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The impact of gamification elements on the evaluation of marketing activities

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(Full Paper)

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ABSTRACT

Recently, gamification obtains increasingly attention in marketing. Based on the S-O-R model, this research applied gamification to marketing and examined two important gamification elements (external reward and interactive competition) on evaluation of marketing activity. It was found that external reward and interactive competition have positive impacts on evaluation of marketing activity, and perceived enjoyment and immersion mediate the effects of external reward and interactive competition on such evaluation. This research contributes to gamification literature by examining the impact of different gamification elements (external reward vs interactive competition) on the evaluation of marketing activity. Further, this study contributes to marketing literature by exploring the impact of the perceived enjoyment and immersion. This research also provides insights for firms and game administrators on how to encourage customers to generate purchase intention and purchase behavior by designing appropriate gamification elements.

Keywords: Gamification, external reward, interactive competition, S-O-R model, evaluation of marketing activities.

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INTRODUCTION

Nowadays, more and more gamification elements are used in marketing, such as WeChat sports, Nike+ running APP, ant forest, ant manor, etc. Gamification in marketing refers to incorporating game design elements in marketing activities, allowing users to generate game-like experience and eventually actualizing marketing related goals (Ning and Xi, 2017). As a newly emerged and effective marketing tool, gamification has been widely used in marketing domain. It is predicted that gamification will continue to increase rapidly in next decades. Therefore, it is critical to understand how gamification affects the effects of marketing activities.

Despite the prevalence and importance of gamification, much prior research in gamification focus on educational gamification (Parreño *et al.*, 2016), medical gamification (Randy *et al.*, 2018) and the game itself (Hamari *et al.*, 2014). Recently, more and more scholars started to integrate gamification with marketing. For example, Huotari and Hamari (2017) have applied gamification to service marketing. To investigate the effects of specific gamification elements on marketing effects and its underlying psychological processes, this research investigates two gamification elements--external reward and interactive competition, and more importantly examines the mediating roles of perceived enjoyment and immersion.

Based on the S-O-R model (Mehrabian and Russell, 1974), this research examines two gamification elements--external reward and interactive competition on the evaluation of marketing activities. This study conducted an offline survey and collected data from 352 participants. After analyzing data by using regression analysis in SPSS, it was found that external reward and interactive competition in gamification have positive effects on consumers' positive evaluation of marketing activities. Further, the results showed that the impact of external reward and interactive competition on consumers' evaluation of marketing activities are mediated by immersion. However, perceived enjoyment didn't mediate the effect on external reward and interactive competition on consumers' evaluation of marketing activities. Presumably, this occurs because that perceived enjoyment as emotional response does not influence the evaluation of marketing activities.

This research makes some theoretical contributions. First, this study enriches marketing literature and gamification literature by providing an understanding of how gamification affects the effects of marketing activities. Second, this research contributes to gamification literature by examining the impact of different gamification elements (external reward vs. interactive competition) on the evaluation of marketing activity. Further, this research also helps firms to enhance their marketing effects by designing appropriate gamification elements.

THEORETICAL BACKGROUND

2.1 Gamification

2.1.1 Gamification definition

Gamification refers to the use of game design elements in non-game contexts (Deterding *et al.*, 2011; Werbach, 2014), and it involves "the process of making activities more game-like" (Werbach, 2014). Many scholars have extended the definition of

gamification from various perspectives. From the system design perspective, gamification is defined as "when used in a business context, gamification is the process of integrating game dynamics (and game mechanics) into a website, business service, online community, content portal, or marketing campaign in order to drive participation and engagement" (Penenberg, 2013). From the perspective of user experience, gamification refers to the use of the game's experience in a non-gaming environment, making the traditional organizational process fun and bringing a stakeholder-like gaming experience (Mccarthy *et al.*, 2014).

