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**THE IMPACT OF GAMIFICATION ON CONTRIBUTORS' TRUST**  
**IN COMMUNITY BASED CROWDFUNDING CONTEXT**

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***Abstract***

This conceptual paper attempts to study factors that drive contributors' intention to make a donation using the crowdfunding platform. This research attempts to tackle the issue pertaining to the decreasing funds collected and low participation among contributors in crowdfunding projects both locally and globally. This study reviews the literature on online relationship marketing and psychological perspectives. The factors involved in this study are gamification, utilitarian features, hedonic features and trust in the platform. Also, this paper reviews the mediating role of trust between gamification and contributors' intention. The factors outlined are analysed using The Stimulus – Organism – Response model by Mehrabian and Russel. The model is appropriate for this inquiry because the S-O-R as a way of explaining a mechanism that transmits inputs that trigger human cognitive and affective responses, leading to behavioral effects. However, this study does not provide any empirical findings which marks the limitation of the research.

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**Keywords:** Crowdfunding, gamification, trust.



## **1. Introduction**

Crowdfunding is not a new phenomenon, however the use of platform is the recent method in obtaining funds (Martínez-Climent et al., 2018). Crowdfunding derived from the traditional concept of fundraising however by utilizing the acceleration of the Internet and Web 2.0, it marks the huge different between traditional fundraising and crowdfunding. It is the initiative of people around the world who connected via special platform on the internet to share their similar ideas and optimistic to realize the project. The platform allows investors and user of the funds to facilitate contact and organising a project or campaign (Galuszka & Brzozowska, 2017).

Raising funds through crowdfunding platform is unique and has bigger impact compared to traditional fundraising activities. First, the mechanism of crowdfunding will combat fake fundraising and promoting transparency by providing the progress bar of the total collected funds in order for contributors to make informed decision (Mejia et al., 2019). Second, all projects raised via crowdfunding platform will be featured on the platform then will encourage proactive contributors' behaviour since they can easily access and choose any available projects they would like to participate (Lam & Law, 2016).

In addition, the scope community-based crowdfunding is broader than the conventional fundraising campaign (Ryu & Kim, 2016) because the ability to covers various projects at the individual level (e.g. funds for education), organizational level (e.g. initial capital for pre-startup business and funding research grants for academician) or to sustain community well-being (e.g. civic crowdfunding efforts to build public park). Malaysia has put a lot of effort to flourish this industry by introducing local based crowdfunding platforms such as SkolaFund, PitchIN and Mystartr to assist the underserved community.

Furthermore, Charity Aid Foundation listed Malaysia in number 10 among 145 countries in the world as the most generous country in term of contributes financially and physically (Charity Aid Foundation, 2015). In terms of technology, Global Findex Database (2017) reported that among 31.9 million Malaysian, 85.7% of the population has access to the Internet while 85.1% experienced performing online banking transaction. With such behavior and facilities, there are huge potential and opportunities for crowdfunding to exercise its actual role to be an assistant to the government as well as government related agencies such as MARA, Zakat and Waqf Centre in providing financial aid.

### **1.1. Literature review**

#### **1.1.1. An overview of crowdfunding**

Crowdfunding requires an open call, mostly via the Web, to provide financial resources in the form of a gift or in return for the future product or some sort of incentive for endorsing projects for specific purposes (Belleflamme et al., 2015). A crowdfunding platform operates as a two-sided market, meaning that an individual can be reasonably presumed to decide which side to take part in the platform depending on his/her economic status and funding possibilities, they can be on the side of project owners or contributors (Choi & Zenny, 2019). If they choose to be a project owner, they need to clarify a few things including objectives of the project, the project's duration, amount targeted and how it will be utilized. Meanwhile, on the contributors' side, an individual register to any platform and decides to contribute in any of the projects.

