achievement, and socialisation to influence behaviour and promote engagement (Alsawaier 2018). In this paper, we address the field of online shopping and gamification as tools that change the ways of shopping. The introduction presents the theoretical background, purpose, and objectives of the study.

Globalisation and geopolitics have led to online shopping becoming essential for consumers in times of crisis. It took a long time before online shopping became popular. According to Forbes' data (Forbes 2020), by 2019, 81% of American consumers had never opted to purchase groceries online. However, the onset of the coronavirus pandemic changed shopping habits. In 2020, 79 percent of American consumers purchased groceries online. In a survey conducted by Mastercard (n.d.) during the COVID-19 epidemic, it was found that three-quarters of Slovenian consumers engage in online shopping practices. Humans are beings that adapt, which is why different situations drive them to change habits (Dispenza 2013). Likewise, merchants and service companies were forced to adapt their operations during times of crisis and find ways to provide consumers with what they needed. In 2020 and 2021, merchants did not have many opportunities to welcome their customers (Valaskova et al. 2021) The convenience of online shopping is becoming a trend,

especially for Generation Y consumers. The prevalence of online shopping has raised the interest of retailers who have focused on this area (Lim et al. 2016).

As online commerce rapidly evolves, user demands and expectations for innovations are continuously increasing (Richey et al. 2023). Merchants have, therefore, come up with the idea of using gamification. Gamification refers to a new way of motivating knowledge acquisition based on motivational factors rooted in gaming mechanics (Bergant 2011). In fact, the goal of gamification is to keep the user engaged. Providers achieve this by designing a system based on achievements, auctions, and gaming mechanics such as competitions, points, badges, and leaderboards (García-Jurado et al. 2021). All of this increasingly leads to the blending of real life with the virtual, which can be dangerous for some individuals, as it can lead to addiction. Some features of gamification create sensations similar to the gaming environment found in gambling casinos, which can lead users into addiction (Andrade et al. 2016).

In China, the mentioned integration of virtual and real economies is already happening on a large scale. Chinese entrepreneur Lee (2018) calls this integration “online merges with offline” or OMO; he alludes to consumers who are always online. According to Lee (2018), there are four factors enabling OMO: the use of smartphones, card payments, sensory technology, and artificial intelligence. Or, as Eminence (2022) points out, the metaverse will create new digital experiences similar to real ones and bridge the gap between the lack of sensory experiences in online shopping and the real experiences in physical stores. The metaverse has emerged as a key destination for gamified brand initiatives, leveraging reward structures, motivational gameplay, and community engagement features.

The purpose of the paper is to explore the impact of gamification on the Slovenian consumer or how it shapes the process of online shopping and the user’s engagement in the purchase. The research objectives are as follows: to examine and define the factors of gamification; to present the involvement of gamification in online commerce and the ethical use of gamification; to explore the habits of Slovenian consumers in online shopping; to analyse the impact of gamification on online shopping by Slovenian consumers; to analyse the future of online shopping and gamification; and to provide recommendations for further development and business practices based on the research results.

2. Online Shopping

Slovens enjoy shopping. Both history and the present attest to this. Traces of trade and trade routes have been preserved in the Ljubljana area throughout history. Trade was among the important industries that sustained the city: in 1561, citizens were granted the right to collect tolls on all goods destined for Ljubljana (Počivavšek 2012). Today, things are no different, as Slovenians are known to have 373 square meters of shopping space in shopping centres per thousand inhabitants, considerably above the European average compared to other EU member states (Bizovičar 2012). However, in the third decade of the 21st century, things are increasingly shifting from physical shopping centres to virtual shopping. According to the Statistical Office of the Republic of Slovenia (2021), in the first quarter of 2021, 59% of Slovenians aged 16 to 74 shopped online. Most of these individuals, e-buyers, made one to two online purchases. In the following, we will explain important points related to online shopping.

Online shopping is the act of purchasing products or services over the internet (Khan et al. 2023). Using the internet for shopping is not a one-time decision. Online consumers use the internet because of its power as a means of seeking information, although online searching may not necessarily lead to online purchasing (Liu and Forsythe 2010). For the consumer, this means landing on the seller’s website, selecting the product, and choosing the delivery method. The consumer will pay for the goods either online with a credit card or upon receipt of the product. This also allows the consumer to not buy the product immediately, as they can explore the market and compare prices from different providers (Market Business News 2024).

The process of online shopping is actually quite similar to traditional shopping. It begins when the consumer feels the need. The entire shopping process consists of five steps, which are (Chen and Chang 2003) problem recognition (awareness), information search (research), alternatives evaluation (consideration), purchase decision (conversion), and post-purchase evaluation (re-purchase).

Problem recognition is the first phase triggered in the consumer due to the difference between the actual state and the consumer's desire (Mason et al. 2020). There are internal and external stimuli that trigger the need in the consumer. Internal stimuli are all physical stimuli felt by the person, such as hunger, thirst, etc. External stimuli include factors such as advertisements that prompt the consumer to feel the need (Kimiagari and Malafe 2021).

Once the consumer recognises and defines the need, they begin researching products and services that could satisfy that need. This marks the second step of shopping. The internet allows for a wealth of information and options, enabling the consumer to become a real "detective" and explore all market possibilities (Pfeiffer et al. 2020).

The third step is called the evaluation of alternatives; it allows the consumer to review solutions and assists him in purchasing decisions. This step occurs when the consumer gathers enough information and reaches a conclusion. Alternatives consist of options available to the consumer and are evaluated based on benefits and potential losses (loss of time, energy) in making the purchase decision (Barta et al. 2023). Today, evaluating alternatives is much easier than in the past, as we do not physically need to leave the comfort of our own homes. Consumers have access to various mobile applications, the World Wide Web, and artificial intelligence, enabling them to efficiently and thoroughly research (Meta 2021).

The next step may be the most important, as it involves the purchase decision. The consumer finds the desired product or service and completes the transaction or purchase. There are various factors influencing purchasing decisions (Petcharat and Leelasantitham 2021): cultural (culture, subculture, values, fashion, global trends), socio-economic (social class, income, education, occupation, reference groups, family role), psychological (motives, perception, learning, attitudes, personality), personal (age, gender, status, life cycle, lifestyle, self-image), situational (mood, circumstances). In summary, socio-technological factors such as social media platforms or influencers are becoming increasingly prominent today, influencing consumer purchasing decisions more frequently due to their social component.

In online shopping, the purchasing decision appears as follows: The consumer selects products and adds them to the virtual cart in the online store. Once convinced that all desired products have been selected, they proceed to the online checkout, where they choose the payment option and delivery method, enter their personal information, and place the order. For the consumer, the most important aspect is ensuring the security of the purchase. Purchase security and fast delivery can convince the consumer to make another online purchase, as they have had a positive user experience (Duh 2014).

The fifth and final phase is extremely important. It involves the post-purchase behaviour of consumers. This behaviour represents the culmination where the consumer can have a positive or negative user experience. This means that the consumer is satisfied or dissatisfied, which can lead to repeat purchases or changes in purchasing choices (Liu et al. 2020).

The purpose of repeat purchases relates to the willingness of customers to buy certain products or services again in the future. Retaining existing customers is also much more economical for a company compared to acquiring new customers (Wu and Chang 2007). When a consumer has the intention of a repeat purchase, there is a high probability that they will actually repeat the purchase of the product. Therefore, companies must establish foundations that ensure long-term consumer demand (Choi et al. 2019).

Li et al.'s (2024) research on online reviews reveals that during the initial non-compensatory stage, consumers establish their initial satisfaction level by evaluating the performance of fundamental attributes. When these attributes perform poorly, user satisfaction is

unlikely. In the compensatory stage, the combined performance of the remaining attributes influences overall satisfaction through user utility calculation.

Traditional shopping, or so-called “offline” shopping, has existed since the dawn of humanity. Such shopping implies that consumers have the opportunity to physically inspect products on offer. Therefore, for some consumers, traditional shopping is preferable compared to online shopping, as it allows them, for example, to try and experience the product (Kaur and Kaur 2018).

Traditional shopping also offers customers various benefits and an excellent user experience. Characteristics of traditional shopping (Bagla 2017) are Authenticity, Time consumption, On-the-spot adaptability, and Negotiation. But as already discussed, online shopping has become the driving force of commerce in recent years. Evidence of this is the increasing number of retailers deciding to offer their services in the virtual environment. Therefore, let us try to take a closer look at trends in the world of online consumerism.

2.1. Online Shopping Communities and Their Personas

Consumers and the communities they form are extremely important factors for companies engaged in online sales. Traditionally, online shopping was determined to be a solitary activity. Advances in the technological industry have changed the ways of shopping, exploring, comparing, communicating, and providing opinions on online platforms (Xu and Lee 2020). Such development has enabled more diverse interactions and collaborations among consumers on shopping platforms. There are two leading social shopping platforms identified in research: social networks with shopping characteristics that include advertising or online transactions and online stores containing social features that enable various types of communication among consumers (Chang et al. 2015). Social and technological factors enabled by online shopping platforms have allowed consumers to spontaneously create large social communities where they communicate and exchange information, knowledge, and experiences about products and tested services. Examples of such online communities include various retail communities (e.g., Best Buy Community Forum), deal-sharing communities (e.g., Slickdeals), online review forums (e.g., Laptop Mag), and shopping groups on social networks (e.g., Facebook groups) (Xu and Lee 2020).