Recently, some scholars have attempted to connect gamification with marketing practices, such as applying gamification to service marketing (Huotari & Hamari, 2017), experience marketing and relationship marketing (Mccarthy *et al.*, 2014). Huotari and Hamari (2017) define gamification as "a process of enhancing a service with affordances for gamification experiences in order to support users' overall value creation". According to Ning and Xi (2017), gamification in marketing refers to the application of game design elements to marketing activities, so that target customers generate a game-like experience, in turn enhancing customer service value and achieving value creation.

The research found that advertising games can be an effective way to promote products and branding, allowing consumers to experience fun. When "player" consumers have a positive association with the content of the advertising game, they will move this positive evaluation to the brand. In addition, certain specific game design elements may have a more significant impact on brand fit. For example, badges and virtual reward can increase brand loyalty, and leaderboards can promote differentiation between players, which can promote brand fit (Lucassen and Jansen, 2014). Practically, gamification is widely used in marketing activities. For example, in one software designed by Alipay, users accumulate energy through walking, consumption and online payment, and such energy can be traded for trees in the desert. Users gain a sense of accomplishment in the process of gamification, and users will preferentially use Alipay in order to collect energy. For the enterprise, on the one hand, the brand image of Alipay is enhanced by such gamification; on the other hand, users use Alipay more to collect more energy, and consumers have high evaluation of such marketing activity.

2.1.2 Gamification elements

Literature in gamification shows that there are different ways to classify gamification elements, such as DMC framework, MDA framework, FDD framework and Elemental tetrad. Among these theoretical frameworks related to gamification, DMC is the most frequently used framework. In DMC framework gamification elements incorporate three levels: dynamics, mechanics and components (Werbach and Hunter, 2012). Dynamics refers to the power to promote gamification behavior of users, including constraints, emotions, narratives, progression and relationships; mechanics mainly includes challenges, chances, competition, cooperation, resource acquisition, rewards, trading, turns, win states, feedback; components are specific forms of dynamics and mechanics, including achievements, points, badges, leader boards (Werbach and Hunter, 2012). Mechanics of gamification is the basic process of driving the gamification process and user participation (Werbach and Hunter, 2012). Mccarthy *et al.* (2014) proposed that mechanics are the instructions of a game, which specifies its goals, rules, and rarely change. This research explores two critical mechanics of gamification, that is external reward and interactive competition.

External reward refers to the benefits that users receive in exchange for actions or achievements, including points, badges, or extra game commodity, etc. It is an incentive factor. Postcards and souvenirs offered by travel frogs can be considered as an external reward. External reward creates incentives and appeals for users and encourages them to use the app. Interactive competition refers to the user's attempt to overcome or overwhelm each other's behavior in the form of individuals or groups during the gamification process. Leaderboards are feedback from interactive competition. In the gamification process of interactive competition, users gain a sense of accomplishment and meet social needs, thereby increasing user engagement and satisfaction.

Most prior research in gamification primarily classified game design elements but rarely examined these elements and their subsequent behavioral consequences. Particularly, few researches have applied gamification in marketing context. Therefore, we select the two important and typical gamification elements of external reward and interactive competition to explore their impacts on marketing activities.

2.2 S-O-R (Stimulus-organism-response) Model

Mehrabian and Russell (1974) proposed the S-O-R (stimulus-organism-response) theory to explore the mechanism of external environmental factors affecting individual behavior. The S-O-R model is mostly used to study consumer buying behavior, especially online consumer behavior. Specifically, the S-O-R model is used to explain the impact of different stimuli on attracting consumers to visit websites, and to use online services. For example, Gatautis *et al.* (2016) examined DMC pyramid classification method in a virtual environment based on S-O-R conceptual model. They found that firms can use the components element and the dynamics element as stimuli to influence users' mental state, prompting them to take anticipated actions. In the meanwhile, the mechanism element is directly related to the action taken (Gatautis *et al.*, 2016).

