

# Research on moderated mathematical model of repurchase intention on a knowledge internet platform: The mediation mechanism and boundary conditions

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**Abstract.** Initial purchase expectation disconfirmation does not necessarily reduce consumer repurchase intention on a knowledge payment platform. This paper constructs a moderated mediation model to explore the positive impact mechanism and boundary conditions of initial purchase expectation disconfirmation on repurchase intention. With 524 questionnaire surveys, this paper conducts empirical analysis. The main findings are as follows: First, initial purchase expectation disconfirmation positively affects consumer repurchase intention by stimulating the platform search effort. Second, three boundary conditions affect such a mediation mechanism: subjective norms, anticipated regret, and alternative attractiveness. Specifically, the higher the subjective norms and anticipated regret the consumer has, the stronger the stimulating effect of initial purchase expectation disconfirmation on platform search efforts. The higher the platform alternative attractiveness, the stronger the optimistic prediction of platform search efforts on the platform repurchase intention. The conclusion deepens the theoretical mechanism of how initial purchase expectation disconfirmation affects platform repurchase intention.

**Keywords:** Initial purchase expectation disconfirmation; Repurchase intention; Platform search effort; Subjective norms; Anticipated regret; Alternative attractiveness.

## 1. Introduction

The rapid growth of Internet has brought diversified ways and means of realizing knowledge. An increasing number of consumers are willing to pay for premium online services and quality content. A series of online knowledge services (OKS) are emerging to satisfy consumers' knowledge and learning needs. These services include Q&A consulting services (e.g., Badu Answer, Zhihu Live, Google Answer, Aiwon iAsk), online courses (e.g., icourse163), and audiobooks (e.g., Amazon audio-book, Podcast, Ximalaya FM). The Report of 2020-2024 in-depth research and investment prospect forecast of China's knowledge payment industry shows that the size of China's knowledge payment market has reached 27.8 billion yuan in 2019. Despite the explosive growth of the industry, various online knowledge payment platforms have been facing the challenge of low consumer stickiness. According to iResearch's recent report, the repurchase rate of OKS is approximately 30%, which is substantially lower than that of other online services. Therefore, exploring why consumers repeat purchase online knowledge services is crucial to the growth of online knowledge payment platforms.

Previous scholars have explored the key factors that influence consumers' intention to pay for online knowledge services from several theoretical perspectives. Based on the value perception perspective, existing research has identified perceived value as a mediation mechanism affecting consumers' purchase intention [1][2]. Based on social capital theory, some scholars found that structural social capital, relational social capital and cognitive social capital have significant effects on knowledge payment behavior[3]. Based on trust theory and the adaption level theory, some research has found that knowledge contributor characteristics and their reputation on the paid Q&A platform, as well as customer expertise, positively influence consumers' purchase intention [4]. From the perspective of signal theory, Cai and Zhang found that cost signal, quality signal and user-generated content significantly affect the sales of knowledge payment products [5][6]. Shi and Zhang

and Yang's research based on information foraging theory (IFT) and social information foraging (SIF) theory found that perceived quality of free content, perceived credibility of content creators, and perceived quantity of participants positively influence users' willingness to pay, and thus, positively affects users' payment behavior [7].

In summary, prior research on the influencing factors of knowledge payment intention has made some progress, but there are still three shortcomings: Firstly, most of the existing research simply assumed that consumers' initial purchase and repurchase were homogeneous, and rarely explored the heterogeneity of influencing factors and mechanism of purchase intention under the two situations. Secondly, the existing research followed the traditional negative theoretical perspective, that is, in the e-commerce or offline shopping scene, expectation disconfirmation reduces the repurchase intention by reducing satisfaction, and has not explored the possibility of platform search effort as a positive mediation mechanism in the specific scenarios of online knowledge payment. Thirdly, the existing research was limited to the simple verification of the relationship between expectation confirmation or expectation disconfirmation and repurchase intention, and few research further explored the boundary conditions that affect the strength and even the direction of the relationship between them. To address these gaps, this study explores the mediating mechanisms and boundary conditions by which initial purchase expectations disconfirmation positively influences repurchase intention on knowledge payment platforms. Specifically, this study discusses how initial purchase expectation disconfirmation can improve platform search effort, and then positively affect repurchase intention, and how subjective norms, anticipated regret, and platform alternative attractiveness can regulate the mediation process. Conclusion can help clarify the mechanism of initial purchase expectation disconfirmation affecting repurchase intention.

