

Systematic Review

Gamification for Brand Value Co-Creation: A Systematic Literature Review

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Abstract: Gamification, commonly defined as the use of game elements in non-game contexts, is a relatively novel term, yet it has been gaining popularity across a wide range of academic and industrial disciplines. In the marketing field, companies are increasingly gamifying their mobile apps and online platforms to enrich their customers' digital experiences. Whilst there has been a number of systematic studies examining the influence of gamification on user engagement across different fields, none has reviewed its role in brand value co-creation. Following a systematic literature review procedure via the online research platform EBSCOhost, this paper is the first to survey a set of empirical studies examining the role and impact of gamification on brand value co-creation. A final pool of 32 empirical studies implies the existence of four types of activities that are co-created by online users and positively influenced by gamification, namely: customer service, insights sharing, word-of-mouth, and random task. Moreover, this paper highlights the major game dynamics driving these activities, the key findings of each of the covered studies and their main theoretical underpinnings. Lastly, a set of noteworthy research directions for future related studies are suggested, comprising the exploration of novel game elements, and new co-creation activities related to corporate social responsibilities and physical commercial operations.



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Keywords: gamification; marketing; customer value creation; brand value co-creation; online users; consumer motivation; consumer behaviour; customer engagement; crowdsourcing; sharing economy

1. Introduction

Although relatively novel, the term of gamification, which first emerged around 2010, has since gained fast recognition across both the scholarly and practical domains [1]. Principally targeting users' engagement in order to promote behavioural changes [2,3], gamification is majorly defined as the use of game elements in non-game contexts [4]. It is comprised of game mechanics—also known as game functional components—such as points and leader boards, which in turn spark compatible game dynamics that trigger players' desires, like rewards and competition [5]. Although gamification can take the form of card decks and board games, modern gamified systems are mostly employed via digital means, such as web-based and mobile-based applications [6].

Nowadays, gamification has been widely applied in the educational and business sectors to promote engagement [7,8] and game elements are becoming increasingly embedded in students' learning processes [9] and employees' daily tasks [10]. Recently, an emerging base of evidence presented gamification as a promising strategy for improving students' learning [11,12] and employees' productivity [13,14].

Aside from its internal use in workplaces, business companies are also gamifying their external marketing activities, aiming to improve the digital experience of both current and potential customers [15]. While the broad concept of gamification “in” the marketing context embraces three types of gamified advertisements known as “Advergaming”, “In game advertisement” and “social network games” [16], these three do not meet the academic criteria of this term [17]. In contrast with the basic definition of gamification, known

as the use of game elements in non-game contexts, they actually adopt a distinct model, promoting advertisements throughout entertainment games. In the marketing literature, gamification has been primarily presented as the practice of adding a sense of value to mundane activities [18] or, as elaborated by Huotari and Hamari [1] (p. 25), “the process of enhancing a service with affordances for gameful experiences in order to support users’ overall value creation”.

As emphasised by Brodie et al. [19], customers’ engagement is often driven by their psychological perceptions towards the brand. This has been supported by a systematic review conducted by Tobon et al. [3], which highlighted five main psychological theories often referred to in assessing the marketing implications of gamification. The five theories are: self-determination theory, technology acceptance model, theory of planned behaviour, flow theory, and social-influence theory. Although the influence of gamification on customer engagement has been reviewed in the literature from further theoretical perspectives, most of these were of a psychological nature, which reflects the fundamental role of users’ psychology in mediating the effect of gamification on their behavioural outcomes and value creation experiences [1].

The concept of value creation, traditionally shaped from the research streams of the service dominant logic, service logic and customer-dominant logic, has been originally regarded as the independent perception that consumers tend to conceive towards a service quality, either during or after the consumption process [20]. As per the service-dominant logic, this could be viewed as a joint, but indirect, creation between the firms and their consumers who use their knowledge and skills to continue the marketing, consumption, and value creation process [21]. With customers tending to demand more active roles in production and decision making [22], firms no longer perceive them as passive targets [23]. Instead, they are opening their processes and systems for consumers to craft customised consumption experiences [24] and get involved in new product/service development [25]. This conceptual shift from customer value creation to value co-creation has been significantly boosted by the rise of the internet [25] and the emergence of social media networks [26]. According to Nambisan and Nambisan [27], customer co-creation in virtual communities has been associated with five key roles, namely: product conceptualiser, product designer, product tester, product support specialist and product marketer. All through the rapid expansion of this phenomenon, a more advanced version known as “crowdsourcing” has surfaced, where firms structurally use their customers’ collective intelligence to deliver specific and well-constructed tasks [28].

As firms are increasingly launching online forums to incite their communities’ engagement [29] and open their innovation processes up for customers’ contribution [30,31], studies are increasingly exploring the role of intrinsic and extrinsic factors in motivating customers to participate in virtual co-creation communities. Accordingly, Lakhani et al. [32] highlighted the salient role of monetary rewards and task enjoyment, whereas Brabham [33] pointed to people’s desire to develop self-creative skills, build networks and support the community. Furthermore, Füller [34] summarised the most prevalent factors in the literature in ten main aspects, namely: playfulness, curiosity, self-efficacy, skill development, information seeking, recognition, community support, making friends, personal need, and monetary compensation.

Since consumers are generally fun seekers in nature [35], companies are progressively gamifying their virtual co-creative platforms to trigger users’ intrinsic and extrinsic motivations [36]. As per Füller [34], these motivations are the key drivers of customers’ engagement in online co-creation activities, as it immerses them in flowing experiences through which they impulsively stretch their skills to optimally achieve clearly defined goals and tasks [37]. All across the gamification literature, the concept of customers’ value co-creation has been interpreted in two different contexts. One is regarded as “experience value co-creation” [38,39], where customers’ contribution is merely limited to their participation in a gamified experience that ultimately seeks to increase their brand loyalty. The second, known as “brand value co-creation” [40] refers to their involvement in business-

related activities, such as promoting, advocating, collaborating, and sharing knowledge with their companies [41], leading in turn to brand innovation and growth [42]. In brand value co-creation, “there is still lack of clarity in identifying different dimensions that constitute value for company” [43] (p. 452), which highlights the need for “more thorough exploration of the goals the companies seek and techniques of consumer engagement the companies use for it” [43] (p. 452).

