



The Impact of e-Commerce Platform Reward Design on Users' Willingness to Continue Using

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Abstract. In the rapidly developing market environment, how to retain users has become the core demand of e-commerce platforms. This article takes Ant Forest and Duoduo Orchard as examples to conduct empirical research: explore the impact of game-based reward design on users' willingness to continue using social e-commerce platforms with clear self-concept, and provide suggestions for the development of the platform. The research results show that both social and functional rewards positively affect user satisfaction, but the impact path is different under the mediation of social exposure and goal completion process.

Keywords: Clear self-concept · Self-quantification · continuance use intention · Gamification

1 Introduction

Researcher Parthasarathy pointed out that the cost of finding a new customer is five times that of retaining an old customer [1].

In existing research, more research has been conducted from the perspective of user motivation [2], but there is little research on why customers have different levels of interest in different rewards. Based on this, this article takes “Duoduo Orchard” and “Ant Forest” as examples to study how gaming rewards, users' self concept clarity, and users' willingness to continue using social e-commerce platforms interact and play a role.

2 Literature Review

2.1 Game-Based Reward Design and Self-Concept Clarity

Users receiving social rewards can help them establish a green and environmentally friendly image, thereby improving their social status; The smooth acquisition of functional rewards has satisfied consumers' expectations and pursuits, as well as users' demands for enjoyment [3].

H1a: Social rewards positively affect the clarity of self-concept.

H1b: Functional rewards positively affect the clarity of self-concept.

2.2 Self-Concept Clarity and User's Willingness to Continue Using

The research on user subscription retention shows that people who have high self-concept clarity and desire to maintain their self-concept stability are more likely to continue to subscribe and use, because this operation can maintain the stability and unity of their self-concept clarity [4].

H2: The clarity of self-concept has a positive impact on users' willingness to continue using.

2.3 Mediation Effect of Self-Concept Clarity

The clarity of self-concept can affect the selection of products related to identity symbols, and the acquisition of social rewards has a positive impact on users' social status and self satisfaction; In terms of functional rewards, users will pay more attention to the basic performance, benefits, and effects of rewards obtained by participating in games [5].

H3a: Self-concept clarity plays a mediating role in the influence of functional value on the willingness to continue using.

H3b: Self-concept clarity plays a mediating role in the impact of social value on the willingness to continue using.

2.4 Regulatory Effect of Social Exposure

When consumers share social rewards, users will feel that their concept of successful image creation is more profound; When consumers share functional rewards, they often reap the admiration of others for such highly cost-effective rewards [6].

H4a: Social exposure positively regulates the influence of functional value on self-concept clarity.

H4b: Social exposure positively regulates the impact of social value on self-concept clarity.

2.5 Regulating Effect of Goal Completion Process

In the process of quantifying self, users receive positive feedback through information collection on completed parts, and gain enhanced clarity of self concept.

H5a: The goal completion process positively regulates the impact of functional value on the clarity of self-concept.

H5b: The goal completion process positively regulates the impact of social value on the clarity of self-concept.

2.6 Model Construction

The specific empirical model is shown in Fig. 1:

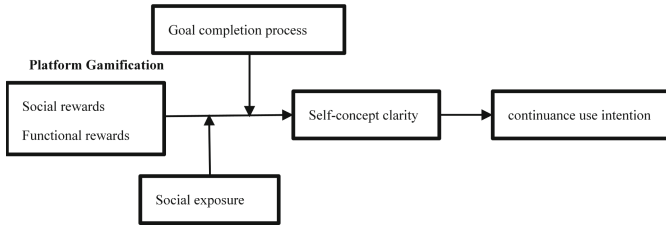


Fig. 1. Research model of this paper

Table 1. Overall reliability analysis

	Cronbach's Alpha	number of terms	KMO	Approx. Chi-Square	df	Sig.
Social reward scale	0.908	14	0.862	1154.340	78	0.000
Functional reward scale	0.855	13	0.821	986.045	78	0.000

3 Research Design

3.1 Scale Design

The questionnaire design of this article combines a large number of mature scales, and conducts in-depth interviews to form a formal questionnaire after adjustment. Finally, a total of 325 questionnaires were distributed and 283 valid questionnaires were recovered.

3.2 Scale Reliability Test

The reliability analysis of this study mainly uses α . As shown in Table 1, the KMO value and significance p-value of the reliability coefficient method meet the standard, and the scale passes the reliability test.

4 Empirical Research

4.1 Main Effect Analysis

As shown in Table 2, linear regression was performed on game-based rewards and users' willingness to continue using, self concept clarity, and users' willingness to continue using, respectively. The DW values are all approximate to 2, and the p-values and standardized regression coefficients meet the criteria. H1a, H1b, and H2 are valid.

Table 2. Gamification rewards and users’ willingness to continue using

Model		Beta	t	Sig.
Social reward	(constant)		20.307	0.000
	M Self-concept clarity	0.400	4.898	0.000
Functional reward	(constant)		15.463	0.000
	M Self-concept clarity	0.347	4.569	0.000

Table 3. Test of Mediation Effect

Gamification rewards		Effect	se	t	p	LLCI	ULCI	BootSE	BootLLCI	BootULCI
Social reward	Overall	0.3062	0.0564	5.4280	0.0000	0.1946	0.4179			
	Direct	0.2291	0.0599	3.8251	0.0002	0.1106	0.3477			
	Indirect	0.0771						0.0275	0.0294	0.1378
Functional reward	Overall	0.6832	0.0956	7.1439	0.0000	0.4942	0.8721			
	Direct	0.5915	0.0990	5.9716	0.0000	0.3958	0.7872			
	Indirect	0.0917						0.0403	0.0218	0.1802

4.2 Test of Mediation Effect

As shown in Table 3, this study used the PROCESS plug-in to conduct a bootstrap analysis and conducted a mediator model regression analysis for Model 4. From this table, it can be seen that the intermediary effect has a 95% confidence interval of [0.294, 0.0294] and [0.0218, 0.1802], and [0.1106, 0.3477] and [0.3958, 0.7872], respectively. There is no zero within the interval, assuming that H3a and H3b hold.

4.3 Adjustment Effect Test

As shown in Table 4, the following table conducts a bootstrap analysis with the help of the PROCESS plug-in to perform model verification for Model 7. The results showed that there were significant interactions between game-based reward design, goal completion process, and willingness to continue using, with p values meeting the criteria. H4a, H4b, H5a, and H5b were established.

Table 4. Model 7 fitting

Gamification rewards	Adjusting variables	R	R-sq	MSE	F	df1	df2	p
Social rewards	Goal cp	0.6103	0.3725	2.3821	24.5383	3.0000	124.0000	0.0000
	Social e	0.6727	0.4525	2.0783	34.1661	3.0000	124.0000	0.0000
Functional rewards	Goal cp	0.4710	0.2218	2.3436	14.3478	3.0000	151.0000	0.0000
	Social e	0.5757	0.3314	2.0136	24.9492	3.0000	151.0000	0.0000

5 Research Conclusion and Discussion

Research has shown that game-based reward design has a positive correlation with self-concept clarity, and the impact of functional rewards is slightly higher than social reward perception. Social exposure and quantitative self play a regulatory role in this process.

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