## **2. Literature review and hypotheses**

### **2.1. Initial purchase expectation disconfirmation and Repurchase intention: the mediating effect of platform search effort**

From the attribution perspective, consumers usually perceive their decisions as rational and controllable, and tend to attribute outcomes from their own perspective. When initial purchase expectation is not confirmed, consumers tend to engage in self-attribution, attributing the outcome to themselves rather than to the platform. In this case, consumers can improve defensive cognition through self-affirmation, so as to alleviate related negative results. In this case, switching platforms is not the first choice for consumers. On the contrary, self-affirmation and defensive cognition can prompt consumers to increase their platform search efforts. The status quo theory holds that cognitive misperception, psychological commitment and rational behavior decision-making enhance consumers' tendency to maintain the status quo[8]. Cognitive misperception refers to the bias in consumers' perceptions of the use of alternatives, where consumers tend to perceive the losses of using alternatives more than the potential gains. Psychological commitment refers to consumers' tendency to self-justification, their reluctance to acknowledge the mistakes of their previous decisions and their desire to remain consistent with them [9]. Research on sunk costs points to the tendency to continue committing resources to an endeavor once initial investments in money, effort, or time were already made. This tendency endures even when the initial investments had failed to produce the desired effects [10]. As a result, consumers tend to continue to invest more on established platforms to recoup potential losses even if their expectations that are not confirmed. The viewpoint of rational behavior decision-making suggests that consumers' switching willingness and switching behaviors are affected by perceived cost. Considering the cost of learning, social relations and finance [11][12], consumers tend to choose to continue to use the existing knowledge payment platform[13].

Information search is a key stage in the customer decision-making process[14]. High-quality information obtained from extensive search can help consumers get a good platform experience and reduce perceived risks [15]. Liao's research has confirmed that search effort can have a positive impact on repurchase intention by increasing consumer satisfaction with the product [16]. From the

perspective of participation fit and emotion, the higher the search effort means the higher the degree of involvement between consumers and platforms, which will lead to more emotional connection and brand attachment between consumers and platforms[17][18]. Some research have shown that emotional connection and user fit positively affect consumers' repurchase intention [19].

In summary, initial purchase expectation disconfirmation does not necessarily prompt consumers to switch the knowledge payment platform, but may increase their search efforts on the existing platform due to self-attribution, cognitive misperception, psychological commitment and rational behavior decision. Search effort further reduces the risk of information asymmetry and the gap between the actual value and expected value of products, and promotes more emotional connection and higher fit between consumers and platforms to enhance consumers' repurchase intention. Therefore, search effort may be the mediation mechanism of the relationship between initial purchase expectation disconfirmation and platform repurchase intention.

H1: Initial purchase expectation disconfirmation positively influences repurchase intention on a knowledge payment platform by stimulating platform search effort.

## **2.2. Initial purchase expectation disconfirmation and Platform search effort.: Boundary effect of subjective norms**

Subjective norms are defined as an individual's perception of social pressure[20]. According to theory of Reasoned Action and theory of Planned Behavior, behavior is affected by subjective norms. Subjective norms are an original construct from the TRA that deals with the influence of social pressure on individuals and thus, on behavior intention[21][22]. The positive impacts of subjective norms on consumers' repurchase intention are confirmed in many areas such as social media, mobile reading , online learning and knowledge quizzing.

As far as knowledge payment platforms are concerned, because their family members, friends or people they admire are consumers of the platform and recommend them to use it. Consumers are more cautious in deciding whether to switch the knowledge payment platform due to the constraints of "maintaining the relationship" and "group expectations"[23]. Even if initial purchase expectation is not confirmed, when consumers feel that their group is satisfied and recognized with the the payment platform, there is less intention to switch the platform and a higher degree of inertia in switching decisions, with consumers preferring to maintain their transactional relationship with the existing platform. At the same time, subjective norms also suggest to consumers that the existing knowledge platform has a good reputation, further reinforcing consumers' self-attributions, perceived misperceptions and psychological commitments. In this case, consumers are more likely to view initial purchase expectation disconfirmation as an eventuality and to act defensively, i.e. to conduct a broader and deeper information search to make a better purchase decision.

In summary, subjective norms can constrain consumers' platform switching behavior caused by initial purchase expectation disconfirmation, reinforce self-attribution, cognitive illusion and psychological commitment mechanisms in this process, and suggest that consumers engage in defensive behavior. Thus, subjective norms may enhance the positive relationship between initial purchase expectation disconfirmation and platform search effort.

H2: Subjective norms positively moderates the relationship between initial purchase expectation disconfirmation and platform search effort.

## **2.3. Initial purchase expectation disconfirmation and Platform search effort.: Boundary effect of anticipated regret**

Anticipated regret can be defined as a cognitively based anticipated emotion that people trigger when considering whether future outcomes would have been better if a different decision had been made. Research has shown that consumers are more regret averse than risk averse, always trying to make behavioral decisions that avoid or minimise their regret[24].