Recently, numerous studies have systematically surveyed the use of gamification in different contexts, yet none have explored the influence of gamification on brand value co-creation. Through a systematic literature review, this paper addresses this gap and seeks to gauge the impact of gamified experiences on consumers’ willingness to co-create, and the key factors promoting it. Hence, this paper aims to identify the different types of co-creation activities that are positively affected by gamification, along with the key game dynamics driving them.

2. Materials and Methods

All the way through attaining and managing an evidence-informed knowledge in the designated research context, a systematic review model is processed. This methodology has been chosen because of its transparent, effective, and comprehensible approach in gathering and analysing information [44]. Subsequently, a structured review protocol comprising of the key stages in management studies [45] has been developed as follows:

- First, in an attempt to scan the widest number of relevant papers in the context of gamified co-creative environments, EBSCOhost online research platform was selected. The covered databases were EBSCO’s private library, Gale Academic OneFile, The Directory of Open Access Journals, in addition to the four major databases embracing the largest number of papers in the subject area: ScienceDirect, Springer, Emerald and IEEE Xplore [46].
- As gamification is only beginning to get substantial academic recognition since around 2010, the search query was set to cover the period between 2010 and 2020. Using the Boolean research technique for results’ filtration and irrelevancy minimisation [47], the first search covered all papers that comprised a conjunction of the term “gamification” with each of the following terms in their abstract section: “GAMIFICATION and CO-CREATION” or “GAMIFICATION and CROWDSOURCING” or “GAMIFICATION and SHARING ECONOMY” or “GAMIFICATION and CUSTOMER(S)” or “GAMIFICATION and CONSUMER(S)” or “GAMIFICATION and ONLINE and USER(S)”. These terms were prudently selected, given their remarkable predominance across dozens of randomly selected papers in relation to the context of study, just prior to pursuing the searching process. The first stage of the search, which only covered papers written in English, resulted in a sample of 1073 papers, which were then automatically reduced to 783 following an exact-duplications removal.
- Next, search inclusion criteria were set to solely hedge quality academic papers. Thus, only peer-reviewed academic articles and conference papers were filtered, leading to a result of 571 papers.
- Subsequently, a manual check for each of the collected papers was processed to ensure that only empirical studies that examine the use of gamification for brand value co-creation in the B2C sector are kept. Consequently, 33 relevant papers were retained.
- Finally, to ensure that no relevant articles were missed, a further manual check of the 571 papers was conducted. The revision has conversely resulted in withdrawing one paper out of the adopted pool, as it merely examines the impact of gamification on gig workers rather than end users, which does not match with the “B2C” inclusion criterion in the review protocol. The final number of adopted papers thus dropped to 32.

3. Results

This section features the key outcomes of the systematic literature review. In Table 1, a summary of the main empirical findings and their underpinning theories across the 32 studies is presented.

Table 1. Key findings of the surveyed case studies.

Source	Context	Platform	Users' Main Co-Creation Activity	Gamification Key Dynamics	Methodology	Theoretical Underpinning	Main Findings
Hsu and Chen [17]	Online bookstore	Interactive website	Customer service—WOM	Competition—Intangible rewards—Social interaction—Tangible rewards	Laboratory experiment	N/A	Hedonic and utilitarian values associated with gamified engagement activities positively influence customers' attitude, behavior and loyalty towards the brand.
Hamari [36]	"Sharetribe" online peer-to-peer marketplace	Online community	Customer service—Random task	Intangible rewards—Social interaction	Longitudinal field experiment	Theory of planned behaviour—Social proof theory—Social influence theory—Social comparison theory—Flow theory	Badges have positive effect on the number of transactions, comments, and page views of users.
Nobre and Ferreira [40]	Gamification as a platform for brand co-creation experiences	N/A	N/A	Competition—Customization—Intangible rewards—Social Interactions—Tangible rewards	Qualitative semi-structured Interviews & Focus group discussion	N/A	Consumers seek gamified co-creative environments that provide them with fun, rewards, competition, social interactions, social recognition, customization, and sense of community. Gamified co-creative platforms allow firms to collect spontaneous and valuable data on consumers' opinions, interactions, and profiles.
Leclercq et al. [41]	Online products/services crowdsourcing platform	Online community	Insights sharing	Competition—Cooperation—Social interaction—Tangible rewards	Longitudinal in-depth case study	Agency and communication theory—MDE framework	Four profiles of participants were identified according to their level of engagement and participation in the co-creation activities: competitors, cooperators, coopetitors, and invisible users. The four profiles are respectively driven by the following motives: extrinsic rewards, social relatedness, collaboration on own projects, curiosity, and fun. In addition to the emphasized emotional and behavioural outcome of engaging in a gamified co-creation experience, cognitive outcome has additionally been revealed.
Piligrimiene et al. [43]	Lithuanian companies	N/A	Customer service—Insights sharing—WOM	Intangible rewards—Tangible rewards	Focus group discussion	N/A	Customers' comments help attract other customers as it inspires trust. The interactive community leads to significant brand awareness in similar small markets through word-of-mouth communications.

Table 1. Cont.