In comparison to traditional online communities, participation in online shopping communities depends on the flow of information that consumers obtain from other members and their mutual interaction and exchange of information (Chen and Li 2020). Consumers have their own needs or interests that they want to satisfy through the use of online shopping communities. Some want to obtain information about promotional offers or budget-friendly purchases quickly, while others want to acquire and provide opinions about products on the market. Others simply enjoy being part of a larger community with which they can share similar opinions and experiences (Yang 2019). What makes online shopping communities so different?

2.1.1. Online Shopping Communities

Online shopping communities are defined by Pentina et al. (2008), who state that these are types of social formations online that harness the power of technology to connect individuals by providing social interaction without limitations, as individuals can form relationships and communicate without geographical or time constraints.

With the migration of many shopping services from the real world to the virtual or online environment, online shopping began to evolve from a service that was essentially just a transactional exchange into an exchange based on social relationships (Xu and Lee 2020). Technological advancement has transformed the activity of online shopping from solitary to a social activity that satisfies the inherent human need for socialisation. Much effort has been put into creating a social experience that mimics traditional shopping, where consumers partially replace shopping with recreational activity and consequently create new social relationships (Anderson et al. 2013). Online retailers and various social media platforms have also recognised the benefits of online shopping communities, as

they provide them with customer feedback, access to information for market research, and spontaneous reinforcement of brand loyalty (Xu and Lee 2020).

Shopping is becoming an interpersonal, social, and collaborative activity, where individuals exhibit different behavioural patterns and social needs. Therefore, for a better understanding of personal and social interactions in increasingly larger social communities, it is important to understand and define consumer personas online (Xu and Lee 2020).

2.1.2. Persona

The term “persona” was originally used to describe the protagonist in theatre and to clearly define the stereotypical characteristics of dramatic characters. The term was then introduced into the field of analytical psychology to describe the human personality and provide a clearer definition of behavioural patterns. Personas have been introduced into numerous disciplines, such as rhetoric, psychology, communication, and marketing (Stern 1994).

In the field of marketing and shopping, both traditional and online, the concept of “personas” is used as a technique to determine consumer characteristics. Analysing personas helps merchants establish an online platform tailored to consumer characteristics, thus engaging them much more in platform usage (Johansson and Messeter 2005).

As consumers, individuals are complex and inconsistent in their desires, while the personas of these consumers are very well defined, and their desires are crystal clear. Therefore, the use of personas is much more desirable as the starting point for designing online platforms, as it enables designers and marketers to define a clear goal they want to achieve (Johansson and Messeter 2005).

A Xu et al. (2023) study recognised three different groups in online shopping platforms: “no novelty” users, “no playfulness” users, and “no connective” users. Xu and Lee (2020) conducted a study to analyse and determine the most common personas based on the studies they reviewed. They concluded that there are four main personas, and consumers can transition from one persona to another depending on their needs. Each persona represents a broader group of target consumers who share similar behavioural characteristics. Below, we describe each of the four personas identified by Xu and Lee (2020) in their research: Opportunist, Cooperant, Explorer, and Follower.

3. Gamification

Digital games have accelerated the onset of gamification. Experts who grew up in the popular culture of video games, gaming consoles, and multiplayer online games used for entertainment found it only logical to employ game elements for education, professional training, and new ways of selling or marketing (Markopoulos et al. 2015; Oluwajana et al. 2019). Gamification has been increasingly recognised in recent years as something significant, especially in the field of e-commerce and customised user services incorporating game elements (Huotari and Hamari 2017). Although the concept may seem new, the term “gamification” appeared on various online blogs between 2002 and 2008, where bloggers discussed their thoughts on gamification, citing the basic idea of adopting game mechanics and applying them to other online features to enhance engagement (Botra et al. 2014).

Hulsey (2019) offers an examination of the ontological standpoint of gamification concerning games, particularly emphasising critical studies. Gamification is a concept where many authors overlap, oppose, or run parallel to each other. Deterding et al. (2011) state that gamification is a phenomenon that separates previously undefined factors such as gamefulness, gameful interaction, and gameful design from previously much more established factors such as playfulness, playful interaction, and design for playfulness. Therefore, Deterding et al. (2011) define gamification as the use of game design elements in a non-game context, while Zichermann and Linder (2010) defined the concept of gamification as a process or way of thinking used in games to encourage audiences or users to solve specific problems. However, the authors focus on gamification as a concept of thinking in games, which does not encompass the entire definition of gamification.

For a better understanding of the definition of gamification, [Huotari and Hamari \(2017\)](#) suggest understanding three concepts: service, service system, and service bundle. They define the term “service” as a set of skills and intentional actions that help a particular subject. A service system refers to a complex set of services related to the allocation of resources (including people, technology, information, etc.) connected to other systems to create specific value. The third term, service bundle, relates to managing related services or service systems. [Huotari and Hamari \(2017\)](#) formulate the definition of gamification based on these concepts, believing that gamification is a process that enhances the service by using the gaming experience and creates a powerful user experience.

3.1. Factors Forming Gamification

Below, we describe four factors that constitute the concept of gamification according to [Deterding et al. \(2011\)](#). The first factor of gamification, which is also most easily associated with gamification, is the game itself. Gamification inherently relates to games and not to playfulness. In the English language, we can distinguish between two terms, namely “game” and “play”. The term “play” denotes a category that includes the meaning of the word “game” but differs somewhat from the emphasised term. The authors cited a study on games conducted by [Caillois \(2001\)](#), summarising and defining the origin of the mentioned terms. Both words stem from Latin, namely from two words: *paida* and *ludus*. *Paida* denotes the word “playing” and refers to a freer, improvisational, and creative form of behaviour. On the other hand, *ludus* refers to the more familiar playing of games and denotes controlled play or play prescribed by rules that allow competitive competition. Such a definition is also supported by classical definitions of the term “game” ([Deterding et al. 2011](#)).

The second important factor is elements. While so-called “serious games” describe designs aimed at solving problems in training, research, and advertising, gamified applications include only game elements that can be called “atoms” of games. [Deterding et al. \(2011\)](#) believe that the boundaries between the game and game elements are often undefined. They illustrate the undefined boundary with a practical example, such as “Forsquare.” Playing the “Forsquare” game in a group depends on concentration, perception, and performance. Implementing an informal rule or common goal among a group of consumers changes a gamified application into a complete game. When comparing the characteristics of gamified applications with games, these features are short-lived, variable experiences and representations among playful modes. Therefore, one may question which element even belongs to the genre of game elements ([Deterding et al. 2011](#)).

The third factor is design. As mentioned, “gamified” applications are not the only examples where game elements have been reused. In the field of human–computer interaction, there is a long tradition of using game controllers as input devices for other purposes. Graphics engines and proprietary video game tools are also regularly used for purposes unrelated to entertainment (from scientific visualisations and 3D environments to amateur art). [Deterding et al. \(2011\)](#) found that game design elements are defined at five different levels, from concrete to abstract: adapter design patterns, game design patterns or game mechanics, design principles or science of methods, design of game design models, and methods of modelling games or processes. From the designer’s perspective, gamified applications are designed to contain game elements rather than represent entire games ([Deterding et al. 2011](#)).

The last factor is the non-game context. Similar to so-called “serious games”, gamification also uses game components for purposes other than their usual expected use. The current use of components is a category conditioned culturally, historically, and socially. It is very reasonable to assume that entertainment is currently the main goal of games. The enjoyment of playing games, involvement or engagement, and improvement of the user experience are currently the predominant reasons for using gamification. The finding presented by [Deterding et al. \(2011\)](#) is that gamification is not particularly limited to usage circumstances, scenarios, or purposes. It is important to consider various usage options and

define possible subcategories. They can be defined as training games, health improvement games, games aimed at improving athletic performance, and similar.

3.2. Emergence of Motivation through Gamification

Observing players engaged in video games makes it clear that motivation and emotional involvement during gameplay are very strong. The fundamental idea of gamification is to use the factors of motivation and emotional involvement caused by games to enable consumers to more easily achieve their goals. Through the use of game mechanics, gamification allows the development of an environment in which a person is motivated to achieve goals in various fields, thereby contributing to awareness of the environment, healthy lifestyles, or the development of new learning techniques for students or employees at work (Sailer et al. 2013). Xu et al. (2023) argue that apart from social connectiveness, rewardability, playfulness, and novelty, different consumer groups exert significant effects on the immersive experience.

Alsawaier (2018) defines motivation and engagement as two closely related concepts often mentioned in internal motivation and cognitive engagement. However, motivation and engagement are not the same. The presence of motivation does not necessarily dictate the presence of engagement, and vice versa. Alsawaier (2018) states that motivation is a psychological factor that stimulates decision-making in people based on internal or external motivators. Similarly, he believes that engagement is a kind of “energy” that encompasses internal mental processes that contribute to emotional and cognitive task performance. The concepts of motivation and engagement are closely intertwined and influence individuals’ behaviours.

Nicholson (2015) suggests that it is important to create a challenge—fully or partially—in the design of gamified tasks, such as online shopping, that is appropriate to the level of targeted consumers’ goals to maintain their emotional engagement. A challenge that is too complex can, conversely, affect engagement and cause anxiety or frustration, leading to a loss of interest. Malone (1980) believes that a challenge that is too complex, resulting in failure in the game, can harm a person’s self-esteem and consequently cause a lack of interest. Nicholson (2015) has divided engagement within gamification into two categories. In the first category, he defined it as engagement in the form of interaction, cooperation, and altruism among players. In the second, it is engagement among consumers, which is achieved through the use of game mechanics.