Importantly, S-O-R model can be applied in online network to enhance marketing effects. For example, Harwood and Garry (2015) explored the key processes and mechanisms for online brand engagement in gamification platforms and found that using gamification as a strategy can greatly promote online brand engagement. In the work of Harwood and Garry (2015), gamification elements serve as stimuli, can result in users' emotions as organism, and consequently in turn lead to brand engagement. It is worthwhile to note that gamification elements (e.g., challenges, badges, leader boards, cooperation), give customers an emotional

experience, which lead to complete tasks and subsequent behaviors.

In the S-O-R model, stimuli can be presented in many forms, such as gamification interaction mechanisms, competition mechanisms or reward mechanisms. In this research, we argue that external reward and interactive competition are two key stimuli in the process of evaluating the content of the activity. External reward and interactive competition can cause the user's cognitive reaction and emotional response, and ultimately improve the user's evaluation of the marketing activities. Therefore, using the S-O-R model as the overall theoretical framework of this paper, we can study the influence of gamification elements on the evaluation of marketing activities from cognitive response and emotional response.

RESEARCH MODEL AND HYPOTHESES

3.1 Evaluation of Marketing Activities

Marketing is a series of activities that engages in to satisfy customers. Marketing activities refer to a series of activities to achieve marketing goals, such as promotion, public service marketing, public relations activities and so on. The marketing activities have been carefully planned, through social activities or media advertisements, for the purpose of expanding the market share, enhancing the competitiveness of enterprises, and increasing sales.

We propose that external reward have a positive effect on evaluation of marketing activities. This occurs because when users are rewarded in the gamification, they are happier and more joyful. In this gamification activity, the user gains a game-like experience, while generating an incentive effect, achieving a higher sense of accomplishment and satisfaction. Such positive feelings can be transferred to the marketing activities, and in turn having more positive evaluation of the marketing activities.

Further, we argue that interactive competition has a positive effect on evaluation of marketing activities, because interactive competition can meet users' social and achievement needs by participating in interactive competition, and these positive associations of consumers in the gamification state will be extended to the participating marketing activities. Therefore, consumers' evaluation of marketing activities has been enhanced. Therefore, we propose the hypothesis:

H1a: External reward in gamification elements positively influence evaluation of marketing activities.
H1b: Interactive competition in gamification elements positively influences evaluation of marketing activities.

3.2 Perceived Enjoyment

Perceived enjoyment refers to the individual's enjoyment of subjective feelings when taking specific actions or performing specific activities (Moon and Kim, 2001). Moon and Kim (2001) propose three aspects of perceived enjoyment, that is concentration, curiosity, and enjoyment. The perceived enjoyment is a state of mind of the user and is an intrinsic motivation.

We propose that perceived enjoyment can mediate the effect of external reward on evaluation of activity. We first propose that external reward can positively influence perceived enjoyment. This occurs because external reward can elicit pleasantness and happiness, and consequently trigger perceived enjoyment. For example, a person would be more motivated to do a certain task and would feel more joyful during the completion of doing the task when the task is accompanied with external reward. Indeed, external reward arising from a game can lead to higher level of perceived enjoyment. Furthermore, we propose that perceived enjoyment can lead to higher evaluation of the activity. This is because that the perceived enjoyment is a state of mind and is regarded as an intrinsic motivation. Perceived enjoyment can positively influence the users' behavioral intention and evaluation.

Further, we also argue that interactive competition also mediates the effect perceived enjoyment on evaluation of marketing activities. This occurs because that interactive competition in the gamification enable users to obtain a game-like experience, and the process is considered to be interesting and joyful. Based on the S-O-R model, interactive competition as stimuli, can lead to perceived enjoyment which serves as responses, in turn positively influence evaluation of marketing activities.

In sum, based on S-O-R model, gamification elements of external reward and interactive competition enable users to obtain a game-like experience, and the process is considered to be joyful, which in turn lead to high evaluation of the marketing activities. Based on this, we propose the following assumptions:

H2a: Perceived enjoyment mediates the effect of external reward on the evaluation of marketing activities.
H2b: Perceived enjoyment mediates the effect of interactive competition on the evaluation of marketing activities.