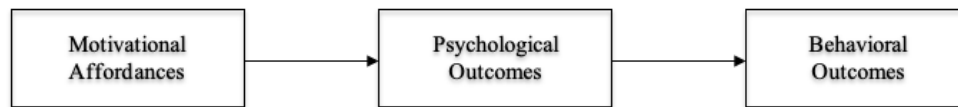
Generally, there are four different models of crowdfunding namely donation-based crowdfunding, reward-based crowdfunding, equity-based crowdfunding and peer-to-peer crowdfunding or sometimes called as debt based crowdfunding (Belleflamme et al., 2015). The first type of crowdfunding is specifically for charity or philanthropic project. Second, reward crowdfunding for funding innovation projects. The third type of crowdfunding is for individual who interested to invest in a start-up company and looking for a non-financial return. While the fourth type of crowdfunding is on a lending basis which the investor will get return financially. Researchers has also categorized these four types of crowdfunding into two major category which are 1) community-based crowdfunding comprises of donation and reward based crowdfunding and 2) investment based crowdfunding encompasses equity-based crowdfunding and peer-to-peer crowdfunding (Adhikary et al., 2018). The first category refers to the activities to sustain the well-being of community with no intention of seeking financial return. While the second category is focusing on investment opportunity. The current research will focus on community-based crowdfunding.

### **1.1.2. Gamification**

Deterding et al. (2011) defined gamification as the use of game design elements in a non-game context. It is the most cited definition due to the generality. The definition helps to distinguish gamification from full-fledged games by stressing the characteristics of using "element" in the non-game context. Due to the vast research progression, various definitions emerged according to the context. Overall, the definition share similarities which stated that gamification is a process of adding a game layer to a non-game activity in order to make it more enjoyable and most researchers depict that gamified approach creates impact such as motivation, engagement, and specific behavioral outcomes.

In conceptualizing gamification, the elements of gamification can be divided into two broad categories (Liu et al., 2017a). The first category is gamification object refers to visual and non-visual features that embedded on the website. For example, avatars, artificial characters, graphics, audio clips, virtual items, leaderboards, storylines, and badges. These elements are the fundamental component in gamification design and the most incorporated in a website (Landers et al., 2017; Mekler et al., 2013). Meanwhile, the second category of gamification requires higher level of design that needs a proper system to implement. The examples of the features are point system, quests, level system, competition and social networking features. Since crowdfunding in Malaysia is still at nascent stage, the current study employed the first type of gamification elements because most of the crowdfunding platform will include gamification object features such as progress bar and leaderboards.

Other than that, Hamari et al. (2014) divided gamification in main three parts comprises motivational affordances, psychological outcome and behavioural outcomes illustrated in Figure 01. The affordance refers to the elements and features that incorporated in the website to induce gameful experiences. Psychological outcome refers to the psychological experiences such as engagement (Hamari et al., 2016), attitude (Hsu et al., 2017), and sense of enjoyment and flow (Bittner & Shipper, 2014; Cardador et al., 2017). Finally, the implementation of gamification could develop behavioural outcome like participation behavioural intention. In this case, the present study refers motivational affordances to progress bar and leaderboard, users experience and trust in platform as psychological outcome and intention to participate in crowdfunding platform is a form of behavioural outcome.



**Figure 01.** Conceptualization of gamification. Source: Hamari et al. (2014)

### 1.1.3. Utilitarian and hedonic features

Utilitarian aspects seeking for perform any particular task while hedonic are associated with the various forms of excitement, for instance, joy or entertainment stimulation (Tarute et al., 2017). Utilitarian and hedonic features can be found to describe a product (Kakar, 2017). Recently, since the emerging of e-commerce activities researchers begin to associate utilitarian and hedonic features in a website, platform or mobile application. An online shopping website should include product and price comparison features, time saving, easy to use, and able to complete task are the utilitarian features that help users to achieve their objectives. An example in tourism perspectives, a hotel booking website should have features that enable users to early access the location of the property (Bilgihan et al., 2015). While banking mobile application should have transaction technicalities features such as paying bills through online banking, transferring money between accounts and checking account balance (Chuang & Hu, 2012). Meanwhile, hedonic features help user to make the process fun and enjoyable in order for them to perform the task (Ha & Stoel, 2009). For instance, a booking hotel website which enable user to take the virtual tour of the hotel room by browsing the amenities offered by the hotel can entertain themselves while browsing the website (Bilgihan et al., 2015). Thus, efficiency is the goal of utilitarian applications, whereas hedonic applications use animated images and concentrate on colors, sounds and attractive graphical designs that makes the user enjoy while browsing the website.