For many individuals, the enjoyable aspect of the gamified environment is problem-solving and overcoming challenges, as it indicates that they are using critical thinking skills. “Desirable difficulties”, as referred to by Yue et al. (2013), are important in the process of motivation and learning as they enable individuals to actively tackle challenges. When users strive to overcome these challenges to the best of their abilities and are aware of them, attention and intensive cognitive efforts lead to deeper understanding. Hess and Saxberg (2013) believe that the fun element in the gaming environment originates from tasks that are challenging yet achievable for goal attainment. The goals of each motivational action of a person are objects and actions with which we balance or satisfy needs (Musek and Pevcjak 2001). All motivational goals have a value that is dual, representing positive or negative value. Positive goals are recognised as rewards, while negative ones are seen as punishments. For a deeper understanding of motivation and a precise definition of motivational elements derived from game mechanics, motivational elements are divided into internal and external (Bergant 2011).

3.3. Game Mechanics in Gamification

Hess and Saxberg (2013) believe that the fun element in a gaming environment stems from tasks that are challenging yet achievable for reaching goals. Musek and Pevcjak (2001) state that the goals of every human motivational action are objects and actions with which we balance or satisfy needs. In this subsection, we present these fun elements that create an

environment where tasks are fun and challenging yet achievable. We also describe game mechanics and dynamics.

Game mechanics and dynamics are two closely related concepts that share similar characteristics. They are the ones that create the purpose of a specific action, such as online shopping or gaming. Although these terms are closely related and used interchangeably, they are actually unique components that work in mutual complementarity ([Gamify n.d.](#)). Game mechanics are various actions, behaviours, and control mechanisms used to gamify activities; when combined, they create an attractive and engaging user experience. Game mechanics refer to the tools, techniques, and aids that are building blocks of the game ([Suh et al. 2015](#)). Game dynamics, on the other hand, refer to the course of the game and interactions with consumers; dynamics determine what each player does in response to game mechanics. Elements of game dynamics evoke various emotional responses from individuals, such as increasing tension, excitement, disappointment, or relaxation ([Suh et al. 2015](#)).

The mechanics of a gamified environment consist of a series of tools that, when used correctly, promise a significant response from players, such as points, leaderboards, experiences and progress bars, badges, and virtual goods.

3.4. *The Dark Side of Gamification*

It has been found that society is susceptible to addiction when a new substance or behavioural activity is introduced into the community. For example, the introduction of alcohol into indigenous cultures previously not exposed to this substance shows a higher prevalence of addiction to this substance compared to those in established societies ([Rose and Dhandayudham 2014](#)). Younger British generations are increasingly moving away from alcohol and striving for zero tolerance for substances such as alcohol ([The Guardian 2022](#)). However, individuals remain increasingly caught up in addictions associated with the internet, such as online shopping, gaming, social media use, and the like ([Jiang et al. 2015](#)).

[Andrade et al. \(2016\)](#) touched on the use of gamification in the school environment. The authors believe that the goal of gamification is to keep individuals in a state of flow. The state of flow refers to a state of high concentration where an individual is so focused on something that they lose track of space and time. Developers of online stores, learning platforms, and video games aim to create an optimal environment for developing this state in individuals. Many advocates of gamification want to introduce its elements into online classrooms. On the other hand, such an idea is controversial because such immersion increasingly links to the creation of addiction ([Andrade et al. 2016](#)). [Sun et al. \(2015\)](#) conducted a study on 247 users, proving that gamification elements in mobile games and applications create a state of excitement or obsession, which consequently leads to addiction in individuals. Mobile application developers implement elements like leaderboards and sharing best results with other users in their designs. Implementing these elements affects individuals in such a way that they feel the need to share their achievements with others and thus prove their social status.

Developer and gamification critic Ian [Bogost \(2013\)](#) also believes that the dark side of gamification exists. He disagrees with the term gamification and suggests renaming it to exploitation-ware. The meaning of the word refers to software that exploits the individual. The author believes that the essence of gamification is replacing real incentives with virtual ones. Real incentives have a transactional motive, where a real value is created for all individuals or participants based on a relationship of trust. [Bogost \(2013\)](#) also argues that virtual incentives offered by gamification enable transactions without investment, which subsequently lose value and trust. His opinion is based on the idea that when companies begin to create real motivation for their employees and users to achieve personal or organisational goals, they also create functional relationships because it is clearly defined how participants will behave toward each other in their relationship. He also believes that trust develops among participants from these relationships. Gamification replaces these relationships with dysfunctional relationship substitutes. Similar to Bogost's

initial assertion that gamification is “bullshit”, academics have argued that gamification represents a “colonizing attempt” (Aarseth 2001) and a loss of the purity of play in favour of “playbor” (Rey 2014).

3.5. Ethical Use of Gamification

We live in a world where profit and numbers matter. Today, companies strive to maximise profit in every possible way. Some even employ Machiavellian principles, where the end justifies the means. However, too often, it is the consumers who end up being harmed, having used the product or service, so it is extremely important for companies to use gamification ethically. Gamification is a tool that can help individuals overcome boredom or, conversely, lead them to become addicted. Gamification is a powerful tool that can influence individuals at a deep psychological level. There is a threat that it might be intentionally used to deceive individuals who may not immediately detect it and protect themselves from wrongful actions, sparking discussions that often focus on ethical questions and the permissible techniques of manipulation in designing gamification systems (Kim and Werbach 2016).

Thorpe and Roper (2019) state that strategically and organisationally, so-called good gamification is “successful” gamification. The company designs an engaging experience to achieve intended behavioural outcomes. In marketing, a good outcome typically refers to economic benefits for the company—e.g., targeted users buying more of the company’s products or services. Although individuals are aware of their participation, the gamification process still involves many covert activities. For example, individuals may not realise that the experience’s features are designed to influence behaviour. These influences are actually most effective when they are as subtle and covert as possible. Additionally, companies may actively conceal anticipated outcomes from users.

Well-designed gamification has something that initially captures the attention of the target audience and then maintains it, at least for a short time. While playing, consumers become closer to the company and associate their enjoyment with its products or services. Ethical use seems irrelevant (Thorpe and Roper 2019). Various disciplines find that play is deeply rooted in the psychology and mentality of “living beings”. Deterding et al. (2011) say that play is even older than culture. Psychologists explore our natural inclination to play and its contribution to human development. Gamification designers seek to exploit this psychosocial appeal. Play and games as part of a designed experience can evoke emotions such as joy, surprise, pride, and so forth, thereby sustaining engagement. Once again, ethical use seems inconsequential (Thorpe and Roper 2019).

As mentioned, gamification is a technique that maintains user engagement, consequently altering behaviour. Kim and Werbach (Kim and Werbach 2016) state that it can, therefore, be accused of manipulation. Marczewski (n.d.) believes that gamification is like a hammer that can be used to destroy things or to build progress. Koleva (2020) believes that protecting individuals from gamification that causes harm to society (dehumanisation, creating harmful habits, changing values, etc.) can be achieved by introducing ethical principles since gamification is a powerful tool that can, if not conditionally restricted and controlled, cause serious long-term disruptions to morality and changes in social values. Partial restrictions of a general nature can also be introduced (to avoid violating basic moral principles, to avoid pressuring individuals, to avoid exploiting individuals, to avoid instilling fear, and so forth). In the case of the localisation or implementation of a specific project, the relevant legislation must be strictly adhered to.

It is clear that in the future, gamification will continue to advance, so it is important to be attentive to factors that are unethical and harmful to individuals. We are entering a world of virtual reality and advanced communication technology, which is likely to bring new types of gamifications and online shopping.

4. The Future of Shopping

We are stepping into a new future called digitisation. This enables the development of and a bright future for online shopping, as it will facilitate the growth of online services and provide the necessary infrastructure. This story is not fiction but reality as countries increasingly strive for digital development. Evidence of this is the strategy set by Slovenia. On the website of the [Ministry of Economic Development and Technology of the Republic of Slovenia \(2022\)](#), we can read about the strategy covering the period from 2021 to 2030. During this time, the goal is to rank among the top five countries in the use of advanced digital technologies according to the Digital Economy and Society Index in the first two years and among the top three countries by the end of the strategic period. The strategy was prepared with the initial processes of informatisation, digitisation, and the European Union's single digital market. The strategy emphasises advanced digital technologies, including big data processing, the Internet of Things, artificial intelligence, data chaining technology, high-performance computing, quantum computing, and 5G technologies ([Ministry of Economic Development and Technology of the Republic of Slovenia 2022](#)).

The world is rapidly evolving and shaping, and with it, the ways and possibilities of shopping are also developing. In the search for new ways to boost shopping, the industry has started leaning towards emerging technologies, such as virtual reality and the Internet of Things. In the last decade, many consumers have shifted to online platforms ([Acowebs 2022](#)). [Levy-Ron \(2022\)](#) describes shopping in 2030 differently than we can imagine it today. The author believes that shopping will involve the use of interactive technology, enabling an unimaginable level of personalisation and, consequently, effectively erasing the boundaries between digital and physical shopping. E-commerce will be integrated into all aspects of consumers' online lives, from using online platforms like Netflix to video games, virtual worlds, and, of course, social media. [Levy-Ron \(2022\)](#) mentions elements of shopping that can be expected in the future: Instant Shopping, Personalisation, Supply Chain and Logistics Agility, and Sustainability.