3.3 Immersion

Immersion refers to a kind of overall experience that people experience by concentrating on a certain scene (Csikszentmihalyi, 1988). Immersion is an important reason why users are willing to continually participate in an activity. Csikszentmihalyi (1988) pointed out that people do what they want consistent with their psychological driving force, and the immersion experience is the explicit expression of conscious motivation. Choi and Kim (2004) found that when players are immersed, players will want to maintain this feeling, and this feeling will enable them to continuously participate in the game. In general, people who have experienced a temporary immersion experience often want to experience it again at any cost.

We propose that immersion can mediate the effect of external reward on evaluation of activity. We first propose that external

reward can positively affect immersion. This is because external reward can trigger pleasantness and happiness, which is a kind of experience enables users to maintain and concentrate. External reward render users to do better in a game, which can lead to them focus on their games or tasks, in turn forming an experience of immersion. For instance, a person would be more motivated to do a certain task better because of external reward and would feel immersed by the task per se. Indeed, external reward arising from a game can lead to higher level of immersion. Moreover, we propose that immersion can lead to higher evaluation of the activity. This occurs because that the immersion is a state of mind of the user and is an intrinsic motivation. The satisfaction of the basic intrinsic motivation will promote the formation of deeper immersion motivation, thus forming high evaluation of the game intention. That is, immersion can positively influence the users' behavioral intention and evaluation.

Similarly, we predict that interactive competition also mediates the effect immersion on evaluation of marketing activities. This is because that interactive competition in the gamification enable users concentrate on their tasks in order to win, namely immersion. That is, interactive competition is positively related to immersion. As argued that immersion as an intrinsic motivation can positively influence the users' evaluation of marketing activities. Based on the S-O-R model, interactive competition as stimuli, can lead to immersion which serves as responses, which in turn positively influence evaluation of marketing activities.

Taken together, consistent with S-O-R model, gamification elements of external reward and interactive competition enable users to become immersed in the gamification situation, which in turn lead to high evaluation of the marketing activities. Thus, we propose the following assumptions:

H3a: Immersion mediates the effect of external reward on the evaluation of marketing activities.
H3b: Immersion mediates the effect of interactive competition on the evaluation of marketing activities.

3.4 Research Model

Based on the "stimulus-organism-response" (S-O-R) model, we construct the theoretical model, as presented in figure 1.

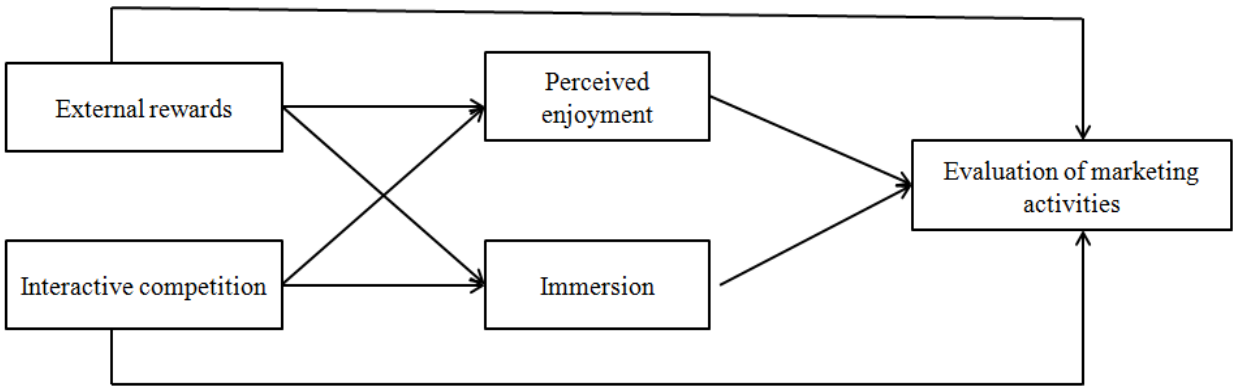

Figure 1: The research model

RESEARCH METHODOLOGY

4.1 Research Methodology

We collected data from target population through an online survey. In our theoretical model, most of the constructs are latent variables, which are appropriate to use the survey approach (Nunnally and Bernstein, 1994). The constructs were measured using instruments adapted from previous research to enhance validity. Table 1 provides definitions of the constructs.