Anticipated regret refers to hypothetical regret before making a decision; in other words, anticipated regret may arise and act on the subsequent behavioural decision before consumers make

decisions. After the initial purchase expectation disconfirmation has occurred, consumers need to make a decision about whether to continue using the established platform or switch platforms. In this study, anticipated regret refers to the potential regret that may arise from consumers choosing an alternative knowledge payment platform. Aware of the potential losses associated with the action of switching platforms, such as financial and interpersonal losses, consumers will choose the option that will generate less regret[25]. In this case, consumers are more likely to continue to use the existing knowledge payment platform and increase their platform search effort in order to avoid or reduce their anticipated regret.

In summary, anticipated regret amplifies the loss aversion when consumers want to switch the knowledge payment platform, thus prompting them to continue using the existing platform and increase their platform search efforts. Thus, anticipated regret may enhance the positive relationship between initial purchase expectation disconfirmation and platform search effort.

H3: Anticipated regret positively moderates the relationship between initial purchase expectation disconfirmation and platform search effort.

#### 2.4. Platform search effort and Repurchase intention: Boundary effect of Platform alternative attractiveness

Alternative attractiveness significantly influences consumers' repurchase decisions. Customers' perception of alternative attractiveness can be a strong factor that attracts, or "pulls," customers away from their current service providers [26].

Research on consumers' information seeking behavior shows that shoppers' information need is mainly determined by the perceived risk of a purchase and their prior online shopping experience [27][28]. When consumers experience a lack of confirmation of their initial purchase expectations, their need for information increases and they therefore increase their search efforts. When consumers conduct extensive and in-depth information search on the existing platform, they are more likely to find alternatives that are similar to their initial purchase, and inevitably compare them with them. From the perspective of signal theory, the more attractive the platform alternatives are, the more likely it is to send a positive signal to consumers that diverse, high-quality products exist on the knowledge payment platform to meet their own needs.

Stimulated by this positive signal, consumers may invest more effort in searching for information on the existing platform, which can stimulate them to repurchase on this platform. On the one hand, platform alternatives attractiveness reinforces consumers' self-attribution tendencies and cognitive illusions, reduces the perception of risk due to initial purchase expectation disconfirmed, and increases the perception of trust and value in the existing platform. On the other hand, according to the S-O-R model (Mehrabian and Russell, 1974), there may be a positive signal (S) that there are high-quality knowledge products that meet self-demand on the existing knowledge payment platform, which, as an environmental stimulus, enhances consumer' impulsive consumption tendency (O) and then stimulates consumers' repurchase behavior (R).

In summary, when perceived platform alternatives attractiveness is higher, consumers can search on the existing platform more extensively and deeply, which makes them more likely to receive positive signals of quality, value, trust and other stimuli that lead to repurchase intention.

H4: Platform alternative attractiveness positively moderates the relationship between platform search effort and repurchase intention.

Based on the above related theoretical analysis, the research model constructed in this paper is shown in Figure 1.

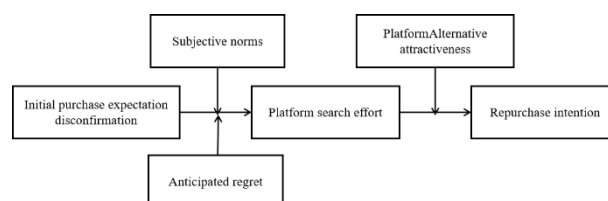


Figure 1. Research model

### 3. Research methodology

#### 3.1. Study sample

In this study, we collected data by publishing electronic questionnaires through WeChat group. To control the quality of questionnaires, samples with zero purchase experience on online knowledge payment platforms, abnormal questionnaires that took too short a time, and questionnaires with incorrect answers to quality control questions were excluded from this study, and a total of 524 valid questionnaires were finally obtained. In terms of education distribution, 82.6% of the respondents were bachelor degree holders or above; in terms of age distribution, the 19-25 and 26-35 age groups accounted for the highest proportion of respondents, at 47.5% and 37.4% respectively. In terms of occupation, employees and students were the ones who accounted for 48.7% and 36.6% of the study sample respectively.