4.1. Shopping in Virtual Reality

Virtual reality is in a phase of rapid development and gradual integration into people's everyday lives. Twenty years ago, few would have imagined that virtual reality would be so close to everyday use. Today, virtual reality is considered one of the technological megatrends driving the digitalisation of all aspects of human life ([Meta 2021](#)). [Xi and Hamari \(2021\)](#) state that the global virtual reality market was valued at \$3.13 billion in 2017 and is projected to reach \$49.7 billion by 2023. Virtual reality technology is being used in various fields, such as entertainment, advertising, product design, construction, and tourism. One of the most promising areas of virtual reality usage in a business context is in shopping and retail. Retail giants like Amazon (virtual reality kiosks), Alibaba (the Buy+ mobile VR platform), eBay (VR Department Store app), and IKEA (virtual reality kitchen showroom) are striving to incorporate virtual reality into their e-commerce services and reshape the future of the shopping ecosystem. With the help of virtual reality technology such as head-mounted displays, haptic devices, body-tracking sensors, motion-tracking controllers, 360-degree treadmills (enabling unrestricted movement in space), and other innovative wearable devices, the vision of shopping in the future is being realised.

4.2. The Metaverse

The metaverse is a concept that has rapidly captured the entire planet and denotes the fusion of humans and technology in a virtual world ([Meta 2021](#)). The term "Metaverse" is a fusion of "meta", signifying transcendence, virtuality, or abstraction, and "universe", denoting the world or cosmos ([Lee and Kim 2022](#)). The metaverse represents a realm where individuals, embodied as programmable avatars, engage with both each other and software agents within a three-dimensional virtual environment that mirrors elements of the physical world ([Fang et al. 2022](#)). In relation to shopping, it is extremely important, as it could revolutionise retail.

According to [Acowebs \(2022\)](#), many retail companies are trying to invest in the concept of the metaverse because they believe it will provide consumers with a unique shopping experience. With the help of artificial intelligence and algorithms, companies will track individual preferences and choices, thus enabling more personalised purchases. Many believe that shopping will also change in terms of payment methods. Much involvement in the operational processes is expected from blockchain technology. Shopping in the metaverse is expected to be done through avatars representing consumers in the virtual world. Digital avatars can be designed in any way to resemble their owners, whether in clothing, hairstyles, or other characteristics. Digital avatars open up possibilities for many companies in digital fashion. Avatars are expected to reflect personality and represent individuals in the virtual world. All of this is expected to be done with digital avatars in the virtual world and virtual shopping centres, which are projected to have an unimaginable number of floors and hundreds of millions of square meters of shopping space.

[Kestenbaum \(2022\)](#) argues that until technology improves, the metaverse will remain mostly talk. For the metaverse to become influential, it needs hardware that is less burdensome to wear and cheaper than current models. It also needs software capable of conveying consumers' facial expressions into the virtual world for more realistic communication. Kestenbaum also believes these are currently massive hurdles that investments and research can overcome. But no one can accurately predict when this will happen ([Kestenbaum 2022](#)).

4.3. Challenges and Benefits of the Use of Gamification

There are also potential challenges and limitations associated with the adoption of new technologies. A critical analysis of factors is needed, which could lead to consumer adoption barriers (e.g., unsatisfactory protection of confidentiality), technological limitations (balancing fun and functionality; integrating with existing systems), and ethical concerns (e.g., retailers do not disclose their primary goals; lack of transparency; moral validity of gamification; manipulation).

In order to provide a balanced perspective on the use of gamification, it is correct to say that if gamification is used in an ethical manner, it can benefit both the provider and the user. By injecting enjoyment and interactivity into the purchasing journey, businesses can motivate customers to make additional purchases and boost their overall expenditure. Furthermore, gamification serves as a tool to foster repeat purchases, a crucial factor in sustaining long-term growth and revenue. It is equally crucial to heed feedback from both users and your intended audience, making adjustments and updates as needed. If gamification programs are not aligned with the business and company values, they risk becoming counterproductive. Primarily, the various gamification strategies must be pertinent and in harmony with the content being presented.

Sephora stands out as a prominent example of a company leveraging gamification. Among their successful gamification initiatives is "Beauty Uncomplicated", featuring a three-step questionnaire designed to assist customers in discovering the perfect tools and makeup products.

Also, IKEA employs VR gamification to revolutionise the online shopping experience and enhance its training and onboarding procedures. Introducing an immersive VR platform, the company enables customers to preview various styles, colours, and materials of furniture pieces before making a purchase.

5. Materials and Methods

We examined the influence of "game" elements on the purchasing decisions of Slovenian consumers. The results are presented through interpretation and tables. We were interested in whether the elements of "gamification" have different effects on the steps of purchasing decisions. Based on theoretical foundations, we formulated the following hypotheses:

Shang and Lin (2013) argue that airlines, hotel chains, and many retailers design various loyalty programs to retain and incentivise customers. According to them, companies should understand the value of adding game elements at each customer encounter. For example, Foursquare offers a loyalty program as a reward level and uses gamification elements such as points, badges, levels, and leaderboards to keep customers engaged. Today, users encounter various discount retailer apps that offer services through the app and encourage consumers to return for repeat purchases; a relevant example is Lidl.

Hypothesis 1. *Gamification of online stores most influences the consumer in the post-purchase evaluation phase to make a repeat purchase.*

In online stores, users behave like consumers reading judgments from other users and as evaluators with their own product reviews (2014). According to (Schuckert et al. 2015), gamification affects online store users through “experienced” users who are highly ranked in the online store. Namely, users who are first-time users of an online store perceive “experienced” users as a source of trusted information.

Hypothesis 2. *Consumers trust reviewers who have earned the “top reviewer” badge and, therefore, make a purchase of the product.*

According to Formation portal (Formation n.d.), customer online activity on web pages increased by 68 percent, and the use of the share option on social media increased by 22 percent after loyalty programs introduced gamification elements. Many gamification factors are designed to influence individual behaviour, as they addict individuals with points, badges, leaderboards, new challenges for point collection, etc. (Chou n.d.). The study was based on a non-random convenience sample. The sample consisted of Slovenian consumers over 16 years old who have internet access.

Hypothesis 3. *Consumers are willing to spend more money if they know that by making a purchase, they will earn points or badges in the online store for a specific benefit.*

In designing the study, we decided to use quantitative methodology. Quantitative research is the interpretation of phenomena by collecting numerical data, which we analyse using mathematical (statistical) methods. To obtain data on the impact of gamification on the online shopping of Slovenian consumers, we chose a questionnaire as a measurement instrument. Data were collected using a survey method. The questionnaire consisted of twelve closed-ended questions. The questions related to the stages of purchasing decisions, the influence of reviews, and demographic questions. The survey was designed using the online survey tool 1KA, which is accessible to us through a student account on the website www.1ka.si. The survey was posted on the social media platforms Facebook and Instagram.

The sample of respondents was selected in a non-probabilistic manner using the snowball method. Snowball sampling is often used in exploratory or preliminary research where the goal is to understand the characteristics of a population or phenomenon. It allows researchers to generate hypotheses or identify key themes that can be further explored in subsequent studies.

All Slovenian consumers over 16 years old with internet access were considered relevant for obtaining results. Respondents answered the questionnaire by selecting the answer that best suited them. Using analytical data from the 1KA online tool, we found that 175 individuals opened the survey, of which 130 started to answer the survey. Of the 130 received questionnaires, we found that 118 were valid. Data collection lasted for 15 days in March 2023. The level of agreement was assessed by respondents on a scale from 0 to 10 and with answers Yes or No.

For the analytical processing of data, we used the IBM SPSS Statistics V23.0 program. Demographic data and descriptive statistics were displayed using tables. We then tested the

normality of the distribution of responses on the scales. Based on the established normality of the distribution, we used an appropriate statistical test to verify the hypotheses.

6. Results Interpretation and Discussion

Below, we present the demographic data of the respondents who appropriately completed the survey, followed by descriptive statistics and hypothesis testing.

There were 41 male and 77 female participants, totalling 118 respondents. The average age of the 118 respondents was 35.81 years. The youngest respondent was 16 years old, while the oldest was 65 years old. They came from different regions of Slovenia, and half of them had a university degree.

In descriptive statistics, we focused on presenting data related to our three formulated hypotheses. The first hypothesis concerns the stages of purchasing decisions, while the second hypothesis focuses on consumers' opinions based on reviewers' opinions. The final hypothesis relates to the influence of gaming elements on consumers' spending habits.

We examined the stages of the purchasing process with the following questions (Table 1).

Table 1. Stages of the purchasing process.