Table 1 Formal definitions of constructs

Constructs	Definition	Sources
External Reward	The degree to incentives out of the activities, and it makes people driven by external motivations.	Kohn *et al.* (1993)
Interactive Competition	A degree of creating cooperation and competition through social network	Palmer *et al.* (2012)
Perceived Enjoyment	The individual's enjoyment of subjective feelings when taking specific actions or performing specific activities	Moon and Kim (2001)
Immersion	A kind of overall experience that people experience by concentrating on a certain scene	Csikszentmihalyi (1988)
Evaluation of Marketing	The degree of customers' evaluation of marketing activities	Li and Huang (2005)

Activities

Our survey involves three parts. The first part describes the purposes of this study. Participants were explained the definition of gamification and were given one example of gamification. Participants were asked whether they had experience of gamification or not. In the second part, participants were asked to answer the items measuring all variables, as presented in table 2. In the third part, participants were asked to give their demographic information. The online survey data was collected between March and April in 2018.

Table 2 Constructors

Constructs	Items	Sources
Interactive Competition	I will spend time interacting with other users I will discuss on how to do better with other users I will compete with other users of this kind of activity	Chiu *et al.* (2007)
External Reward	This kind of activity makes me remind of this brand I think this kind of activity will give me some money or prize I think this kind of activity can save me some money I think this kind of activity can bring me more recognition and reputation I think there are some external reward will make me enjoy it more I'm willing to spend a lot of time on these activities because of some external reward	Zhong *et al.* (2011)
Perceived Enjoyment	I think this kind of activity makes me feel pleasure from choosing this brand I think a marketing activity with gamification elements is interesting I think a marketing activity with gamification elements makes me feel happy I think a marketing activity with gamification elements is vivid I think a marketing activity with gamification elements makes me have the exploratory desire	Hassan *et al.* (2014)
Immersion	When I found a fun activity, I often can't help putting myself into it I spent a lot of time and energy in this activity I always paid attention to the information of this kind of activity I would think about how I can play better and rank higher	Chen (2003)
Evaluation of Marketing Activities	It's easy for me to enjoy pleasure from the whole activity I think I like this marketing activity of gamification I think this marketing activity of gamification is attractive I think this marketing activity of gamification is impressive I don't think this marketing activity of gamification appeals to me	Li and Huang (2005)

4.2 Measurement

In order to enhance the validity of the survey scales, we adapt constructs and items from past studies. Specifically, the items measuring external reward were adapted from Zhong, Wang and Qiu (2011); the items measuring interactive competition were adapted from the 5 items used by Chiu, Hsu and Wang (2007). Scales for perceived enjoyment were adapted from the 4 items of perceived enjoyment used by Hassan, Kouser and Abbas (2014). And the items measuring immersion were adapted from Chen (2003). The items measuring evaluation of marketing activities were adapted from Li and Huang (2005). All constructors and the corresponding measurement items were presented in table 2. All the items were measured using seven-point Likert scale anchored from "strongly disagree" to "strongly agree". Items were translated from English into Chinese and given to 5 information systems professors who were proficient in both languages to reverse translation. We then carefully considered all controversial translations by adjusting item wording.

4.3 Sample Characteristics

A total of 352 students participated in this survey. All participants were recruited in a public university offline. Participants mainly contain students, and faculties. After deleting the incomplete questionnaires, a total of 348 questionnaires were used for data analysis. As is shown in Table 1, there were 197 females (56.6%) having completed this questionnaire. Age ranged from 18 to 25 (75.8%) were the main respondents. Among all participants, 10 (2.9%) had middle school degree or below, 20 (5.7%) had high school degree or secondary, 34 (9.8%) had junior college, 266 (76.4%) had bachelor degree or are undergraduate students, and 18 (5.2 %) had graduated from a postgraduate degree or are graduate students. Further, the results showed that the frequency of participation in gamification. 89.9% of participants participated gamification, while 35 (10.1%) participants said that they had never been involved in gamification. The descriptive information of survey respondents is shown in table 3.