**Table 1.** Sample demographics(N=524)

Construct	Option	Count	Percentage
Gender	Male	212	40.5
	Female	312	59.5
Age	<18	9	1.7
	19-25	249	47.5
	26-35	196	37.4
	36-50	59	11.3
	≥50	11	2.1
Education	High school or below	17	3.2
	Associate degree	74	14.1
	Bachelor degree	294	56.1
	Graduate degree	139	26.5
Occupation	Scientific and technical worker	31	5.9
	Employees	255	48.7
	Student	192	36.6
	Other	46	8.8

#### 3.2. Measuring tools

Repurchase intention (RI) was assessed with three-item scale adapted from Chou and Hsu[29]. The measures for initial purchase expectation disconfirmation (DISC) was modified from Liao[16]. Platform search effort (SE) was measured with items from Liao[30]. Subjective norms (SN) were measured with items from Liang and Shiau[31]. Anticipated regret (AR) was assessed with six-item scale adapted from Ha[32]. The measures for alternative attractiveness were modified from Liao[16]. Statistical analysis shows that the Cronbach’s alpha (a)coefficients of all constructs were above 0.7 and therefore acceptable.

We incorporated a number of control variables to ensure the reliability of the empirical results. Gender, age, education, and Occupation were tested to see if any of these constructs affected repurchase intention[33]. We also controlled for times of online knowledge payments, payment amounts and experience because they have significant effects on search effort and repurchase intention [34].

In terms of validity testing, the scales used in this study were all from well-established foreign scales and the content validity could be guaranteed. On this basis, validation factor analysis was conducted using AMOS 23.0 software to test the discriminant validity of the scales. As can be seen from Table 2, the fit of the six-factor model ( $\chi^2/df = 2.072$ , CFI= 0.956, TLI = 0.942, RMSEA = 0.045, SRMR = 0.046) was significantly better than the other factor models. Therefore, there was good discriminant validity between these six variables.

**Table 2.** Validity ANALYSIS

Model	Factor composition	X <sup>2</sup> /df	CFI	TLI	RMSEA	SRMR
Six factors	DISC <sup>a</sup> , RI <sup>b</sup> , SE <sup>c</sup> , SN <sup>d</sup> , AR <sup>e</sup> , AA <sup>f</sup>	2.072	0.956	0.942	0.045	0.046
Five factors	DISC+RI, SE, SN, AR, AA	6.267	0.753	0.713	0.100	0.106
Four factors	DISC+RI, SE+SN, AR, AA	7.367	0.695	0.653	0.110	0.111
Three factors	DISC+RI, SE+SN, AR+AA	7.362	0.691	0.653	0.110	0.111
Two factors	DISC+RI+SE, SN+AR+AA	7.159	0.698	0.665	0.109	0.106
Single factor	DISC+RI+SE+SN+AR+AA	7.741	0.668	0.633	0.114	0.103

a= Disconfirmation, b = Repurchase Intention, c = Search Effort, d= Subjective norms, e= Anticipated regret, f= Alternative Attractiveness.

All data for this study were derived from subjects' self-reports and therefore may be subject to common method bias. To test for homogeneity error, we used Harman's single factor analysis method. The results showed that a total of 2 principal component factors had eigenvalues greater than 1, the cumulative explained variance of the two was 44.445% and the explained variance of the 1st principal component factor was 34.755%, which was less than 50%. Therefore, we can assume that there is no common method bias.

## 4. Data analysis and results

### 4.1. Descriptive statistics and correlation analysis

The results (Table 3) show that the means, standard deviations and Pearson correlation coefficients between the variables in this study are within a reasonable range. In particular, initial purchase expectation disconfirmation was significantly positively correlated with repurchase intention ( $r=0.199$ ,  $p<0.01$ ), and platform search effort was significantly positively correlated with both initial purchase expectation disconfirmation and repurchase intention ( $r=0.542$ ,  $p<0.01$ ;  $r=0.344$ ,  $p<0.01$ ), providing preliminary evidence to support the existence of a positive mediating mechanism.

### 4.2. The mediation mechanism and boundary conditions

First, Model 4 in the SPSS macro developed by Hayes (2012) was applied to test the mediating effect of platform search effort in the relationship between initial purchase expectation disconfirmation and platform repurchase intention, under the condition of controlling gender, age, education level, occupation, knowledge payment experience, purchase times and purchase amounts. Regression analysis (Table 4) showed that initial purchase expectation disconfirmation had a significant positive predictive effect on platform repurchase intention ( $\beta=0.153$ ,  $t=4.370$ ,  $p<0.001$ ), and the direct predictive effect between the two became insignificant after adding the mediating variable ( $\beta=0.016$ ,  $t=0.417$ ,  $p>0.05$ ), but the positive predictive effect of initial purchase expectation disconfirmation on platform search effort was significant ( $\beta=0.508$ ,  $t=13.507$ ,  $p<0.001$ ), and the positive predictive effect of platform search effort on platform repurchase intention was significant ( $\beta=0.269$ ,  $t=6.846$ ,  $p<0.001$ ). The Bootstrap mediation model test (Table 5) indicated that the mediation effect was positive and significant (Effective size = 0.137, 95% CI = [0.085, 0.187]), while the direct effect was not significant (Effective size = 0.016, 95% CI = [-0.060, 0.093]). The result suggests that platform search effort fully mediates the process by which initial purchase expectation disconfirmation affects platform repurchase intention, and H1 was verified.