Stage	Question	M	SD
Problem recognition	Evaluate to what extent discounts, point accumulation, virtual gifts, etc., motivate you to feel the need for an online purchase.	5.25	1.89
Information search	Evaluate to what extent an online store that uses elements of "gamification" and intuitiveness attracts you to browse for information regarding online purchases.	4.42	2.74
Alternatives evaluation	Assess to what extent you compare the benefits (discounts on the next purchase, loyalty points, gifts, etc.) of different online stores when purchasing a specific product.	5.81	2.23
Purchase decision	Evaluate to what extent elements such as "gamification" of online stores, loyalty programs, opinions from experienced consumers, etc., influence your purchase decision.	5.04	2.46
Post-purchase evaluation	Evaluate to what extent elements such as "gamification" of online stores, loyalty programs, opinions from experienced users, etc., encourage you to make a repeat purchase in the same online store.	5.47	2.09

The importance of purchasing decision stages was measured using five questions, all containing a rating scale from 0 to 10 (0 = no, not at all; 10 = yes, very much). On average, respondents rated two stages as the most important. Specifically, they rated the alternatives evaluation stage ($M = 5.81$) as the most crucial, where they compared the benefits (discount on the next purchase, loyalty points, gifts, etc.) offered by online stores when purchasing a specific product. The post-purchase evaluation stage was rated as the second most influential stage in online shopping, with an average rating of $M = 5.47$.

For the second hypothesis, we were interested in whether the review of the most highly rated reviewer influences the purchasing decisions of consumers. We asked a question with two answer options: Yes or No, which distinguished those who read reviews before making a purchase from those for whom reviews by others are not important. Of all respondents, 84 answered that they read reviews before engaging in online shopping, while the remaining 34 did not.

We further differentiated among those who read reviews, separating those who seek out the review from the highest-rated reviewer. Out of 84 respondents, 48 indicated that they seek out the review from the highest-rated reviewer. However, 36 respondents stated that they do not seek out the review from the highest-rated reviewer.

In the next step, we aimed to obtain an assessment of the impact of the highest-rated reviewer on the consumer's purchasing decision. Nineteen respondents rated the impact

with a score of 5, indicating indecision about whether the opinion of the highest-rated reviewer influences their purchasing decision. Nine respondents, however, rated the impact of the highest-rated reviewer with a score of 10 (Table 2).

Table 2. Influence of review on product purchase decision.

Rate the Extent to Which His Review Influences Your Decision to Purchase the Product.											
	1	2	3	4	5	6	7	8	9	10	Together
Frequency	0	0	1	1	19	1	5	6	6	9	48
Percentage	0	0	2.1	2.1	39.6	2.1	10.4	12.5	12.5	18.8	100.0

In the third hypothesis, we addressed the question of willingness to spend more money to obtain benefits that bring discounts. We asked respondents whether they would be willing to spend more money in an online store if they knew they would gain certain benefits, such as points and badges that provide discounts on future purchases. Of all the respondents, 66.9% answered that they would not be willing to spend more money, while 33.1% of respondents answered that they would be willing to spend more money on their purchase.

We conducted a test of normality to determine whether the data are normally distributed. We found that the p -values for all variables are less than 0.05, indicating statistical significance (Table 3). Statistically significant values indicate that the distributions significantly deviate from normal.

Table 3. Normality test.

Measured Variables	Normality Test					
	Kolmogorov–Smirnov			Shapiro–Wilk		
	Statistics	df	p -Value	Statistics	df	p -Value
Problem recognition	0.241	118	0.000	0.919	118	0.000
Information search	0.262	118	0.000	0.908	118	0.000
Alternatives evaluation	0.213	118	0.000	0.922	118	0.000
Purchase decision	0.246	118	0.000	0.924	118	0.000
Post-purchase evaluation	0.226	118	0.000	0.908	118	0.000
Reviewer influence *	0.261	48	0.000	0.857	48	0.000

* Rate the extent to which his review influences your decision to purchase the product.

Hypothesis Testing

In the continuation of the study, we verified the validity of the hypotheses posed. The hypotheses primarily focused on the influence of “gamification” elements on the purchasing decisions of Slovenian consumers. We examined each of the hypotheses and accordingly explained the results.

Hypothesis 4. *Gamification of online stores has the greatest impact on the consumer in the post-purchase evaluation phase to make a repeat purchase.*

First, we conducted a test of normality to determine whether the data distribution is normal. We performed the Shapiro–Wilk test and found that the p -value is less than 0.05, indicating a non-normal distribution (Table 4). Based on the results of the normality test, we proceeded to select the Friedman statistical test (Table 5).

Table 4. Ranks.

	Ranks Average
Problem recognition	3.00
Information search	2.51
Alternatives evaluation	3.47
Purchase decision	2.85
Post-purchase evaluation	3.17

Table 5. Friedman test.

N	118
Chi-square	40.75
df	4
p	0.000

The Friedman test serves as the nonparametric counterpart of one-way repeated-measures analysis. Using it, we tested whether the responses to individual variables, in our case the stages of purchase decision-making, differ significantly: whether the elements of “gamification” have different effects on the stages of purchase decision-making.

We found that the difference between the responses to the variables is statistically significant. The elements of “gamification” have statistically significant different effects on the stages of purchase decision-making. Subsequently, we used the post hoc test to calculate the difference between individual measured variables, in our case, between the stages of purchase decision-making (Table 6).

Table 6. Post hoc test.

	Chi-Square	SE	p-Value
Information search—Purchase decision	−1.63	0.206	1.000
Information search—Problem recognition	2.39	0.206	0.169
Information search—Post-purchase evaluation	−3.19	0.206	0.014
Information search—Alternatives evaluation	−4.63	0.206	0.000
Purchase decision—Problem recognition	0.76	0.206	1.000
Purchase decision—Post-purchase evaluation	−1.56	0.206	1.000
Purchase decision—Alternatives evaluation	3.01	0.206	0.027
Problem recognition—Post-purchase evaluation	−0.80	0.206	1.000
Problem recognition—Alternatives evaluation	−2.24	0.206	0.248
Post-purchase evaluation—Alternatives evaluation	1.44	0.206	1.000

It has been established that there is a statistically significant difference between the stages of “Information search” and “Post-purchase evaluation”, as well as between the stages of “Information search” and “Alternatives evaluation”, with responses at the “Information search” stage tending significantly lower than at the stages of “Post-purchase evaluation” and “Alternatives evaluation” ($p < 0.05$). There is also a statistically significant difference between the stages of “Purchase decision” and “Alternatives evaluation”, with responses at the “Purchase decision” stage tending statistically higher ($p < 0.05$).

Based on the analysis conducted, we reject Hypothesis 4, as it has not been shown that gamification of online purchases has a significant impact on the consumer in the post-purchase evaluation phase to make a repeat purchase. [Huotari and Hamari \(2012\)](#) highlighted the impact of gamification on customer retention and loyalty, emphasising the prerequisite of engaging customers in gameful experiences beforehand.

The rejected hypothesis can be explained as a result of the current economic crisis and high inflation, which affects consumer habits. Consumers are forced to compare products and different stores much more in order to save money. In favour of this argument is also

the website www.primerjaj-cene.si of the Government of the Republic of Slovenia, which is intended for consumers to compare prices from various providers.

Hypothesis 5. *Consumers trust reviewers who have earned the “main reviewer” badge, and therefore make a purchase of the product.*

In the next hypothesis, we were interested in whether the highest-rated reviewer in an online store influences the consumer’s purchase decision. As with the first hypothesis, we conducted a test of normality. We checked normal distribution using the Shapiro–Wilk test, which calculates whether our distribution statistically significantly differs from normal (Table 7). A large p -value indicates the data set is normally distributed, and a low p -value indicates that it is not normally distributed.

Table 7. Shapiro–Wilk test of normality Hypothesis 2.

Measured Variable	Shapiro–Wilk		
	Statistics	df	p -Value
Rate the extent to which his review influences your decision to purchase the product.	0.857	48	0.000

We found that the p -value is less than 0.05, indicating that there is no normal distribution. In Table 8 we checked the extent to which the review influences buyer’s purchasing decision.

Table 8. Data for the variable “Rate the extent to which his review influences your decision to purchase the product”.

	N	Min	Max	Average	SD	Median
Review influence	48	3.00	10.00	6.98	2.13	7.00

The Wilcoxon signed-rank test serves as a non-parametric method for statistical hypothesis testing. It is employed to assess the location of a population from a data sample or to compare the locations of two populations utilising two matched samples. Using the Wilcoxon test (Table 9) for a single sample, we examined whether the median deviates from the pre-assumed value, using a hypothetical median of 5 as the central scale value. We found that the responses to the variable significantly deviate from the assumed median of 5 ($p < 0.05$). The values are significantly higher.

Table 9. Wilcoxon test for one sample.

N	48
Chi-Square	4.58
p	0.000

Based on the analysis of the results, we confirm the hypothesis, as it has been shown that the review of the top-rated reviewer significantly influences the decision to purchase the product. This is in contrast to the findings of Yazdani et al. (2018); their study reveals that lower-ranked reviewers exert a stronger influence on sales compared to top-ranked reviewers. While top-ranked reviewers may act as opinion leaders, their impact is predominantly confined to specific scenarios, such as newly launched products or items with substantial variation in existing reviews. Barnes and Shavitt (2023) explain that the efficacy of such cues might vary among different cultures, which holds significance for marketing strategies.

Hypothesis 6. *Consumers are willing to spend more money if they know they will earn points or badges in an online store for a specific benefit.*

For the last hypothesis, we aimed to determine whether consumers spend more money if they know they will gain additional benefits in the online store. In testing the hypothesis, we used the chi-square test to test for equal probabilities. A chi-square test is a statistical hypothesis test primarily employed to assess the independence between two categorical variables regarding their influence on the test statistic. We used the test to examine whether differences in responses from our sample could be generalised to the population.