Source	Context	Platform	Users' Main Co-Creation Activity	Gamification Key Dynamics	Methodology	Theoretical Underpinning	Main Findings
Wang et al. [48]	"KpopRally" music video tagging crowdsourcing App	Interactive mobile App	Insights sharing	Challenge— Competition— Intangible rewards— Motivational stimulus	Longitudinal laboratory experiment	Unified theory of acceptance and use of technology (UTAUT2)	During early stages, users are influenced by hedonic and social factors. On later stages, they are influenced by hedonic, social, and usability-related factors.
Prott and Ebner [49]	Online survey with a restaurant's customers	Mobile App	Insights sharing	Aestheticism— Customization— Intangible rewards— Motivational stimulus	Field experiment	N/A	Although the use of game elements in a survey has no influence on participants' involvement and satisfaction, it seems significantly triggering them to give more precise and longer answers.
Zhang et al. [50]	"Taobao" and "Tmall" online shopping sites	Interactive website	WOM	Intangible rewards—Social interaction— Tangible rewards	Cross-sectional survey	Unified theory of acceptance and use of technology—Social role theory	Rewards giving and badges upgrading are positively related to perceived enjoyment and social interaction. In turn, perceived enjoyment and social interactions are positively related to impulse buying. Demographically, the effect of rewards giving and badges upgrading on perceived enjoyment and social interaction is stronger for males and younger digital natives than on females and older digital natives.
Hajarian and Hemmati [51]	Cosmetics e-commerce website	Interactive website	Customer service	Competition— Intangible rewards—Tangible rewards	Field experiment	N/A	Gamified recommendation system positively affects customers' visits and purchase behavior.
Xi and Hamari [52]	"Huawei" and "Xiaomi" electronics and telecommunication brands	Online community	Customer service—Insights sharing—WOM	Aestheticism— Competition— Customization— Intangible rewards— Motivational stimulus—Social interaction	Cross-sectional survey	Self-determination theory	While achievement and social interaction are found positively associated with all three forms of brand engagement; namely, emotional, cognitive, and social engagement, Immersion is only positively associated with social brand engagement. Furthermore, brand engagement is positively associated with brand equity.
Kim et al. [53]	Virtual shop	Interactive website	Customer service	Intangible rewards—Social interaction	Laboratory experiment	Means-end-chain theory—Social comparison theory—Goal-setting theory—Prospect theory	Hedonic value and novelty-seeking positively influence customers' repurchase intention in the context of gamified omnichannel environment, yet, gamification should be optional, as customers with no novelty-seeking traits could show negative behaviour if compelled to take part in it.

Table 1. Cont.

Source	Context	Platform	Users' Main Co-Creation Activity	Gamification Key Dynamics	Methodology	Theoretical Underpinning	Main Findings
Jun et al. [54]	Virtual online shopping experience	Website	Virtual CSR activities	Intangible rewards	Scenario simulation experiment	Theory of behavioural reinforcement—Theory of planned behaviour—Social cognitive theory—Psychological benefit theory	Customers' continuance intention to participate in social value co-creation of behavior-based reward is significantly higher than that of result-based reward. The psychological benefit mediates the relationship between the game reward mechanism and customers' continuance intention to participate in social value co-creation.
Kose et al. [55]	"My Drive Assist" live road data crowdsourcing App	Interactive App	Insights sharing	Intangible rewards	cross-sectional survey	Technology acceptance model	Perceived ease of use positively affects users' perceived enjoyment, perceived usefulness, continued use intention and contribution intention. Perceived enjoyment and perceived usefulness positively affect continued use intention and contribution intention.
Moro et al. [56]	"Tripadvisor" travel review crowdsourcing platform	Interactive website	Customer service	Intangible rewards—Social interaction	Qualitative data-driven case study	N/A	Gamification features influence travellers at the time they write their reviews. Badges affect travellers' quantitative performance (more review length) but has no significant effect on the quality of sentiment expression.
Xi and Hamari [57]	"Huawei and Xiaomi" electronics and telecommunication companies	Online Community	Customer service—Insights sharing—WOM	Aestheticism—Competition—Customization—Intangible rewards—Motivational stimulus—Social interaction	Cross-sectional survey	Self-determination theory	While achievement and social related features meet competence, relatedness and autonomy needs satisfaction, immersion related features only meet autonomy need satisfaction. Furthermore, achievement related features are the strongest predictor of both autonomy and competence need satisfaction.
Morschheuser et al. [58]	"ParKing" parking data crowdsourcing App	Online community	Insights sharing	Competition—Cooperation—Intangible rewards—Motivational stimulus	Field experiment	Social interdependence theory—Self-determination theory—Goal-setting theory	Among cooperative, competitive, and inter-team competitive gamified systems, the latter is most likely to lead to higher enjoyment, crowdsourcing participation, and willingness to recommend the system.
Ruiz-Alba et al. [59]	"Agorize" innovation-seeking crowdsourcing platform	Interactive website	Insights sharing	Challenge—Competition—Intangible rewards—Social interaction—Tangible rewards	Mixed experimental design	Theory of planned behaviour—Self-determination theory	Attitudes towards behaviour and perceived behavioural control affect users' entrepreneurial intentions. These effects are enhanced through gamification by matching the self-determination theory principles.

Table 1. Cont.