Table 3 Demographics information

Measure	Item	Frequency	Percentage (%)
Gender	Total	348	100%
	Male	151	43.4%

	Female	197	56.6%
	Total	348	100%
Age	<18	27	7.8%
	18-25	264	75.8%
	26-40	57	16.4%
	41-60	0	0%
	Total	348	100%
Education level	Middle school and below	10	2.9%
	High school and secondary	20	5.7%
	Junior college	34	9.8%
	University	266	76.4%
	Master or above	18	5.2%
	Total	348	100%
Frequency of participation in gamification	usually	122	35.1%
	occasionally	191	54.8%
	never	35	10.1%

4.4 Data Analysis

The survey data was analyzed by using SPSS. SPSS is a suitable choice for analyzing regression and descriptive statistics. SPSS 20.0 was used for data analysis.

RESULTS

5.1 Measurement Reliability and Validity

Convergent validity was assessed by reliability of items and factor analysis results (Hair *et al.*2009). Examining each item's loading on its corresponding construct assesses reliability of items (loading >0.7). Regarding internal consistency (reliability), Cronbach's alpha scores for every construct in our research were all above 0.80, which is above the suggested benchmark for acceptable reliability.

KMO and Bartlett sphericity test are used to detect structural validity. KMO is between 0 and 1, and the closer the KMO value is to 1, the stronger the correlation between variables, and the more suitable for factor analysis. The value of the sphericity of Bartlett is used to test whether the correlation coefficient between items is significant or not. If sig.<0.05, it is suitable for factor analysis (Table 4). As is shown in table, sig.=0.000 (KMO=0.900, 0.932), and it proves the acceptable reliability. Then we did the factor analysis. In this study, the loading of each item met the criterion (Table 5).

We used item loadings and cross loadings to assess convergent validity and discriminate validity by a confirmatory factor analysis (CFA). All the indicator loadings exceed 0.710, and all items load higher on their specified constructs than on other constructs, demonstrating sufficient convergent validity and discriminate validity, as shown in table 6.

Table 4 Cronbach's alpha scores

	Cronbach's Alpha	Number of items
external reward	0.896	6
interactive competition	0.860	4
perceived enjoyment	0.848	4
immersion	0.887	5
evaluation of marketing activities	0.844	3

Table 5 KMO and Bartlett sphericity test

Variable	KMO	Bartlett		
		Chi-square	df	Sig.
external reward	.900	4013.500	325	.000
interactive competition	.932	3893.252	528	.000

Table 6 Exploratory Factor Analysis Results

	1	2	3	4
External Reward 1	.159	**.771**	.405	.048
External Reward 2	.033	**.763**	.181	.222
External Reward 3	.113	**.792**	.296	.102
External Reward 4	.325	**.715**	.215	.240
External Reward 5	.176	**.723**	.185	.260
Interactive Competition 1	.196	.191	**.761**	.188
Interactive Competition 2	.265	.229	**.798**	.111
Interactive Competition 3	.143	.342	**.691**	.257

Interactive Competition 4	.188	.250	**.753**	.180
Perceived Enjoyment 1	.195	**.814**	.159	.193
Perceived Enjoyment 2	.220	**.755**	.195	.121
Perceived Enjoyment 3	.073	**.740**	.246	.157
Perceived Enjoyment 4	.160	**.740**	.254	.022
Immersion 1	**.706**	.109	.140	.125
Immersion 2	**.705**	.267	.164	.165
Immersion 3	**.820**	.092	.171	.110
Immersion 4	**.821**	.178	.107	.047
Immersion 5	**.786**	.100	.208	169
Evaluation of Marketing Activities 1	.199	.194	.218	**.800**
Evaluation of Marketing Activities 2	.116	.169	.211	**.813**
Evaluation of Marketing Activities 3	.171	.094	.150	**.842**