Table 10 shows the distribution of responses or actual and expected frequencies. We found that the majority of participants (67%) are not willing to spend more money if they know they will gain points and badges that offer discounts on future purchases. From the data in Table 11, we can see that the difference between responses is statistically significant ($p < 0.05$). Based on the statistical data, we reject the hypothesis, as it turns out that consumers are not willing to spend more money if they know they will receive points or badges in the online store for a certain benefit. The findings from Hamari's (2017) study indicate that individuals exposed to gamification were notably more inclined to submit trade proposals, conduct transactions, provide comments on proposals, and engage with the service in a more active manner. Again, we might attribute such differences in results to cultural peculiarities.

Table 10. Money spent based on the benefits provided by the purchase.

Are You Willing to Spend More Money in the Online Store If You Know That You Will Gain Certain Benefits, Such as Points and Badges, Which Bring Discounts on Subsequent Purchases?			
	Actual N	Expected N	Residual
No	79	59	20
Yes	39	59	−20
Together	118		

Table 11. Chi-square test.

Are You Willing to Spend More Money in the Online Store If You Know That You Will Gain Certain Benefits, Such as Points and Badges, Which Bring Discounts on Subsequent Purchases?	
Chi-Square	13.559
df	1
p-value	0.000

The rejected hypothesis can be interpreted as consumers being unaware that they spend more money because online stores are designed to make consumers spend more money than they realise. Chou (n.d.) states that many gamification elements are designed to influence individual behaviour, as they addict individuals with points, badges, leaderboards, new challenges for point accumulation, etc. Many consumers are not even aware of their addiction.

7. Conclusions

The retail revolution began 30 years ago; pioneers like Alibaba, Amazon, and eBay laid the groundwork for a digital commerce transformation marked by technological advancements, particularly in mobile technology, that reshaped the e-commerce landscape and facilitated seamless, on-the-go shopping experiences. The introduction of augmented reality and virtual reality further blurred the lines between physical and digital realms, offering immersive product interactions. Artificial intelligence emerged as a game-changer, leveraging algorithms to analyse user data and personalise online shopping experiences. Artificial intelligence-powered chatbots and virtual assistants improved customer support, contributing to a more tailored shopping journey. Artificial intelligence's predictive

capabilities empower platforms to anticipate user behaviour and deliver personalised recommendations strategically. Looking ahead, future online shopping trends include artificial intelligence's continued dominance in enhancing personalisation, the potential of blockchain for transparency and security, and the integration of the Internet of Things (IoT) for a more connected shopping experience. Augmented reality, virtual reality, voice commerce, and cross-border e-commerce are expected to play significant roles in shaping the future of online shopping (Ntumba et al. 2023). Other research findings (Bratina and Faganel 2024) indicate that influencer endorsements affect both Gen X and Gen Z, with a more pronounced effect observed in the younger generation, which is important information.

In this paper, we focused on the concept of gamification and online shopping. Gamification is not a widely recognised concept in Slovenia. Therefore, we wanted to explore its impact on online shopping among Slovenian consumers. In the theoretical part, we described in detail various concepts related to shopping, online shopping, and gamification, which are closely linked to technology.

We conducted a review of previous related research focusing on online shopping and gamification, as well as the mechanisms gamification uses to make shopping interesting for consumers. For the purposes of the empirical part, we conducted a survey and collected data necessary to test our hypotheses. The study involved 130 respondents, of which 118 surveys were correctly completed and considered in the data analysis. The majority of participants were female, specifically 77 (65.3%), while the remaining 41 (34.7%) participants were male.

We were interested in which phase of the purchasing decision gamification has the greatest impact. After analysing the collected data, we rejected the first hypothesis because we found that gamification does not have the greatest impact on the post-purchase evaluation phase but rather on the alternative evaluation phase. Such an outcome can be explained as a result of the current economic situation and high inflation, where consumers are forced to compare prices daily to save money. Then, with the second hypothesis, we wanted to find out if consumers trust reviewers who are highly rated in online stores. The statistical analysis of the collected data showed that we can confirm the hypothesis. As expected, highly rated reviewers play an important role in purchasing products in online stores. With the last hypothesis, we wanted to determine whether consumers are willing to spend more money on online purchases in exchange for certain benefits. We rejected the hypothesis, but such results can be interpreted as a consequence of consumers' unawareness of the impact of gamification elements on their actual spending.

Based on the analysis of survey responses, we found that Slovenian consumers are still not aware of the inclusion of gamification in our everyday lives. The findings of the study might have been different if the respondents were more familiar with the concept of gamification and could better understand the questions posed. A recommendation for further research would be conducting interviews instead of surveys, as respondents would find it easier to express their opinions, and if they did not understand certain terms, they could be explained. With the development of information and communication technology, we can expect increasing involvement of gamification in various areas of our activities. In the future, it will be necessary to explore the impact of gamification on consumer behaviour in virtual environments, such as the planned Metaverse, etc. Also, providing a broader context for the current landscape of online shopping and the incorporation of emerging technologies within this realm could be beneficial.

Companies can enhance customer engagement and captivate customers through ethical interactive experiences; boosting customers' loyalty and retention through challenges, points, and rewards; encouraging social sharing and referrals on social media or referring friends to the brand, broadening the company's reach and attracting new customers; collecting customer insights; enhancing product trials and demos to encourage customers to explore new products they might not have considered otherwise; driving in-store traffic, etc. Finally, companies should keep the customer in focus when developing gamified experiences that deeply understand and resonate with their audience, adding significant

value; employ emerging technologies thoughtfully; place priority on privacy and security; and continuously measure and improve (Velox Consultants 2024). Management in the retail sector has to prioritise adapting to evolving consumer habits. Marketers need to stay vigilant of their customers' desires, trends, and demands (Faganel and Dessardo 2024).

It is important to acknowledge the limitations of snowball sampling, such as potential bias in participant selection, lack of generalisability to the broader population, and difficulty in assessing the representativeness of the sample. The distribution of the survey via social media platforms such as Facebook and Instagram has the potential to reach a large number of people, but it may introduce self-selection bias, as those who are more active on social media are more likely to participate. Another limitation was the concept of gamification, as it is a relatively new term that was not easy to explain in the Slovenian language due to the more frequently used English-origin words. It also turned out that Slovenian consumers might not be familiar with the concept of gamification, as there is not much Slovenian literature available on this topic.

The rationale behind our choice of quantitative analysis lies in its ability to facilitate the study of significantly larger population groups. This broader perspective would be challenging to attain solely through interviews or case studies involving a small number of individuals. Quantitative data also lends itself effectively to statistical analysis, enabling the identification of patterns in relationships between various variables and the systematic testing of hypotheses. We opted for quantitative methods to gain a comprehensive understanding of the phenomenon's scope. Future research could address our constraints by choosing a less biased sample, with the application of some advanced statistical methods like ANOVA, for instance, or by using qualitative methods such as interviews, focus groups, netnography, etc., to look deeper into consumers' behaviour.

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References

- Aarseth, Espen. 2001. Computer game studies, year one. *Game Studies* 1: 1–15.
- Acowebs. 2022. Introduction to the Metaverse and Metaverse Shopping. Available online: https://acowebs.com/metaverse-shopping/#1_New_Shopping_Experience (accessed on 3 March 2024).
- Alsawaier, Raed S. 2018. The effect of gamification on motivation and engagement. *The International Journal of Information and Learning Technology* 35: 56–79. [CrossRef]
- Anderson, Rolph E., Srinivasan Swaminathan, and Rajiv Mehta. 2013. How to drive customer satisfaction. *MIT Sloan Management Review* 54: 13–20.
- Andrade, Fernando R. H., Riichiro Mizoguchi, and Seiji Isotani. 2016. The bright and dark sides of gamification. Paper presented at 13th International Conference, ITS 2016, Zagreb, Croatia, June 7–10; Edited by Alessandro Micarelli, John Stamper and Kitty Panourgia. London and Cham: Springer, pp. 176–86.
- Bagla, Divya. 2017. Online vs. Offline shopping. *National Journal of Research and Innovative Practices* 2: 1355–2456.
- Barnes, Aaron J., and Sharon Shavitt. 2023. Top Rated or Best Seller? Cultural Differences in Responses to Attitudinal versus Behavioral Consensus Cues. *Journal of Consumer Research* ucad074. [CrossRef]
- Barta, Sergio, Raquel Gurrea, and Carlos Flavián. 2023. Using augmented reality to reduce cognitive dissonance and increase purchase intention. *Computers in Human Behavior* 140: 107564. [CrossRef]
- Bergant, Andrej. 2011. Igrifikacija kot Evolucija Optimalne Uporabniške Izkušnje. Bachelor thesis, University of Ljubljana, Ljubljana, Slovenia.