Source	Context	Platform	Users' Main Co-Creation Activity	Gamification Key Dynamics	Methodology	Theoretical Underpinning	Main Findings
Adornes and Muniz [60]	"Waze" GPS navigation crowdsourcing app	Mobile App	Insights sharing	Intangible rewards	Qualitative focus groups interviews	N/A	Surprisingly, both regular and advanced users do not recognize significant gameful experience in the platform. Beside the trust in the App's benefits that both user types have shown, regular users are mainly driven by reciprocity, whereas advanced users are mainly driven by personal values such as empathy and altruism.
Leszczyński and Zakrzewicz [61]	Mobile apps and restaurants' review crowdsourcing platform	Interactive website	Customer service	Intangible rewards	Laboratory experiment	N/A	Involving intangible rewards that reflect users' reputation show promising results on both the quantity and the quality of users' reviews.
Feng et al. [62]	"zbj.com" crowdsourcing website	Interactive website	Insights sharing—Random task—WOM	Competition—Intangible rewards—Motivational stimulus—Social interaction	Cross-sectional survey	Classic motivation theory—Social cognitive theory—Social exchange theory—Self-determination theory	Self-presentation, self-efficacy and playfulness mediate the influence of points rewarding and feedback giving on participants' engagement.
Leclercq et al. [63]	"Ibrain" + virtual crowdsourcing communities	Online community	Insights sharing	Competition—Cooperation—Tangible rewards	3 laboratory and 1 field experiments	Equity theory	Competition and cooperation positively affect customers' engagement through enhancing their experience characterized by uncertainty. In contrast, the concept of certainty of receiving a win/lose decision weakens the experiential benefits of those two gamification elements. Losing a contest of competitive nature has a stronger negative impact on customers' experience than losing a contest of cooperative nature, whereas in both cases, prior level of engagement moderates the negative impact of losing a contest on their experience.
Pacheco et al. [64]	"Stepbox" logistics App	Online community	Customer service	Intangible rewards—Tangible rewards	Qualitative interviews	N/A	Such a proposed application can lead to increasing the efficiency of haulers' logistic operation via shared economy. In addition to the credits that clients can redeem for discounts in case of delivery delay or cancellation, the scores and comments received by both the clients and the haulers increase the level of trust and insights for the service users.
Penoyer et al. [65]	"StackOverflow" IT question/answer crowdsourcing platform	Online community	Customer service	Intangible rewards	Online cross-sectional survey	N/A	Highest ranked users find Intrinsic factors such as altruism, reciprocity and making an impact much more motivating than extrinsic rewards.

Table 1. Cont.

Source	Context	Platform	Users' Main Co-Creation Activity	Gamification Key Dynamics	Methodology	Theoretical Underpinning	Main Findings
Yoo et al. [66]	Mobile travel crowdsourcing App	Online community	Customer service	Intangible rewards—Social interaction	Cross-sectional survey	Gratification theory—Theory of consumption value—Flow theory—Technology acceptance model—Social exchange theory	Whilst privacy concerns about information collection negatively affect the intention to use the gamified app; perceived usefulness, perceived enjoyment, and hedonic motivation are found positively affecting it. Surprisingly, perceived ease of use had no influence on participants' intention to use, probably because of their high technology literacy level. Unlike information motivation, interaction motivation has significant relationship with intention to use. Networking positively affects perceived enjoyment and perceived usefulness. Information quality positively affect perceived ease of use.
Liang et al. [67]	"Airbnb" online accommodation rental marketplace	Online community	Customer service	Intangible rewards	Multivariate econometrics model	Rational action theory	Badges granted to accommodation hosts positively influence the number of reviews, the rating level, and the spending behavior of the website guests.
Poncin et al. [68]	Laptop bags producer	Interactive website and Smartstore	Insights sharing	Challenge—Fantasy—Tangible rewards	Mixed experiments (online scenario based and smartstore)	N/A	Fantasy and challenge in an online co-productive environment enhance customers' experience by generating feeling of arousal, compelling experience, and patronage intentions. In the case of in-store technology interface, fantasy also generates feelings of control, yet technology's ease of use is fundamental to enhance the quality of the perceived experience.
Kavaliova et al. [69]	"Threadless" online crowdsourcing apparel store	Online community	Insights sharing	Challenge—Competition—Intangible rewards—Motivational stimulus—Social interaction—Tangible rewards	Netnographic case study	N/A	Consumers are fun seekers. If they perceive a task is fun, they may carry out without expecting anything in return. Beside extrinsic rewards, intrinsic factors are found fundamental for maintaining consumers' continued engagement, mainly: flow, addiction, achievements, recognition, relationship building and escapism.
Goes et al. [70]	Online knowledge exchange crowdsourcing platform	Online community	Customer service—Random task	Competition—Intangible rewards	Quantitative panel data methods	Goal setting theory	Incentive hierarchies motivate users to put higher effort before reaching goals, but lower effort afterwards. The impact seems to be temporary and counterproductive.

Table 1. Cont.

Source	Context	Platform	Users' Main Co-Creation Activity	Gamification Key Dynamics	Methodology	Theoretical Underpinning	Main Findings
Sigala [71]	"Tripadvisor" travel review crowdsourcing platform	Interactive website and Facebook App	Customer service	Competition—Intangible rewards—Motivational stimulus—Social interaction	Cross-sectional survey	Self-determination theory—Flow theory	Intangible game mechanics such as points, badges and leaderboards positively influence users' interaction and engagement with the website, decision making process, and overall trip experience. Facebook users are more motivated and engaged than guest users due to higher social interaction.
Harwood and Garry [72]	"Samsung" electronics and telecommunication company	Online community	Customer service—Insights sharing—WOM	Challenge—Competition—Intangible rewards—Social interaction—Tangible rewards	Netnography & Participant observation	Social cognitive theory—Flow theory	Setting a clear goal for customers' continued interaction positively influence their interest and engagement behavior. Tangible and intangible rewards positively affect customers' engagements. Positive emotional engagement (fun, enjoyment, satisfaction, low-level dissatisfaction) positively influence continuous engagement.
Conaway and Garay [73]	"Amazon Mechanical Turk" online crowdsourcing marketplace	Interactive website	Insights sharing—Random task	Challenge—Competition—Intangible rewards—Social interaction—Tangible rewards	2 cross-sectional surveys	Visual design model of gamification elements (Conway and Garay 2020; Palmer et al., 2012)	Business relationship, rewards, competition, and fun are fundamental driving dimensions in the gamified experience. Users engage with gamified websites that begin with an easy task and then progress to more complex challenges. Users want rapid indications of success through virtual and monetary rewards. Websites must be attractive to users in terms of video game graphics and web page design.
Hamari [74]	"Sharetribe" online peer-to-peer marketplace	Online community	Customer service—Random task	Intangible rewards—Social interaction	Longitudinal field experiment	Theory of planned behaviour—Social proof theory—Social influence theory—Social comparison theory—Flow theory	The use of badges shows no significant effect on users' activity, yet users who actively monitor their own badges and those of others show increased activity on the website

All the papers consisted of empirical studies that assess the role of gamification in online co-creation platforms—mainly websites and mobile apps—with only one study incorporating a further augmented-reality experience in a virtual smart store context [68]. Among the thirty-two studies, twenty-three are involved in real-life business cases, sixteen are associated with businesses of crowdsourcing nature, and four are related to the sharing economy industry which has been significantly thriving in recent years [36].