5.2 Common Method Bias

It is well documented that the effect of common method bias (CMB) arises from self-reported data and other sources (e.g., social desirability) (Mac Kenzie and Podsakoff, 2012). Harman's single-factor test is regarded as the most common method to test the common method bias, in which all measures were introduced into a principal component analysis with varimax rotation. By conducting factor analysis in SPSS, it was revealed that the first principal component accounts for less than 30% of variance, suggesting that this component did not account for the majority of the variance (<50%). Therefore, common method bias is not a big issue in this study.

5.3 Hypothesis Testing

By conducting regression analysis, it was found that external reward has a positive effect on evaluation of marketing activities (b=.363, t=3.6517, p=.0000) (a-path), supporting H1(a). Further, interactive competition positively influences on evaluation of marketing activities (b=.4227, t=4.7267, p=.0000) (a-path), supporting H1(b). The hypothesis testing is shown in table 7.

Following Baron and Kenny's (1986) steps, we tested the mediating effects. First, we found that external reward on immersion was significant (b=.4902, t=6.4127, p=0.0230), and immersion on the effect on consumers' evaluation of marketing activities was also (c-path) (b=.3717, t=4.6892, p=0.0000). Further, the mediating role of immersion on the external reward on evaluation of marketing activity is also significant (b=0. 3717, t=4.6892, p=0.0000), supporting H3(a).

First, we found that interactive competition on immersion was significant (b=.5075, t=8.2821, p=0.0230), and immersion on the effect on consumers' evaluation of marketing activities was also (c-path) (b=.3717, t=4.6892, p=0.0000). Further, the mediating role of immersion on the interactive competition on evaluation of marketing activity is also significant (b=0.1766, t=2.2919, p=0.0230), supporting H3(b).

However, it was found perceived enjoyment did not mediate the effect of external reward on evaluation of marketing activity (b=0.1065, t=1.1077, p=0.2698), and perceived enjoyment also did not mediate the effect of interactive competition on evaluation of marketing activity (b=0.0988, t=1.1139, p=0.2667). Thus, H2(a) and H2(b) were not supported. And the tests of research hypothesis are shown in table 7.

Table 7 Hypothesis Testing

	Paths	Coefficient	t-statistics	p
Independent variable→ dependent variable (a path)	External Reward→ Evaluation of Marketing Activities	.3630	3.6517	.0000
	Interactive Competition → Evaluation of Marketing Activities	.4227	4.7267	.0000
Independent variable→ mediator (b path)	External Reward→ Perceived Enjoyment	.6935	11.0022	.0000
	External Reward→ Immersion	.4902	6.4127	.0000
	Interactive Competition →Perceived Enjoyment	.6121	11.5034	.0000
	Interactive Competition →Immersion	.5075	8.2821	.0000
Mediators→ dependent variable (c path)	Perceived Enjoyment → Evaluation of Marketing Activities (External Reward)	.1065	1.1077	.2698
	Immersion → Evaluation of Marketing Activities (External Reward)	.3717	4.6892	.0000
	Perceived Enjoyment → Evaluation of Marketing Activities (Interactive Competition)	.0988	1.1139	.2667
	Immersion → Evaluation of Marketing Activities (Interactive Competition)	.1766	2.2919	.0230

Table8: Tests of research hypothesis

Proposed	Paths	Hypothesis tests
H1a	External Reward→ Evaluation of Marketing Activities	supported
H1b	Interactive Competition → Evaluation of Marketing Activities	supported
H2a	Perceived Enjoyment → Evaluation of Marketing Activities (External Reward)	nonsupport
H2b	Perceived Enjoyment → Evaluation of Marketing Activities (Interactive Competition)	nonsupport
H3a	Immersion → Evaluation of Marketing Activities (External Reward)	supported
H3b	Immersion → Evaluation of Marketing Activities (Interactive Competition)	supported