- Bitrián, Paula, Isabel Buil, and Sara Catalán. 2021. Enhancing user engagement: The role of gamification in mobile apps. *Journal of Business Research* 132: 170–85. [CrossRef]
- Bizovičar, Milka. 2012. S Kvadraturu Trgovskih Središč smo nad Povprečjem EU. Available online: <https://old.delo.si/gospodarstvo/posel/s-kvadraturu-trgovskih-sredisc-smo-nad-povprejem-eu.html> (accessed on 3 March 2024).
- Bogost, Ian. 2013. Exploitationware. In *Rhetoric/Composition/Play through Video Games: Reshaping Theory and Practice of Writing (Digital Education and Learning)*. Edited by Richard Colby, Matthew Johnson and Rebekah Shultz Colby. New York: Palgrave Macmillan, pp. 139–47.
- Botra, Adele, Marlien Rerselman, and Merryl Ford. 2014. Gamification beyond badges. Paper presented at 2014 IST-Africa Conference Proceedings, Pointe aux Piments, Mauritius, May 7–9; pp. 1–10.
- Bratina, Danijel, and Armand Faganel. 2024. Understanding Gen Z and Gen X Responses to Influencer Communications. *Administrative Sciences* 14: 33. [CrossRef]
- Caillois, Roger. 2001. *Man, Play, and Games*. Champaign: University of Illinois Press, ISBN 978-0-252-07033-4.
- Chang, Yu-Ting, Hueiju Yu, and Hsi-Peng Lu. 2015. Persuasive messages, popularity cohesion, and message diffusion in social media marketing. *Journal of Business Research* 68: 777–82. [CrossRef]
- Chen, Chuanhong, and Xueyan Li. 2020. The effect of online shopping festival promotion strategies on consumer participation intention. *Industrial Management & Data Systems* 120: 2375–95. [CrossRef]
- Chen, Su-Jane, and Tung-Zong Chang. 2003. A descriptive model of online shopping process: Some empirical results. *International Journal of Service Industry Management* 14: 556–69. [CrossRef]
- Choi, Daeheon, Chune Young Chung, and Jason Young. 2019. Sustainable online shopping logistics for customer satisfaction and repeat purchasing behavior: Evidence from China. *Sustainability* 11: 5626. [CrossRef]
- Chou, Yu-kai. n.d. The Octalysis Framework for Gamification & Behavioral Design. Available online: <https://yukaichou.com/gamification-examples/octalysis-complete-gamification-framework/> (accessed on 3 March 2024).
- Deterding, Sebastian, Dan Dixon, Rilla Khaled, and Lennart Nacke. 2011. From game design elements to gamefulness: Defining “gamification”. In *Proceedings of the 15th International Academic MindTrek Conference: Envisioning Future Media Environments*. Edited by A. Lugmayr, H. Franssila, C. Safran and I. Hammouda. Tampere: Association for Computing Machinery, pp. 9–15.
- Dispenza, Joe. 2013. *Breaking the Habit of Being Yourself: How to Lose Your Mind and Create a New One*. Carlsbad: Hay House, CA Inc, ISBN 9781401938093.
- Duh, Maja. 2014. Dejavniki Uspešnosti Spletne Trgovine na Primeru Podjetja Zoo Market Rex. Master thesis, University of Ljubljana, Ljubljana, Slovenia.
- Eminence. 2022. The Metaverse: A Revolution for E-Commerce! Available online: <https://eminence.ch/en/metaverse-ecommerce/#gref> (accessed on 3 March 2024).
- Faganel, Armand, and Maurizio Dessardo. 2024. Eco-friendly FMCG products and premiumisation purchasing habits. *Applied Marketing Analytics* 9: 375–86.
- Fang, Lingzhi Brian, Xiongfeng Dong, Zhicheng Weng, and Taoqin Chen. 2022. Designing an Attractive Metaverse: Research on Design Factors Influencing Audience Satisfaction with a Virtual Space Based on QCA. *Journal of Theoretical and Applied Electronic Commerce Research* 18: 37–54. [CrossRef]
- Forbes. 2020. Lasting Changes to Grocery Shopping after COVID-19? Available online: <https://www.forbes.com/sites/blakemorgan/2020/12/14/3-lasting-changes-to-grocery-shopping-after-covid-19/?sh=388af4b654e7> (accessed on 3 March 2024).
- Formation. n.d. Having Fun and Making Money: Why Gamification Is Good for Business. Available online: <https://formation.ai/blog/having-fun-and-making-money-why-gamification-is-good-for-business/> (accessed on 3 March 2024).
- Gamify. n.d. Game Mechanics & Game Dynamics: Gamification 101. Available online: <https://www.gamify.com/gamification-blog/gamification-101-game-mechanics-game-dynamics> (accessed on 3 March 2024).
- García-Jurado, Alejandro, Mercedes Torres-Jiménez, Antonio L. Leal-Rodríguez, and Pilar Castro-González. 2021. Does gamification engage users in online shopping? *Electronic Commerce Research and Applications* 48: 101076. [CrossRef]
- Hamari, Juho. 2017. Do badges increase user activity? A field experiment on the effects of gamification. *Computers in Human Behavior* 71: 469–78. [CrossRef]
- Hess, Frederick M., and Bror Saxberg. 2013. *Breakthrough Leadership in the Digital Age: Using Learning Science to Reboot Schooling*. London: Corwin Press, ISBN 978-1452255491.
- Hulsey, Nathan. 2019. Game Studies and Gamification. In *Games in Everyday Life: For Play*. Leeds: Emerald Publishing Limited, pp. 17–34, ISBN 978-1-83867-938-5.
- Huotari, Kai, and Juho Hamari. 2012. Defining gamefication: A service marketing perspective. In *Proceedings of the 16th International Academic MindTrek Conference, Tampere, Finland, October 3–5*. New York: ACM Press, pp. 17–22.
- Huotari, Kai, and Juho Hamari. 2017. A definition for gamification: Anchoring gamification in the service marketing literature. *Electronic Markets* 27: 21–31. [CrossRef]
- Jiang, Jingjie, Keith T. Phalp, and Raian Ali. 2015. Digital addiction: Gamification for precautionary and recovery requirements. In *REFSQ Workshops 2015*. Bournemouth: University of Bournemouth, pp. 224–25.
- Johansson, Martin, and Jörn Messeter. 2005. Present-ing the user: Constructing the persona. *Digital Creativity* 16: 231–43. [CrossRef]
- Kaur, Sukhwinder, and Vikramjit Kaur. 2018. Comparative study on online vs. offline shopping. *International Journal of Creative Research Thoughts* 6: 2320–882.