3.1. Co-Creation Activities

The examined gamified platforms promoted different sorts of co-creation activities across various industries, yet these diverse activities clearly manifested clusters of mutual characteristics. In order to identify each of these clusters, every single activity was scrutinised and associated with the ultimate objective it has been created for. Subsequently, four generic categories emerged, as follows:

- **Word-of-mouth (WOM):** Referring to all kinds of online endorsements that users perform in promoting a brand or any of its products or services, either by sharing and forwarding brand related contents or inviting friends to join the community, e.g., recommending people to join “Samsung Nation” [72].
- **Insights sharing:** Implying all sorts of insightful information users provide to a company. This can take the form of systemised tasks, such as undertaking surveys, voting on suggestions, and sharing live data, e.g., participating in paid surveys at “Amazon Mechanical Turk” [73], voting on proposals at “Threadless” [69] or sharing live road data to “My Drive Assist” app [55].

On the other hand, the collection of insights can be formless, whereby users impulsively share their ideas, feedback, and recommendations with their companies, e.g., expressing ideas and opinions at “Huawei” and “Xiaomi” online platforms [57].

- **Customer service:** Comprising all types of online assistance users provide to each other, such as answering questions, solving technical issues, or submitting helpful ratings and informative reviews about products or services, e.g., resolving users’ IT enquiries on “StackOverflow” [65] or providing hotel/restaurants ratings and reviews on “TripAdvisor” [56,71].
- **Random task:** Involving all other activities besides “WOM”, “Insights sharing” and “Customer service”. This typically refers to on-demand tasks in crowdsourcing platforms or trading tasks in sharing economy websites, e.g., delivering projects on “ZBJ” [62] or posting trade proposals on “Sharetribe” [36].

Following a thorough data analysis of the findings presented in Table 1, the statistics displayed in Figure 1 show that “customer service” and “insights sharing” are the most prevalent types of co-creation activities, appearing in 17 and 16 studies, respectively, followed by a seven-time appearance of “WOM” and five-time appearance of “random task”.

3.2. Game Dynamics

Just like the discrepancy in defining the game dynamics’ elements throughout the literature [8], the reported papers similarly used inconsistent terms and notions. Hence, one consistent terminology has been developed in this study, adopting the terms and notions that were mostly referred to all across the papers.

The statistics in Figure 2 show that “intangible rewards”, mainly carried through points and badges [75,76], is the most dominant game dynamic across all the case studies, appearing in 29 cases. The second most prevalent game dynamic is “social interaction”, typically triggered by social drivers such as altruism and reciprocity [60,65], sense of belonging [57,71] and social network building [66,69]. Very close to “social interaction” falls “competition”, commonly manifested through ranking tables and leader boards [58], then “tangible rewards” implying monetary prizes and gifts [75,76] with a respective appearance in 17, 16 and 13 case studies.

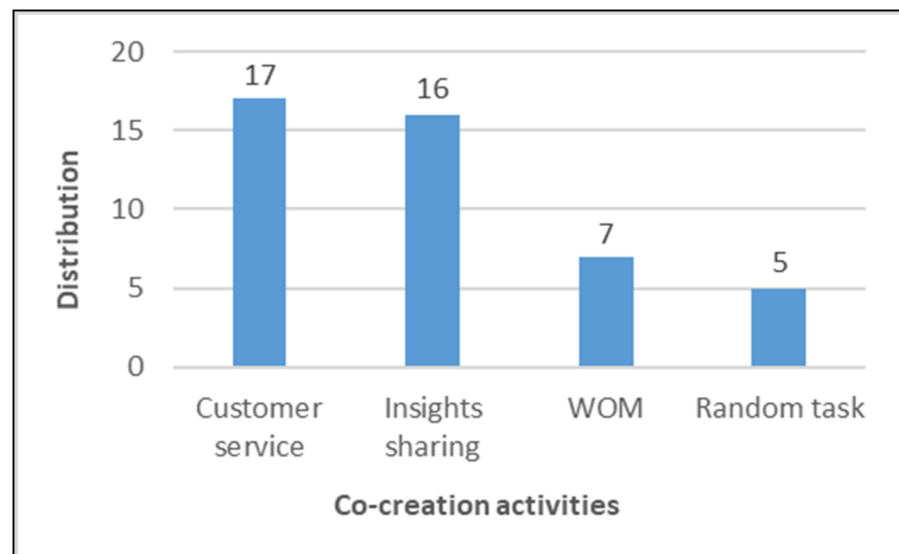


Figure 1. Distribution of co-creation activities across the surveyed case studies.