In the beginning of the Internet, most of the website focus on to fulfil user's utilitarian needs. Later, the needs of hedonic features emerged when user are looking for experiential value in e-commerce (Bilgihan et al., 2015; Bridges & Florsheim, 2008). Online consumer appreciates the immersive and experiential aspects of the Internet that this aspect will influence users' satisfaction (Szymanski & Hise, 2000). Therefore, in this research, utilitarian features of a crowdfunding platform refer to the numbers of project available on the platform which enable contributors to donate which project that suits their personal objectives. Other features that similar to other website, such as the convenience of transaction process such as the payment gateway. Meanwhile, hedonic features refer to the enjoyment of doing donation in online manners compare to traditional charitable practice because in crowdfunding platform contributors can be informed the current total collection as well as monitor the current progress of the projects.

### 1.1.4. Trust in platform

Studies have studied trust in different academic areas, including organizational behavior sociology, economics, social psychology and marketing; with increasing attention given recently to trust in online perspectives resulting from e-commerce activities (Lu et al., 2010). In defining trust in online environment, McKnight et al. (2002) defined trust as the result of long-term transactional relationships between the

parties. They developed a model which comprises disposition to trust, institution-based trust and trusting belief as antecedents of trusting intention.

In website context, trust can refer to the Web site itself, the Web seller or the Internet as a whole (Grabner-Kräuter, 2009). When transaction take place in the virtual space such as website, trust towards the website is even more crucial (Oh et al., 2012). Moreover, it is necessary to include trust in website in activities that operated as two-sided market manners (Hawlitschek et al., 2016) since the website is the medium of connection for the other two key players to communicate.

Few researchers have investigated trust in website as one of the components in online perspectives. For example, Lu et al. (2010) analyzed how trust affects buying intentions in virtual communities such as eBay in the context of customer to customer website. The author divided trust into two categories, trust in members and trust in website. According to the researcher, website trust refers to the assumption that a website or a virtual community partner is capable to deliver a quality service and would provide its customers with an appropriate manner. Both constructs were divided into three dimensions: ability integrity and benevolence.

In contrast, Oh et al. (2012) measure trust in website as a single construct in e-shopping mall website. They describe trust as a sense of confidence established by individuals or groups of individuals in accordance with their views and behavioral interests, which can in turn lead to a willingness to focus on counterparts of transactions that can be trusted and assessed. The present study will measure trust in platform as a single construct because the respondents of this study are individuals who aware of crowdfunding regardless their previous participation. Whereas construct by Lu et al. (2010) emphasizing towards financial transaction that have been made by website user which unable to be answer by targeted respondent of this study.

## **1.2. Theoretical framework**

The Stimulus-Organism-Response (S-O-R) model by Mehrabian and Russell (1974) is a conceptual model based on external sensory interrelationships, internal organism processes and organism responses. The S-O-R model suggests that the influence of external stimuli on the actions of individuals is mediated by direct emotional and cognitive states (Mehrabian & Russell, 1974) In this model the stimuli can be referred to as an external component which persuades the cognitive and emotional condition of an individual, while the organism is an internal reaction mechanism (Vieira et al., 2018). The response is identified as the organism-determined approach – avoidance behavior. The S-O-R model was therefore developed to describe the mediating function of an organism (Chiu et al., 2014).

Based on e-commerce perspectives, Peng and Kim (2014) used the S-O-R model to determined online shopping behavior. They elaborated that utilitarian and hedonic shopping value as internal stimuli towards the attitude of online shopper (organism) and influence shoppers' purchase intention (response). In addition, Jeon et al. (2017) utilize the S-O-R framework to explain the mediating role of online trust between perceived website interactivity and repurchase intention.

In this study, based on the S-O-R model, we argue that gamification, utilitarian and hedonic features positively influence trust in crowdfunding platform. Mehrabian and Russell (1974) introduced the S-O-R model as a way of explaining a mechanism as stimulation that transmits to a response through an organism

(Vieira, 2013). In this study, the utilitarian and hedonic features are treated as stimulus, whereas trust in platform is use as the cognitive states and intention to make donation as the responses.