Second, Model 23 in SPSS macro compiled by Hayes (2012) was used to test the moderated mediation model. Regression analysis (Table 6) indicated that the interaction term of initial purchase expectation disconfirmation and subjective norms had a significant predictive effect on platform search effort ( $\beta=0.129$ ,  $t=3.121$ ,  $p<0.01$ ), the interaction term of initial purchase expectation disconfirmation and anticipated regret had a significant predictive effect on platform search effort ( $\beta=0.187$ ,  $t=2.534$ ,  $p<0.05$ ), and the interaction term of platform search effort and platform alternative

attractiveness had a significant predictive effect on platform repurchase intention ( $\beta=0.141, t=3.482, p<0.001$ ), suggesting that the mediating process of initial purchase expectation disconfirmation affecting repurchase intention by motivating platform search effort is moderated by subjective norms, anticipated regret and platform alternative attractiveness. Further simple slope analysis and regulation effect diagrams (Figures 2-4) indicated that the positive predictive effect of initial purchase expectation disconfirmation on platform search effort was stronger in the high subjective norms condition (M+1SD) than in the low subjective norms condition (M-1SD) ( $\beta=0.542, p<0.001$  vs.  $\beta=0.370, p<0.001$ ), the positive predictive effect of initial purchase expectation disconfirmation on platform search effort was stronger in the high anticipated regret condition (M+1SD) than in the low anticipated regret condition (M-1SD) ( $\beta=0.591, p<0.001$  vs.  $\beta=0.419, p<0.001$ ), and the positive predictive effect of platform search effort on platform repurchase intention was significantly stronger in the high platform alternatives attractiveness condition (M+1SD) than in the low platform alternatives attractiveness condition (M-1SD) ( $\beta=0.255, p<0.001$  vs.  $\beta=0.085, p>0.05$ ). Therefore, H2, H3, and H4 were validated.

Finally, Model 7 as well as Model 14 were applied separately to calculate the mediation effect intensity of platform search effort under different levels of moderator variables. Model 7 was applied to analyze subjective norms and anticipated regret, and Model 14 was applied to analyze platform alternatives attractiveness. The results show that the strength of the mediating effect of platform search effort between initial purchase expectation disconfirmation and platform repurchase intention increases significantly as subjective norms increasing at low-moderate to high levels (Table 7, Effect=0.100 vs. Effect=0.123 vs. Effect=0.146). The strength of the mediating effect of platform search effort between initial purchase expectation disconfirmation and platform repurchase intention also increases significantly as the low-moderate-high level of anticipated regret increasing (Table 8, Effect=0.113 vs Effect=0.136 vs Effect=0.159). The significance and strength of the mediating effect of platform search effort between initial purchase expectation disconfirmation and platform repurchase intention increases significantly as the low-moderate to high level of platform alternative attractiveness increasing (Table 9, Effect=0.057 vs Effect=0.102 vs Effect=0.148).

**Table 3.** Inter-construct correlations

Construct	Mean	SD	DISC	RI	SE	SN	AR	AA
DISC	3.398	0.842	1					
RI	3.667	0.671	0.199**	1				
SE	3.452	0.826	0.542**	0.344**	1			
SN	3.616	0.735	0.293**	0.532**	0.280**	1		
AR	2.865	0.451	0.419**	-0.111*	0.248**	-0.083	1	
AA	3.633	0.634	0.501**	0.400**	0.461**	0.444**	0.196**	1

**Table 4.** The test of mediation model of search effort

Model (N=524)		Fitting index			Coefficient Significance	
Dependent Variables	Independent Variables	R	R2	F(df)	B	t
RI		0.314	0.099	7.036***		
	Gender				0.060	1.031
	Age				0.045	1.144
	Education				-0.040	-0.991
	Occupation				-0.132	-3.271**
	Experience				0.033	0.898
	Times				0.083	2.058*
	Amount				0.012	0.331
SE	DISC				0.153	4.370***
		0.560	0.313	29.337***		
	Gender				-0.042	-0.668
	Age				0.087	2.083*
	Education				-0.051	-1.182
	Occupation				-0.063	-1.446
	Experience				-0.022	-0.551
	Times				-0.067	-1.552
RI	Amount				-0.007	-0.170
	DISC				0.508	13.507***
		0.417	0.174	12.020***		
	Gender				0.071	1.277
	Age				0.021	0.563
	Education				-0.026	-0.677
	Occupation				-0.115	-2.972**
	Experience				0.039	1.103
SE	Times				0.101	2.610**
	Amount				0.014	0.397
	SE				0.269	6.846***
	DISC				0.016	0.417