DISCUSSION

This study examines the effects of external reward and interactive competition on consumers' evaluation of marketing activities. By conducting a survey, it was found that external reward and interactive competition in gamification have positive effects on consumers' positive evaluation of marketing activities. Further, we found that the impact of external reward and interactive competition on consumers' evaluation of marketing activities are mediated by immersion. However, perceived enjoyment didn't mediate the effect on external reward and interactive competition on consumers' evaluation of marketing activities. This may be because that perceived enjoyment as emotional response does not influence the evaluation of marketing activities.

6.1 Theoretical Implications

This study makes several important theoretical contributions. First, this study contributes to literature in gamification by identifying factors impacting consumers' evaluation of marketing activities. Previous research did not combine the elements of gamification with customers' evaluation. We explored the role of external reward and interactive competition on consumers' evaluation of marketing activities. This paves a way for future study on the other elements of gamification for customers.

Second, this study contributes to the literature in marketing by connecting gamification and marketing fields. Previous study on gamification just emphasized the elements, rather than applying it to marketing. Thus, we combine the elements of gamification in marketing and explore the effects of two gamification elements on the evaluation of marketing activities in marketing to broaden the marketing theory.

Third, this study contributes to literature in gamification by exploring the impact of the perceived enjoyment and immersion. Previous research on gamification didn't involve the mediators. Through data analysis, we found that the impact of external reward and interactive competition on consumers' evaluation of marketing activities are mediated by immersion.

6.2 Practical Implications

This research also provides insights for firms and game administrators on how to encourage customers to generate purchase intention and purchase behavior by designing more gamification elements. Specifically, this study contributes to practice in three ways. First, our results suggested that firms should design more external reward on gamification to attract customers. For cosmetic firms, they can carefully design point external rewarding games online to attract customers. Cosmetic firms can give customers some discount or coupons of their products when customers start to brow their website or advertisement. In so doing, according to our results, such external reward can greatly enhance consumers' evaluation, which in turn may increase their purchase intention. For example, firms can set point rewarding. By making reasonable rules, participants can earn points. When points reach a certain level, they can exchange for what they want.

Second, our results also show that it is critical to design appropriate interactive competition on gamification. Interactive competition can enhance consumers' experience and communication effects. When interacting among themselves, consumers can make new friends and learn more skills and knowledge from others, which in turn increase their happiness. Besides, consumers can communicate their opinion and suggestions about the products. Competition can cultivate their abilities in all aspects and inspire their potential. For example, the company can design a game for group participation. The group needs 3 to 8 players, and they need to compete with other groups in order to win.

Third, designers could attempt to reinforce users' sense of immersion. Our findings suggest that the sense of immersion can influence the customers' evaluation on gamification. Thus, companies can develop good products and service that can increase users' sense of immersion. There are various ways that can enhance users' sense of immersion. For example, companies can design some games, which have excellent story plot and picture. In that way, users can immerse themselves in it, and have purchasing intention.

6.3 Limitations and Future Directions

Although we made efforts to innovate in research angle and method of this study, there were still some deficiencies, which were summarized as follows, providing certain enlightenment for similar research in the future.

First of all, the study sample size is not big enough. The samples focus more on the students, which can't represent the whole situation. Therefore, in future studies, the sample size should be expanded as much as possible, and questionnaires should be collected in more places to improve the sample representation.

Second, the game for academic research subject is relatively immature. Thus, it lacks the perfect theoretical framework. And

there is no more authoritative measurement scale now. Although in this paper, some other research dimensions are used to design the measurement scale, the items may not be comprehensive and accurate enough.

Finally, considering the huge amount of work, this study is just select two elements, which are external reward and interactive competition. It can be conducted on other gamified elements, as well as the differences in consumers' perceived value and purchase intention to different gamified elements in the future, so as to have a deeper understanding of consumers' views on gamified marketing to enterprises.

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