- Kestenbaum, Richard. 2022. What the Metaverse Means for the Future of Retail. Available online: <https://www.forbes.com/sites/richardkestenbaum/2022/03/16/what-the-metaverse-means-for-the-future-of-retail/> (accessed on 3 March 2024).
- Khan, Mohammed Arshad, Faisal Alhathal, Shahid Alam, and Syed Mohd Minhaj. 2023. Importance of Social Networking Sites and Determining Its Impact on Brand Image and Online Shopping: An Empirical Study. *Sustainability* 15: 5129. [CrossRef]
- Kim, Tae Wan, and Kevin Werbach. 2016. More than just a game: Ethical issues in gamification. *Ethics and Information Technology* 18: 157–73. [CrossRef]
- Kimiagari, Salman, and Neda Sharifi Asadi Malafe. 2021. The role of cognitive and affective responses in the relationship between internal and external stimuli on online impulse buying behavior. *Journal of Retailing and Consumer Services* 61: 102567. [CrossRef]
- Koleva, Zdravka. 2020. Marketing gamification and the need for ethical application. In *FFS Conference. Forum on Studies of Society*. Edited by C. Ilie Goga. Enna: FFS, pp. 1–12.
- Lee, Kai-Fu. 2018. *AI Superpowers: China, Silicon Valley, and the New World*. Boston: Houghton Mifflin Harcourt Publishing Company, ISBN 978-1328546395.
- Lee, Un-Kon, and Hyekyung Kim. 2022. UTAUT in Metaverse: An “Ifland” Case. *Journal of Theoretical and Applied Electronic Commerce Research* 17: 613–35. [CrossRef]
- Levy-Ron, Vered. 2022. The Future of Shopping: Here’s What Retail Will Look Like in 2030. Available online: <https://www.syte.ai/blog/retail-innovation/the-future-of-shopping/> (accessed on 3 March 2024).
- Li, Shugang, Boyi Zhu, Yuqi Zhang, Fang Liu, and Zhaoxu Yu. 2024. A Two-Stage Nonlinear User Satisfaction Decision Model Based on Online Review Mining: Considering Non-Compensatory and Compensatory Stages. *Journal of Theoretical and Applied Electronic Commerce Research* 19: 272–96. [CrossRef]
- Lim, Yi Jin, Abdullah Osman, Shahrul Nizam Salahuddin, Abdul Rahim Romle, and Safizal Abdullah. 2016. Factors Influencing Online Shopping Behavior: The Mediating Role of Purchase Intention. *Procedia Economics and Finance* 35: 401–10. [CrossRef]
- Liu, Chuanlan, and Sandra Forsythe. 2010. Sustaining Online Shopping: Moderating Role of Online Shopping Motives. *Journal of Internet Commerce* 9: 83–103. [CrossRef]
- Liu, Hongfei, Chanaka Jayawardhena, Victoria-Sophie Osburg, and Mujahid Mohiuddin Babu. 2020. Do online reviews still matter post-purchase? *Internet Research* 30: 109–39. [CrossRef]
- Malone, Thomas W. 1980. What makes things fun to learn? Heuristics for designing instructional computer games. In *Proceedings of the 3rd ACM SIGSMALL Symposium and the first SIGPC Symposium on Small Systems*. Edited by Philippe Lehot. New York: Association for Computing Machinery, pp. 162–69.
- Marczewski, Andrzej. n.d. Open Gamification Code of Ethics. Available online: <https://ethics.gamified.uk/> (accessed on 3 March 2024).
- Market Business News. 2024. Online Shopping—Definition and Meaning. Available online: <https://marketbusinessnews.com/financial-glossary/online-shopping-definition-meaning/> (accessed on 3 March 2024).
- Markopoulos, Angelos P., Anastasios Fragkou, Petros D. Kasidiaris, and J. Paulo Davim. 2015. Gamification in engineering education and professional training. *International Journal of Mechanical Engineering Education* 43: 118–31. [CrossRef]
- Mason, Andrew, John Narcum, and Kevin Mason. 2020. Changes in consumer decision-making resulting from the COVID-19 pandemic. *Journal of Customer Behaviour* 19: 299–321. [CrossRef]
- Mastercard. n.d. Masterindex—Plačilne Kartice v času COVID-19 Preveze Prevlado nad Gotovino. Available online: <https://www.mastercard.si/sl-si/vision/news/Masterindex2020-research.html> (accessed on 3 March 2024).
- Meta. 2021. How AI Makes Online Shopping Easier for Everyone. Available online: <https://tech.facebook.com/artificial-intelligence/2021/6/how-ai-makes-online-shopping-easier-for-everyone/> (accessed on 3 March 2024).
- Ministry of Economic Development and Technology of the Republic of Slovenia. 2022. Vlada Republike Slovenije je Sprejela Strategijo Digitalne Transformacije Gospodarstva. Available online: <https://www.gov.si/novice/2022-01-06-vlada-republike-slovenije-je-sprejela-strategijo-digitalne-transformacije-gospodarstva/> (accessed on 3 March 2024).
- Musek, Janek, and Vid Pevcjak. 2001. *Psihologija*. Ljubljana: Educy Pečjak, ISBN 961-6010-50-6/978-961-6010-53-5.
- Nicholson, Scott. 2015. A recipe for meaningful gamification. In *Gamification in Education and Business*. Edited by Lincoln C. Wood and Torsten Reiners. London and Cham: Springer, pp. 1–20. [CrossRef]
- Ntumba, Charles, Samuel Aguayo, and Kamau Maina. 2023. Revolutionizing Retail: A Mini Review of E-commerce Evolution. *Journal of Digital Marketing and Communication* 3: 100–10. [CrossRef]
- Oluwajana, Dokun, Muesser Nat, Adeleye Idowu, Vanye Vanduhe, and Samson Fadiya. 2019. The Adoption of Students’ Hedonic Motivation System Model to Gamified Learning Environment. *Journal of Theoretical and Applied Electronic Commerce Research* 14: 156–67. [CrossRef]
- Pentina, Iryna, Victor R. Prybutok, and Xiaoni Zhang. 2008. The role of virtual communities as shopping reference groups. *Journal of Electronic Commerce Research* 9: 114–18.
- Petcharat, Thanatchaphan, and Adisorn Leelasantitham. 2021. A retentive consumer behavior assessment model of the online purchase decision-making process. *Heliyon* 7: e08169. [CrossRef] [PubMed]
- Pfeiffer, Jella, Thies Pfeiffer, Martin Meißner, and Elisa Weiß. 2020. Eye-Tracking-Based Classification of Information Search Behavior Using Machine Learning: Evidence from Experiments in Physical Shops and Virtual Reality Shopping Environments. *Information Systems Research* 31: 675–91. [CrossRef]
- Počivavšek, Marija. 2012. *En Gros & en Detail: Trgovina v Sloveniji do Druge Svetovne Vojne: Trendi, Strukture, Prakse*. Celje: Zgodovinsko Društvo, ISBN 978-961-6845-03-8.

- Rey, P. J. 2014. Gamification and post-fordist capitalism. In *The Gameful World: Approaches, Issues, Applications*. Edited by Steffen P. Walz and Sebastian Deterding. Cambridge: MIT Press, ISBN 9780262325714.
- Richey, Robert Glenn, Soumyadeb Chowdhury, Beth Davis-Sramek, Mihalís Giannakis, and Yogesh K. Dwivedi. 2023. Artificial intelligence in logistics and supply chain management: A primer and roadmap for research. *Journal of Business Logistics* 44: 532–49. [CrossRef]
- Robson, Karen, Kirk Plangger, Jan H. Kietzmann, Ian McCarthy, and Leyland Pitt. 2015. Is it all a game? Understanding the principles of gamification. *Business Horizons* 58: 411–20. [CrossRef]
- Rose, Susan, and Arun Dhandayudham. 2014. Towards an understanding of Internet-based problem shopping behaviour: The concept of online shopping addiction and its proposed predictors. *Journal of Behavioral Addictions* 3: 83–89. [CrossRef]
- Sailer, Michael, Jan Hense, Heinz Mandl, and Markus Klevers. 2013. Psychological Perspectives on Motivation through Gamification. *Interaction Design and Architecture(s) Journal* 19: 28–37. [CrossRef]
- Schuckert, Markus, Xianwei Liu, and Rob Law. 2015. Hospitality and tourism online reviews: Recent trends and future directions. *Journal of Travel & Tourism Marketing* 32: 608–21. [CrossRef]
- Shang, Shari S. C., and Kuan-Yu Lin. 2013. An understanding of the impact of gamification on purchase intentions. In *Proceedings of the Nineteenth Americas Conference on Information Systems*. Edited by Jeria N. Morgan. Chicago: AMCIS, pp. 439–48.
- Statistical Office of the Republic of Slovenia. 2021. Spletno Nakupovanje, Slovenija. Available online: <https://www.stat.si/StatWeb/news/Index/9841> (accessed on 3 March 2024).
- Stern, Barbara. 1994. Authenticity and the textual persona: Postmodern paradoxes in advertising narrative. *International Journal of Research in Marketing* 11: 387–400. [CrossRef]
- Suh, Ayoung, Christian Wagner, and Lili Liu. 2015. The effects of game dynamics on user engagement in gamified systems. Paper presented at 48th Hawaii International Conference on System Sciences, Kauai, HI, USA, January 5–8; Edited by Tung X. Bui and Ralph H. Sprague, Jr. Honolulu: IEEE, pp. 672–81.
- Sun, Yongqiang, Yang Zhao, Shi-Qi Jia, and Ding-Yi Zheng. 2015. Understanding the antecedents of mobile game addiction: The roles of perceived visibility, perceived enjoyment and flow. In *PACIS 2015 Proceedings*. Edited by Atreyi Kankanhalli. Singapore: PACIS, pp. 141–61.
- The Guardian. 2022. Gen Z for Zero Tolerance: Why British Youth Are Turning Off Booze. Available online: <https://www.theguardian.com/society/2022/jul/24/gen-z-for-zero-tolerance-why-british-youth-are-turning-off-booze> (accessed on 3 March 2024).
- Thorpe, Andrea Stevenson, and Stephen Roper. 2019. The ethics of gamification in a marketing context. *Journal of Business Ethics* 155: 597–609. [CrossRef]
- Valaskova, Katarina, Pavol Durana, and Peter Adamko. 2021. Changes in Consumers' Purchase Patterns as a Consequence of the COVID-19 Pandemic. *Mathematics* 9: 1788. [CrossRef]
- Velox Consultants. 2024. The Gamification Playbook: Transforming Retail & CPG with Fun and Engagement. Available online: <https://www.linkedin.com/pulse/gamification-playbook-transforming-retail-cpg-fun-engagement-pd0pc> (accessed on 20 February 2024).
- Wu, Wann-Yih, and Man-Ling Chang. 2007. The role of risk attitude on online shopping: Experience, customer satisfaction, and repurchase intention. *Social Behavior and Personality: An International Journal* 35: 453–68. [CrossRef]
- Xi, Nannan, and Juho Hamari. 2021. Shopping in virtual reality: A literature review and future agenda. *Journal of Business Research* 134: 37–58. [CrossRef]
- Xu, Xiao-Yu, Syed Muhammad Usman Tayyab, Qing-Dan Jia, and Kuang Wu. 2023. Exploring the Gamification Affordances in Online Shopping with the Heterogeneity Examination through REBUS-PLS. *Journal of Theoretical and Applied Electronic Commerce Research* 18: 289–310. [CrossRef]
- Xu, Yu, and Michael J. Lee. 2020. Identifying personas in online shopping communities. *Multimodal Technologies and Interaction* 4: 19. [CrossRef]
- Yang, Xue. 2019. Consumers' decisions in social commerce: The role of *guanxi* elements. *Asia Pacific Journal of Marketing and Logistics* 31: 759–72. [CrossRef]
- Yazdani, Elham, Shyam Gopinath, and Steve Carson. 2018. Preaching to the Choir: The Chasm Between Top-Ranked Reviewers, Mainstream Customers, and Product Sales. *Marketing Science* 37: 838–51. [CrossRef]
- Yue, Carole L., Elizabeth Ligon Bjork, and Robert A. Bjork. 2013. Reducing verbal redundancy in multimedia learning: An undesired desirable difficulty? *Journal of Educational Psychology* 105: 266–77. [CrossRef]
- Zichermann, Gabe, and Joselin Linder. 2010. *Game-Based Marketing: Inspire Customer Loyalty through Rewards, Challenges, and Contests*. Hoboken: John Wiley & Sons, ISBN 978-0470562239.

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