**Table 5.** The test of mediation effect of search effort

	Effect value	Boot error	95%CI
Total effect	0.153	0.035	[0.084, 0.222]
Direct effects	0.016	0.039	[-0.06, 0.093]
Indirect effects	0.137	0.026	[0.085, 0.187]

**Table 6.** The test of mediation model with moderation

Model (N=524)		Fitting index			Coefficient Significance	
Dependent Variables	Independent Variables	R	R2	F(df)	B	t
SE		0.591	0.350	22.887***		
	Gender				-0.065	-1.059
	Age				0.092	2.213*
	Education				-0.037	-0.867
	Occupation				-0.045	-1.041
	Experience				-0.021	-0.534
	Times				-0.066	-1.549
	Amount				-0.039	-1.024
	DISC				0.442	10.153***
	SN				0.165	3.572***
	DISC×SN				0.129	3.121**
	AR				0.188	2.379*
	DISC×AR				0.187	2.543*
RI		0.508	0.258	16.204***		
	Gender				0.057	1.070
	Age				0.035	0.977
	Education				-0.012	-0.318
	Occupation				-0.108	-2.924**
	Experience				0.020	0.592
	Times				0.082	2.233*
	Amount				0.020	0.603
	SE				0.201	5.199***
	DISC				-0.084	-2.127*
	AA				0.350	7.140***
	SE×AA				0.141	3.482***

**Table 7.** Mediating effects at different levels of subjective norms

Mediator	SN	Effect value	Boot error	95%CI
SE	M-1SD	2.881	0.100	[0.057, 0.157]
SE	M	3.616	0.123	[0.082, 0.175]
SE	M+1SD	4.351	0.146	[0.098, 0.204]

**Table 8.** Mediating effects at different levels of anticipated regret

Mediator	AR	Effect value	Boot error	95%CI
SE	M-1SD	2.409	0.113	[0.071, 0.169]
SE	M	2.860	0.136	[0.089, 0.191]
SE	M+1SD	3.311	0.159	[0.102, 0.232]

**Table 9.** Mediating Effects At Different Levels Of Platform Alternative Attractiveness

Mediator	AA	Effect value	Boot error	95%CI
SE	M-1SD	-2.999	0.057	[-0.016, 0.129]
SE	M	3.633	0.102	[0.057, 0.153]
SE	M+1SD	4.267	0.148	[0.085, 0.215]