## 2. Problem Statement

Despite the growing potential of crowdfunding (Belleflamme et al., 2015; Clauss et al., 2018; Forbes & Schaefer, 2017; Mariani et al., 2017; Mollick, 2014; Short et al., 2017) unfortunately the success rate of raising fund through crowdfunding is decreasing as well as the number of contributors who wants to participate in crowdfunding projects (Lukkarinen et al., 2016; Zhang & Chen, 2019). The local crowdfunding industry also face the same challenges as denote by Gustav Liblik, CEO of Catapooolt crowdfunding platform that even though the involvement of contributors in Malaysia crowdfunding environment is growing at a healthy rate but the participation is still low (Asian Institute of Finance, 2017). In addition, contributors' continuance intention to participate in a crowdfunding project decrease after their first contribution (Burtch et al., 2013; Choy & Schlagwein, 2016; Kuppuswamy & Bayus, 2018). Therefore, it is crucial to investigate factors that influence contributors' intention to participate in crowdfunding platform.

Previous literatures have been investigated the predictors on intention to use crowdfunding comprising both perspectives of fund seeker (Davidson & Poor, 2015; Jaziri & Miralam, 2019; Yang & Lee, 2019) and contributors (Kang et al., 2016; Liu et al., 2018; Rodriguez-Ricardo et al., 2019). However, among all the studies there is a lack understanding in explaining how platform features as factors influencing contributors' intention and seems past researchers has overlooked the role of crowdfunding platform in attracting potential contributors. Whereas, crowdfunding platform is one of the key players in crowdfunding mechanism that bridge fund seeker and contributors (Haas et al., 2014) and due to the limited information about the project owner and future contributors will seek out to find other mental short cuts to decide the financial contribution to be made (Yu et al., 2015). As such examining contributors' intention to participate in crowdfunding platform is critical importance for practitioners and researchers to improve the number of individuals to be involve in crowdfunding activities and increase the probability of crowdfunding success (Bagheri et al., 2019; Kraut & Resnick, 2012).

Previous researchers have investigated platform features such as security, navigability, visual appeal, perceived ease of use, perceived usefulness and convenience of payment in influencing contributors' intention to participate in crowdfunding projects (Lacan & Desmet, 2017; Liu et al., 2017b). To enrich the existing literature, the current research attempts to examine the features of gamification, utilitarian and hedonic features of the platform in influencing contributors' intention to use crowdfunding platform to make donation.

Utilitarian features and hedonic features are confirmed to drive consumer purchase intention in online shopping environment (Escobar-Rodríguez & Carvajal-Trujillo, 2013). Therefore, by enhancing utilitarian and hedonic features in crowdfunding platform could influences contributors' intention to proceed with positive behavior. Meanwhile, according to Deterding et al. (2011) gamification is the application of game features in the non-game context. The incorporation of the features such as badges, progress bar and achievement chart are to encourage participation on a website (Hamari et al., 2014; Kim & Ahn, 2017; Thiel & Fröhlich, 2017) and has been applied including e-banking (Rahi & Abd. Ghani,

2019; Rodrigues et al., 2016), education and learning (Gené et al., 2014; Morales et al., 2016; Nevin et al., 2014), health (Barratt, 2017; Spillers & Asimakopoulos, 2014), tourism (Sigala, 2015; Xu et al., 2016) and recycling activities (Hsu et al., 2018).

Despite the wide usage of gamification, the study is still limited in crowdfunding context. To the extent of researchers' knowledge, there only a study by Kontogiannidis et al. (2017) that examine the direct relationship of gamification and intention. However, the issue of the study is that the author combined the respondent between fund seeker and contributors in which should be measured exclusively since the motivation of these parties to participate in crowdfunding activities are different. Thus, the present study will focus on contributors' perspective and will include individual who are aware of crowdfunding regardless their previous participation and according to Rodriguez-Ricardo, Sicilia, & López (2018) that anyone could be a future contributor.

Other than that, the present study will investigate the mediating role of trust in platform between gamification, utilitarian features and hedonic features with contributors' intention to participate in crowdfunding platform. Trust has been a recurrent issue since the emerging of crowdfunding activities due to the fact that the main objectives of crowdfunding is for seeking financial assistance from the crowd which involves various risk and uncertainty (Gierczak et al., 2016; Haas et al., 2014). The relationship can be explained by Stimulus – Organism – Response model (SOR) by Mehrabian and Russell (1974) which mediated by organism which comprises of affective and cognitive states. In explaining trust in online perspectives, user of a website will use cognitive ability to induce their trust towards the information provided to them on the website (Jeon et al., 2017). Moreover, previous researchers have investigated the mediating role of trust between utilitarian features and hedonic features with intention such as brand trust (Bennur & Jin, 2017). However, to the extent of research knowledge, there is almost no studies that investigate the relationship between gamification and trust.