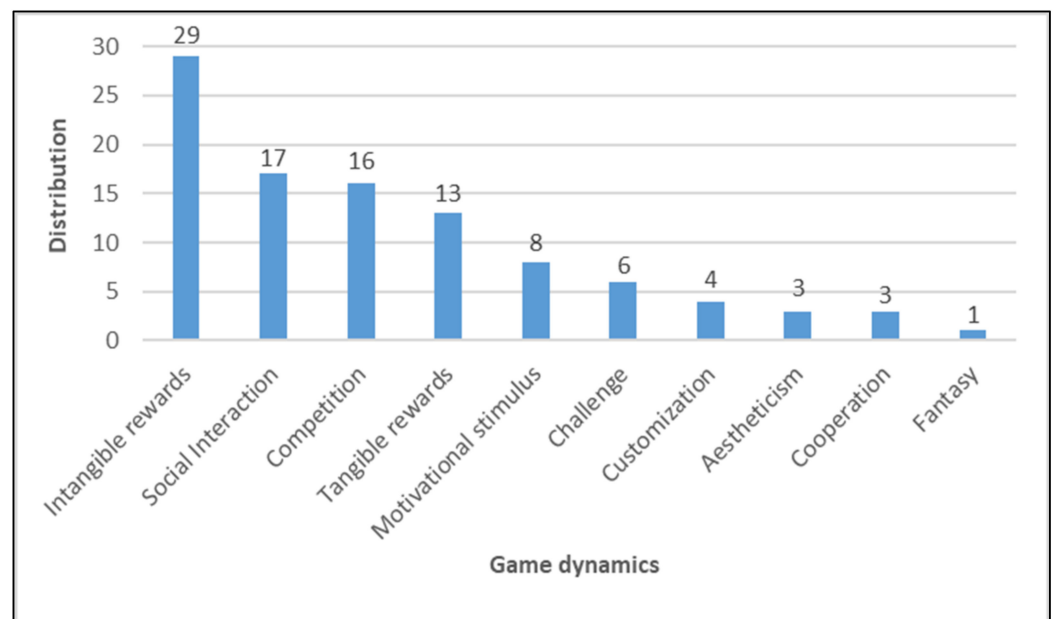


Figure 2. Distribution of game dynamics across the surveyed case studies.

It is also worth mentioning that the remaining game dynamics which were less prevalent in the surveyed case studies have no cohesive conception in the gamification academic repertoire; however, they are generally recognised in the literature for embracing the following mechanics:

- **Motivational stimulus:** Progress bar; scoring system; instant messages [48,62,69]
- **Challenge:** Missions with success/failure outcomes; challenging rules; time pressure [59,68,77]
- **Customisation:** Avatars; personalised features [40,49,52]
- **Aestheticism:** Attractive visual design; narrative stories [49,52,57]
- **Cooperation:** Collaborative tasks and missions [41,58,63]
- **Fantasy:** Exciting experiences carried through fascinating features and/or advanced technologies [68,78,79].

3.3. The Crowdsourcing Industry

The statistics in Figure 3, which solely feature data from the crowdsourcing platforms, show that insights sharing is by far the most frequently employed type of co-creation activity, followed by “customer service”, “random task” and “WOM”.

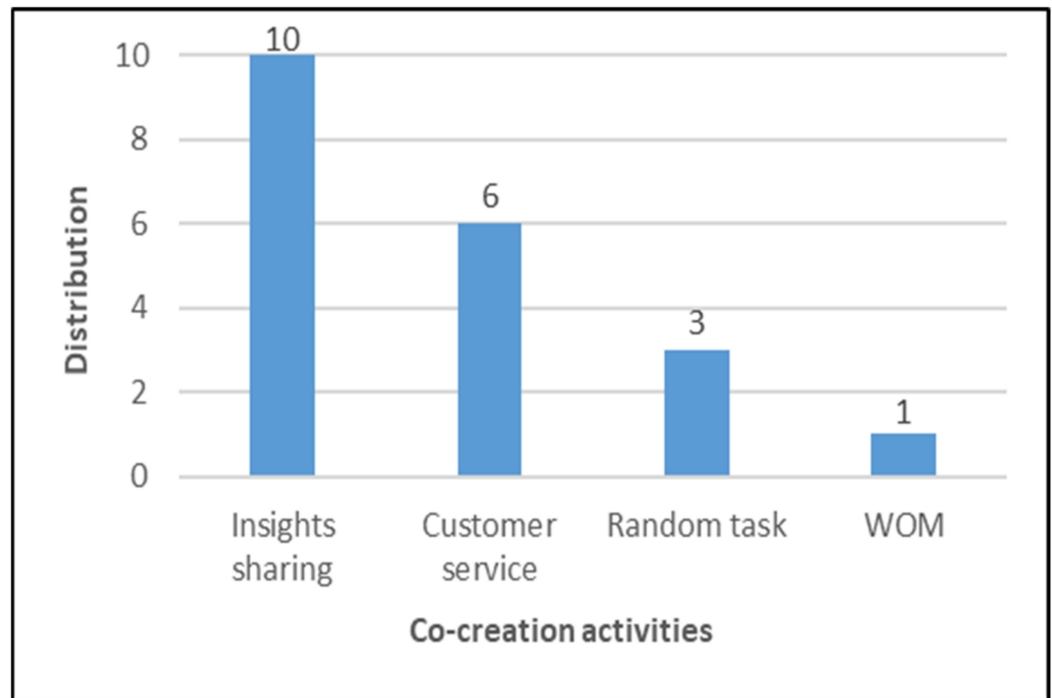


Figure 3. Distribution of co-creation activities across “crowdsourcing” case studies.

Furthermore, a significant ranking swap between “competition” and “social interaction” across crowdsourcing platforms was spotted, as shown in Figure 4.