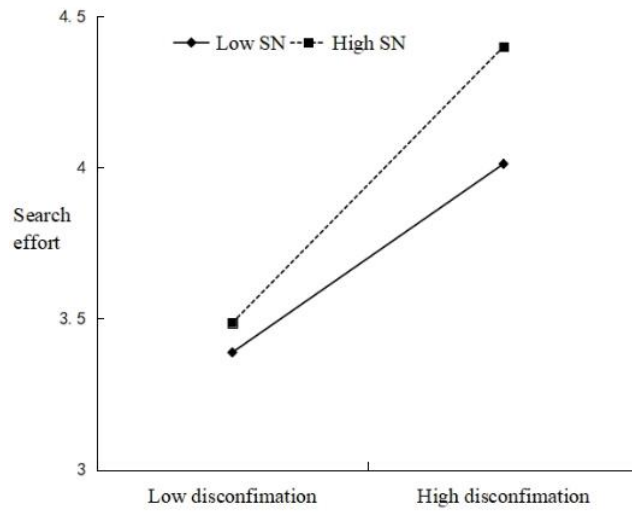


Figure 2. Diagram of the moderating effect of subjective norms

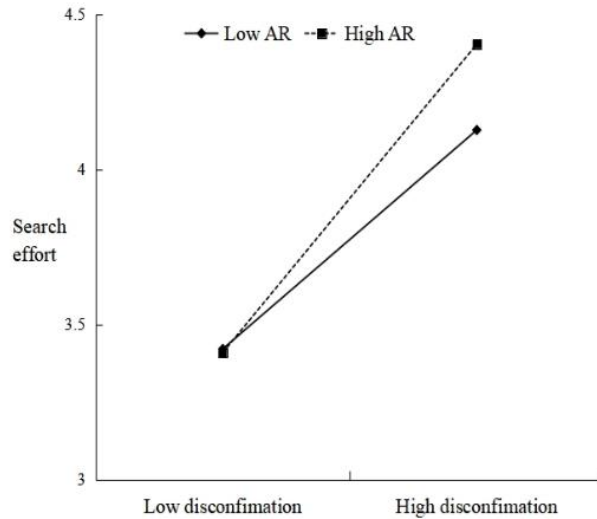


Figure 3. Diagram of the moderating effect of anticipated regret

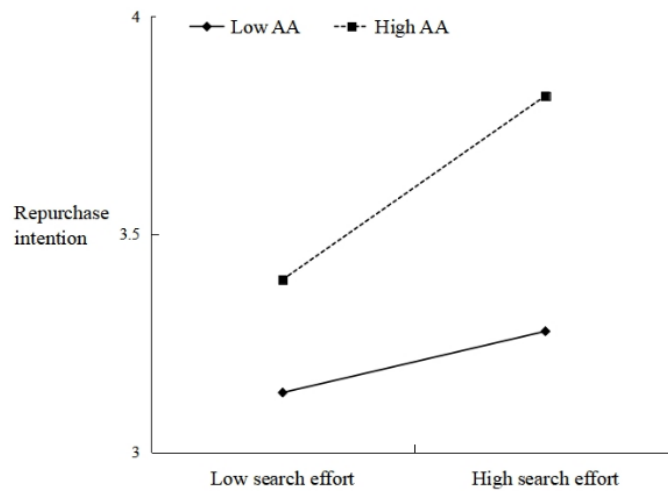


Figure 4. Diagram of the moderating effect of platform alternative attractiveness

## 5. Analysis and discussion

This paper finds that, first, initial purchase expectations disconfirmation increases consumers' repurchase intention by stimulating their platform search efforts. Consumers who experience initial purchase expectation disconfirmation do not necessarily switch platforms, and may instead increase their platform search efforts on existing platforms due to self-attribution, perceived misperception, psychological commitment and rational behavioural decision. Search effort leads to more emotional connection, bonding and trust between consumers and the platform, reducing the perception of risk and thus increasing repurchase intention.

Second, subjective norms, anticipated regret and alternative attractiveness enhance the strength of positive mediation mechanisms of platform search effort. Among them, subjective norms constrain consumers' platform switching behavior caused by initial purchase expectation disconfirmation, strengthen the self-attribution, cognitive illusions and psychological commitment mechanism that initial purchase expectation disconfirmation positively affects repurchase intention, and imply that consumers participate in defensive behavior, thus enhancing the positive relationship between initial purchase expectation disconfirmation and platform search effort. Anticipated regret amplifies loss aversion in the decision to switch platforms, which in turn motivates consumers to continue using the existing platform and increase their search effort, thus enhancing the positive relationship between initial purchase expectation disconfirmation and platform search effort. The higher platform alternatives attractiveness, the more likely consumers are to receive positive signals of quality, value and trust when searching extensively and intensively on the existing platform, thus enhancing the positive relationship between platform search effort and repurchase intention.

This study verifies the mediating mechanism and boundary conditions by which initial purchase expectation disconfirmation affects repurchase intention on a knowledge payment platform, providing a new explanation for the positive effect of initial purchase expectation disconfirmation. Three specific points are made.

Firstly, this study expands the research on the influencing factors of consumers' repurchase intention under the online knowledge payment scenario. Some research have explored the influencing factors of knowledge payment intention from the perspectives of value perception, social capital, trust and signal theory, but most of them have not distinguished initial and repeat purchase and have not further explored what differences may exist between the factors influencing initial and repeat purchase. Although many scholars have focused on consumers' repurchase intention, they invariably conceded that initial purchase expectation disconfirmation was a natural negative factor inhibiting repurchase intention. From the theoretical perspectives of self-attribution, loss aversion and rational decision-making, this study argues that the initial purchase expectation disconfirmation does not necessarily lead to consumers' switching behaviors and subsequently reducing their repurchase intention. Through theoretical derivation and empirical analysis, we reveal the positive effect of initial purchase expectation disconfirmation, thus expanding the antecedents of repurchase intention on a knowledge payment platform.

Secondly, this study enriches the research on the mechanism by which the initial purchase experience influences repurchase intention under the online knowledge payment situation. Most of the existing research takes satisfaction as the mediation mechanism between initial purchase and repurchase, that is, initial purchase expectation disconfirmation reduces consumer satisfaction and then negatively affects repurchase intention. Due to the limitations in understanding the positive effect of expectation disconfirmation, no research has explored the positive path mechanism by which initial purchase expectation disconfirmation affects knowledge payment platform repurchase intention. This study confirms that platform search effort fully mediates the positive relationship between initial purchase expectation disconfirmation and repurchase intention on a knowledge payment platform. When experiencing disconfirmation of initial purchase expectation, consumers tend to attribute themselves, thinking that they have not searched for product information comprehensively. At the same time, loss aversion, social norms, and sunk costs motivate consumers to continue using existing platforms. In addition, expectation disconfirmation increases consumers'

perception of platform risk and defensive perceptions, prompting them to increase their platform search efforts to avoid the recurrence of expectation disconfirmation. The discovery of the positive mediation mechanism of platform search effort provides some evidence to open the 'black box' between initial purchase expectation disconfirmation and repurchase intention, enriching the study of the pathways between initial purchase experience and repurchase intention.