From this, this research makes several contributions. First, this study extends the growing body of literature on the factors influencing intention among contributors to participate in crowdfunding project. Second, our study will highly contribute specifically on platform characteristics and its ability to attract participation from potential contributors. Third, this research also contributes to the limited understanding of contributors' perspectives particularly in the context on Malaysia.

### **3. Research Questions**

The current study attempts to answer the following research question;

1. Does gamification, utilitarian features, and hedonic features influence trust in platform among contributors of donation crowdfunding?
2. Does trust in platform mediates the relationship between gamification and contributors' intention to donate using crowdfunding platform?

### **4. Purpose of the Study**

The main purpose of this study is to investigate the website features that could develop and enhance the intention of potential contributors to make donation via crowdfunding platforms. In order to achieve

the main objective, this study aims to investigate the effect of gamification, utilitarian features and hedonic features in influence contributors' intention to participate in crowdfunding platform and also to examine the mediating role of trust in platform.

## 5. Research Methods

This conceptual paper employed a library research and reviewing previous literatures pertaining to crowdfunding and the antecedents among contributors to use crowdfunding platform to come out with the hypothesis development. The advance research only limited to crowdfunding and proposed construct involve in this study which are gamification, trust and behavioral intention. The library research consists of online review of published article journal based on online database such as Scopus, Web of Science, Association for Information System eLibrary (AISEL), and Google Scholar. Later, the references were limited to article journal and was written in English. Thus, limitation from this research could be the journal articles published in offline database.

## 6. Findings

Liu et al. (2000) posits that a website is consider successful when it able to attract users and makes them feel secure while using the website. The quality of the website's design will positively affect the trust of the website. The purpose of utilitarian system embedded in a website is used to encouraging efficiency which in turn influence e-shopping quality (Ha & Stoel, 2009). Cyr (2008) indicates that variables in user interface design are essential predictors for website trust. McKnight et al. (2002) also found out that the utilitarian features of the website have a direct impact on trust. Jamshidi et al. (2017) also confirmed that utilitarian features are crucial to foster customers' trust in mobile banking applications and will influence their loyalty and continuance intention. Nevertheless, the engine of online shopping is not just functional qualities, because more experienced internet shoppers are also increasingly looking for hedonic interest (Bridges & Florsheim, 2008) thus, utilitarian and hedonic motivations for consumption are not inherently exclusive to one another (Batra & Ahtola, 1991). The website environment and how it operates can influence customer's satisfaction and motivation with their online shopping experiences (Childers et al., 2001; Szymanski & Hise, 2000).

Meanwhile, the relationship between gamification and trust are limited since the incorporation of game elements is to provide fun and enjoyable experience then will portray the activities will become less serious and reduce trust. However, Burtch et al. (2013) found that the element of progress bar in crowdfunding platform serves as a signal to inform other contributors that the project is worth being funded. In other way, it increases contributors' trust if they think the project is worth their financial contribution. Thus, we hypothesize that,

H1: Gamification have a positive influence on trust in the platform.

H2: Utilitarian features have a positive influence on trust in the platform.

H3: Hedonic features have a positive influence on trust in the platform.



Trust has been empirically demonstrated to influence commitment (Chaudhuri & Ligas, 2003; Palmatier et al., 2009; Rocereto & Mosca, 2012; Twing-Kwong et al., 2013) and purchase intention (Wu et al., 2008). Similarly, trust in the website is believed to influence the intention of online shoppers in their purchasing behavior. Kumar et al. (2018) found that whenever the user trusts the website they engaged with, the more likely they intend to disclose information about themselves and interact with other users. In a similar vein, users' intention to adopt extension service from particular shopping platform when they trust the website (Yang et al., 2015). For example, online shopper's intention increase to use vendor's mobile application when they experienced that the website is trustable. In addition, Suh and Han (2003) discovered that trust affects behavioral intent to implement internet banking significantly. Moreover, in pedagogy perspectives, teachers would likely to adopt virtual learning environment in their teaching method when they believe that the system is trustable (Hew & Kadir, 2016).