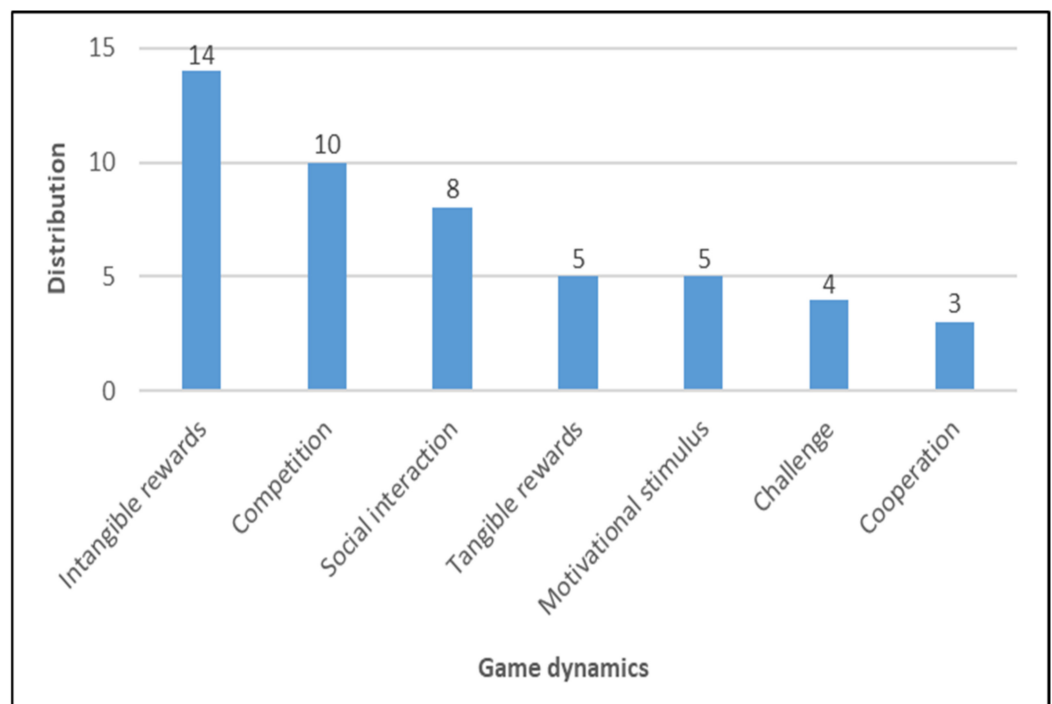


Figure 4. Distribution of game dynamics across “crowdsourcing” case studies.

3.4. Underpinning Theories

Although the surveyed studies were conducted in various fields and throughout different methodologies, Table 2 highlights the prominent theories underpinning most of these studies, along with the key findings associated with each theory.

Table 2. Major underpinning theories and their related findings across the surveyed case studies.

Theory	Related Findings
Self-determination theory —Xi and Hamari [52]; Xi and Hamari [57]; Morschheuser et al. [58]; Ruiz-Alba et al. [59]; Feng et al. [62]; Sigala [71]	Achievement and social interactions positively influence users' feeling of competence, social relatedness, and autonomy, leading to positive behaviour towards value co-creation intentions in the gamified system.
Flow theory —Hamari [36]; Yoo et al. [66]; Sigala [71]; Harwood and Garry [72]; Hamari [74]	Tangible rewards and mostly intangible ones leading to users' enjoyment and satisfaction positively influence their immersion in the gamified system and consequently, their co-creation activities with the brand.
Theory of planned behaviour —Hamari [36]; Jun et al. [54]; Ruiz-Alba et al. [59]; Hamari [74]	Users are more determined by their psychological perception towards the game experience than by its expected rewards. Positive perception towards the expected behaviour and behavioural control positively influences their intentions to contribute to brand value creation.
Technology acceptance model —Wang et al. [48]; Zhang et al. [50]; Köse et al. [55]; Yoo et al. [66]	Perceived ease of use of the gamified system which is found relatively high among online users who are mostly young has positive influence on their perceived enjoyment and perceived usefulness, which in turn leverage their intentions towards contributing to brand value creation.
Goal setting theory —Kim et al. [53]; Morschheuser et al. [58]; Goes et al. [70]	Gamified systems with clear goals have better influence on users' intention to engage and recommend it, yet games should be optional, and rules should be carefully set to avoid counterproductivity.
Social related theories: cognitive, comparison, influence, exchange, proof theories —Hamari [36]; Kim et al. [53]; Jun et al. [54]; Feng et al. [62]; Yoo et al. [66]; Harwood and Garry [72]; Hamari [74]	Perceived social value influenced by social interactions and social norms associated with the gamified system highly affect users' behavioural intention towards brand value co-creation.

4. Discussion

4.1. Results Interpretation

Besides interpreting the key findings of this study, this section points out a set of limitations and innovative research directions to be addressed in the future.

Despite the wide adoption in the literature of Huotari and Hamari's [1] proposed definition of gamification as a process for supporting users' overall value creation, there is still no unified understanding of such a value [20] and no way to clearly observe it empirically [63]. Upon identifying two types of users' value co-creation that are endorsed by gamification, labelled "experience value co-creation" and "brand value co-creation", the systematic survey conducted in this paper regarding the latter has revealed major findings to build on in future research.

Applying gamification in online platforms is found to positively influence four major types of activities that are co-created by users. In the conventional form of the business-to-consumer sector, firms are primarily using their gamified systems to encourage their users to undertake "customer service" and "insights sharing" activities, obviously given their impact on leveraging brands' familiarity and innovation. Crowdsourcing companies, in turn, are primarily using gamification to promote "insights sharing", followed by "customer service" and "random task". Surprisingly, word-of-mouth, which has been traditionally recognised as a key aspect in brand value co-creation [80], appeared in less than quarter of the thirty-two reported studies. In a primitive interpretation of this paradox, this could be linked to the findings of Nobre and Ferreira [40], who revealed consumers' impulsive tendency to spread positive word-of-mouth when enjoying the gamified experience, thus limiting firms' need to promote such a "spontaneous" activity through hedonic or utilitarian incentives. Moreover, all of the identified "random task" activities in the surveyed

papers were remarkably executed within the sharing economy and crowdsourcing industries, where a large segment of firms promote trading activities and on-demand business projects respectively.

On the other hand, the data analysis of the employed game dynamics highlights a predicted predominance of “intangible rewards” across all the studied cases, given its pivotal role in promoting all other dynamics. Surprisingly, the prominent role given to “tangible rewards” in the literature was slightly surpassed by “social interaction” and “competition”. This matches with the findings of Kavaliova et al. [69], who claimed users’ inclination for fun and enjoyment over tangible returns when engaged in gamified experiences. In the crowdsourcing industry, “competition” is ranked second just after “intangible rewards”, apparently reflecting the fierce environment companies tend to promote in this sector in order to get the most out of their employed contestants [81].