Thirdly, this study deepens the understanding of the boundary effect of the mediation mechanism of platform search effort. Prior research was limited to simply exploring the path mechanism of initial purchase expectation disconfirmation that affects repurchase intention, while few research further explored contingency factors that affect the strength and even direction of the relationship between them. This study reveals three boundary conditions that influence the strength of the aforementioned mediation mechanism from the theoretical perspectives of social pressure perception, emotion, and signal, namely subjective norms, anticipated regret, and platform alternative attractiveness. Specifically, under the condition of high subjective norms, consumers perceive more social pressure. In order to keep in line with the group, consumers often don't switch platforms, and use self-affirmation and defensive cognition to alleviate the negative result caused by initial purchase expectation disconfirmation. In this scenario, consumers invest more platform search efforts. With high anticipated regret, consumers strive to minimize regret and maximize utility and prospect. Consumers prioritize sunk costs and perceived risk before making decisions, and tend to continue using existing platforms and increase their search efforts to recoup their losses. In addition, the presence of high-quality alternatives sends a positive signal to consumers that there are diverse, high-quality products available on the current platform to meet their consumption needs. The positive signal is more likely to stimulate consumers' repurchase intention. The discovery of multiple boundary conditions deepens the understanding of the mediation mechanism of platform search effort. Faced with the unfavorable situation of lower-than-expected profits and weak growth of new users in the knowledge payment industry, how to increase repurchase intention of regular customers has become the key to the sustainable growth of online knowledge payment platforms. This study focuses on how to increase consumers' repurchase intention when their initial purchase expectation is disconfirmed, and the findings of the study have some certain implications for knowledge payment platforms.

Firstly, information search before purchase decision positively affects the platform repurchase intention. In particular, as consumers experience initial purchase expectation disconfirmation, their defensive perception rises and their need and effort to search for information on the platform increases. Platforms need to conduct in-depth dynamic observations of consumer information searching behaviors and identify the constraints that affect consumers' willingness and efficiency to search for information. Improving consumers' information search experiences by optimizing the organization of information and improving the presentation of information. Secondly, consumers' choices of knowledge payment platforms and their continued usage behaviors are to some extent influenced by family, friends, or people they admire. In the age of social media, knowledge payment platforms can make use of virtual communities such as Weibo and friend circles to give full play to the word-of-mouth effect, attracting new users and retaining existing customers. Thirdly, platform alternative attractiveness positively influences consumers' repurchase behavior after their initial purchase expectations are disconfirmed. Knowledge payment platforms can optimize personalized recommendation systems to suggest alternatives that are more powerful and less expensive than their initial purchase. As a positive signal of the quality, value and trust of the platform, high-quality alternatives can stimulate consumers' repurchase behaviors. Finally, platforms can take a range of measures to increase consumers' transfer costs. For example, knowledge payment platforms can design points campaigns that increase consumers' repurchase intention and behaviors when more points are available for service upgrades or redemptions.

The present study has some limitations. Firstly, this study only verified the positive effect of the negative emotion of initial purchase expectation disconfirmation on knowledge payment platform repurchase intention; other negative emotions (e.g., frustration, anxiety, etc.) may also have consistent

or other positive influence mechanisms that can be further discussed in future studies. Secondly, due to the limitations of the sample size, this study does not distinguish between different categories of knowledge service platforms. Different types of knowledge service platforms (Q&A advisory services, online courses, online knowledge subscriptions and audiobooks, etc.) often have their own uniqueness. Future research could make more targeted recommendations for a particular knowledge service platform. Thirdly, most samples belong to well-educated youth. Thus, the findings of this research may not be universally applicable to the general public, such as middle-aged or less-educated people. We call for future studies to investigate our findings in other contexts with different cultural or regional settings. Fourthly, we used the recall method to evoke the respondents' perceptions, which might induce memory recall bias. If future studies could replicate the study through experiments, it would strengthen the reliability of our results. Furthermore, the cross-sectional design of this study did not present an opportunity to examine the long-term trend of these hypothesized relationships. Therefore, we believe that longitudinal research will help better understand initial purchase expectation disconfirmation and repurchase intention relationship. Finally, we only focus on repurchase intention and ignore online repurchase behavior. Thus, an additional dependent variable, repeated purchase behavior, could be explored to enhance our model's persuasiveness.

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