Trust is also would be likely a candidate to mediate the relationship between website features and behavioral intention. Trust has been shown to encourage various forms of philanthropic activity, including charitable giving and voluntary work (Taniguchi & Marshall, 2014), civic engagement (Warren et al., 2014) and monetary donation (Beldad et al., 2014). Therefore, trust is considered to be a critical aspect of online transaction activities. For instance, the research found that online transaction by potential buyers was influenced by their trust towards the platform or intermediary (Chen et al., 2015; Pavlou & Gefen, 2004).

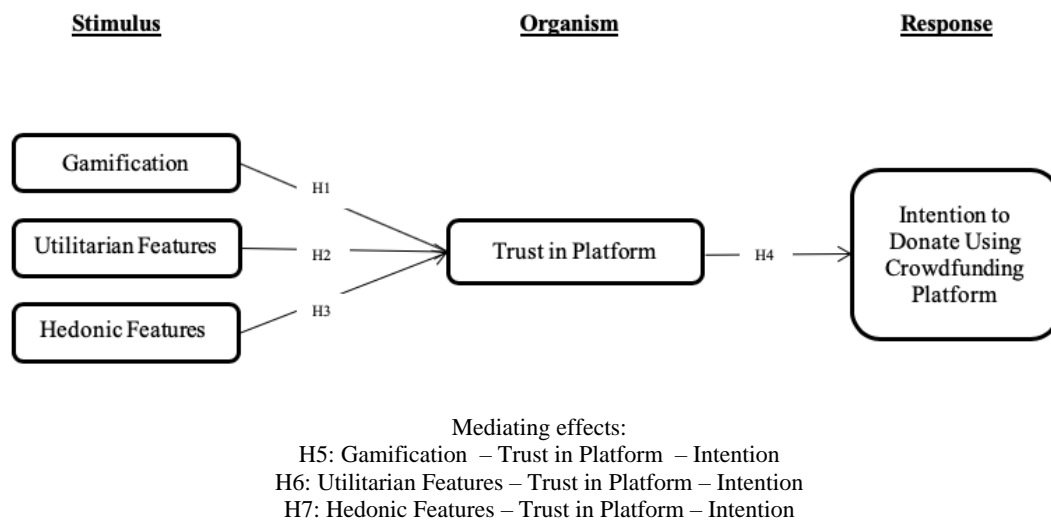
Few studies have found that trust has established a positive connection between website design features and repetitive purchasing. Jeon et al. (2017) has demonstrated online trust as a linkage between website interactivity and consumer repurchase intention on travel-related product among American tourist. Apart from that, Shin et al. (2013) on online purchasing activities has proved the mediating role of trust between site quality and purchase intention among college students in South Korea. Therefore, we predict the hypothesis as follows and the proposed research framework illustrated in Figure 02.

H4: Trust in Platform will positively influence intention among contributors to use donation crowdfunding platform.

H5: Trust in Platform mediates the relationship between gamification and the intention of contributors to donate through crowdfunding platform.

H6: Trust in Platform mediates the relationship between utilitarian features and the intention of contributors to donate through crowdfunding platform.

H7: Trust in Platform mediates the relationship between hedonic and the intention of contributors to donate through crowdfunding platform.



**Figure 02.** Proposed research framework

## 7. Conclusion

Developing gamified business applications of crowdfunding contexts opens new directions in research on development practices and gaming dynamics to increase the interaction and involvement of contributors. This study will examine the influence of gamification in terms of utilitarian and hedonic features of the platform design towards contributors' trust in the crowdfunding platform and their intention towards using the platform with game features. The result will contribute in many aspects especially the crowdfunding environment itself. Since crowdfunding in Malaysia still at infant stage the findings from this study will provide perspectives from contributors which is still lacking. Among the issue discussed by previous researchers are from legal aspects (Abdullah, 2016), blockchain implementation (Hassan & Zainudin, 2015), model development (Abdullah & Oseni, 2017; Mohd Thas Thaker et al., 2018) and project creators' perspectives (Mokhtarrudin et al., 2017). Also, this research will contribute to theoretical perspectives by investigating the impact of gamification on platform users' trust.

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