From a theoretical perspective, most of the prevalent marketing theories that were referred to across the surveyed studies match with those previously reported by Tobon et al. [3]. Additionally, the goal-setting theory, largely related to the flow theory, was found to be used in three studies. Furthermore, other social-related theories beyond “social influence” were reported, specifically: social-cognitive, social-comparison, social-exchange and social-proof theories. The findings of the studies involving these social-related theories showcase that, when it comes to brand value co-creation, users’ psychology is fundamentally correlated with the perceived social value generating from their gamified experiences.

Overall, the findings of this study underline a positive correlation between users’ enjoyment of the gamified experience and their intention to contribute to brand value creation. This relationship is found to be typically mediated by the hedonic value of various types of game dynamics that range from “intangible rewards”, “social interactions”, and “competition”, to some less prominent ones, such as “motivational stimulus”, “challenge” “customisation”, “aestheticism, and “cooperation”. It has been also realised that, unlike other game dynamics, “social interactions” plays a unique dual role that involves both hedonic and utilitarian values, whereby users concurrently enjoy the social interface and harness it to gain knowledge, promote their ideas, and build their private social networks. Tangible rewards on the other hand, merely providing utilitarian values [82], are found effective, yet less essential in shaping users’ value co-creation experiences.

4.2. Limitations

Despite its insightful and promising outcomes, this paper has some limitations that could be further elaborated in future related research. First, the papers’ scanning stage in the employed methodology was limited to one bibliographic search provider. Although major academic databases were selected, employing further search engines could have been of benefit. On the other hand, the paper only involves empirical studies in an attempt to understand the impact of gamification on brand value co-creation; however, plenty of real-life examples in various industries were omitted because no concrete findings are available to examine. Such missed opportunities should be addressed in future empirical studies, especially with respect to emerging industries such as the sharing economy which was only covered in this paper through four examples, two out of which related to the same brand named “Sharetribe”. Another limitation embedded in this study lies in grouping together a wide range of co-creation activities under one proposed class, labelled as “random task”. As random tasks could vary from very simple activities to highly professional projects, future studies can refine this further and split it into more visible sections. Such a segregation could be based on different criteria, such as the level of skills required from users, tasks’ delivery time, or even the types of business industries these tasks belong to.

Furthermore, this study reviews the influence of gamification on users at a general scale, with no adequate information on their demographic attributes which could definitely help in better understanding the attitudes and behaviour of users towards gamified systems. The studied cases also lacked an examination of the actual and prospective implications of negative experiences on users’ satisfaction and brand loyalty. Finally, although gamification

was proven to be significantly effective in encouraging users to engage in co-creation activities, this has been majorly associated with their short-term monitored behaviour. As implied by Tobon et al. [3], there are still many doubts regarding the effectiveness of gamification on users' momentum on the long run.

4.3. Future Research Directions

In accordance with to the above-mentioned tips, future research should primarily consider gathering users' demographic attributes, as highlighted by Köse et al. [55], Nobre and Ferreira [40] and Ruiz-Alba et al. [59]. This can also include other aspects, such as their previous experiences and familiarity with game-based systems, as suggested by Xi and Hamari [57]. Indeed, this could serve to not only increase understanding of the behaviour of active users, but also passive and reluctant ones. Accordingly, further theories not previously approached in the literature could potentially be considered, such as the expectancy-value theory and the expectation-confirmation theory, in order to evaluate the impact of users' presumptions on their actual behaviour. On the other hand, the implications of negative gamified experiences and the misuse of game mechanics should also be explored, whereby many signs of users' dissatisfaction have been noticed and need further investigations [41,69,72].

Above all, this literature review opens the floor for further studies to explore novel ideas around the use of gamification for brand value co-creation. The intriguing fantasy dynamic driven by the in-store technology interface example [68] raised the importance of considering innovative gaming features. This might involve the application of advanced technologies, such as augmented reality, virtual reality and mixed reality. On the other hand, the promising findings of the virtual CSR experiment [54] highlighted the potential role of gamification in promoting end-users' contribution to actual CSR activities. Although real-life examples in this field might be limited, this certainly reflects a major opportunity for researchers to undertake conceptual and experimental related studies. Last but not least, the digital nature of the "random task" activities reported in this paper opens the scope for researchers to explore the possibility of using gamification for fostering users' co-creation of physical tasks, typically with respect to commercial operations encompassing sales and merchandising activities.

5. Conclusions

With firms' emerging tendency to involve their customers in their business processes, increasing interest is devoted to the concept of customer value co-creation. While this concept basically refers to creating mutual value for both the company and the consumer, the use of gamification has addressed it from two main perspectives: one that denotes a merely entertaining experience which increase users' brand loyalty, and another with a further objective of availing their inputs in support of brand value creation. This systematic survey, reporting on a set of empirical studies, has revealed the existence of four major types of brand value co-creation activities that are promoted throughout various game dynamics of disparate levels of impact. Although gamification is showing significant effectiveness in motivating customers to engage in online communities and contribute to brand value creation, very few of these studies investigate the influence of gamification on long-term outcomes, as well as the implications of negative experiences on users' overall satisfaction. Demographic factors should also be studied in order to better understand the attitude and behaviour of active and passive users, possibly with reference to new marketing theories beyond the predominant ones. We also recommend further exploration of the role and impact of gamification in the rapidly growing sharing economy industry which is rarely discussed in the literature. Finally, we shed light on the potential inclusion of advanced gaming technologies that could further energise users' experiences, as well as considering gamifying additional co-creation activities that were not outlined in the literature but are typically related to physical commercial operations and corporate social responsibilities.

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