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Influence of Platform Authentication on Payment Behavior on Online Knowledge Platforms

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Abstract: Paid knowledge products have rapidly risen in prevalence and popularity in recent years. Online knowledge platforms have adopted many governance measures to attract more users and protect their needs. We explore the influence of such governance measures on the payment behaviors of knowledge acquirers by constructing a research model based on signal theory. The results show that the characteristic signals of both knowledge products and knowledge providers are positively associated with the number of participants. Authentication marks from the platform do not directly influence knowledge acquirers. The platform authentication marks have a moderating effect by partly replacing the effect of the knowledge providers' characteristic signals. The results suggest that such authentication measures can help knowledge acquirers identifying high-quality knowledge products and enable them to participate more actively in buying knowledge. Our work has academic as well as practical implications for the operation and management of online knowledge platforms.

Keywords: paid knowledge products, signal theory, platform governance, empirical research, moderation effect

1. INTRODUCTION

With the increasing demand for fragmented learning from knowledge acquirers, acceptance of premium and paid content, and the maturity of payment technologies, paying for online knowledge is becoming a new way for users to acquire knowledge to learn. Although online knowledge platforms are establishing an important channel to exchange and share knowledge between the supply and demand sides of the knowledge economy, the quality of paid knowledge products is an issue that need to be addressed and self-corrected by these platforms through governance mechanisms. Based on the development status and problems of paid knowledge industry, scholars have clarified the importance of platform governance. Although researchers have studied the influential factors from paid knowledge products and providers^[1], they have not yet empirically verified whether and how to measure affect acquirers' participation behaviors from the perspective of platform governance.

As a new kind of online tradeable goods, paid knowledge face the problem of information asymmetry inevitably. Signal theory can explain how consumers rely on signals from sellers to form expectations about the quality of the seller's products or services^[2]. Examples of paid knowledge signals are review scores, experience of the knowledge provider, personal identity authentication, and excellent respondent authentication by the platform. When many signals of many products are sent, related signals are usually processed at the same time, which means a signal does not work alone or signals have an overall effect as a combination^[3]. As a typical type of third-party signal, authentication information can effectively reduce risk perception, establish consumer trust, and promote online consumption^[4]. However, the impacts of authentication marks on participants' trust and behaviors and the interactions of authentication marks with other signals have not received much research attention.

Based on the signal theory, we examine information from knowledge products, knowledge providers, and platform authentication marks as signals received by knowledge acquirers and construct a theoretical model. We also captured operation data of an online knowledge platform and analyzed the implementation effects of

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existing governance measures of this platform.

2. METHODOLOGY

Online word-of-mouth indicates users' recognition and reflects a comprehensive evaluation of some product's quality. A higher number of live broadcasts held by a knowledge provider corresponds to greater capability in creating knowledge products. The personal identity and excellent respondent authentication can show the knowledge provider's expertise and knowledge sharing ability. With all other things being equal, signals from products also with the platform's authentication marks can be considered more authentic than those without any authentication mark. In other words, in addition to directly affecting a knowledge acquirer's payment decision, the authentication mark can indirectly affect their payment decision by affecting their degree of trust in other signals. Accordingly, we put forward eight hypotheses of direct effect and moderation effect.

Regression analysis is used to study the impact of platform governance measures on user behavior. Our data were collected from Zhihu Live (URL: www.zhihu.com/lives), including 1,206 valid knowledge products. In order to examine how various signals are transmitted to potential participants in the online knowledge platform and how they affect their payment decisions and behaviors, we constructed the following research model:

$$\begin{aligned} ParticipantNumber_i = & \beta_0 + \beta_1 ReviewScore_i + \beta_2 HostingExperience_i + \beta_3 PersonalIdentity_i \\ & + \beta_4 ExcellentRespondent_i + \beta_5 RS_i \times PI_i + \beta_6 RS_i \times ER_i + \beta_7 HE_i \times PI_i \\ & + \beta_8 HE_i \times ER_i + \beta_9 ControlVariable_i + \varepsilon_i \end{aligned}$$

3. CONCLUSION

This study analyzes online knowledge platform governance through a regression model. We used signal theory and the real data of Zhihu Live, a live broadcast paid knowledge platform, to examine the direct influences and moderation effects of review score, hosting experience and the platform authentication marks signals. We found that the review score of knowledge products and the hosting experience of knowledge providers positively affect acquirers' payment behavior. The platform authentication marks have a negative moderate role on the hosting experience. In other words, knowledge acquirers judge that knowledge products have high quality through high review score and hosting experience, while platform authentication marks, as a kind of mental shortcut judgment, will make knowledge acquirers pay less attention to other quality signals. Our research shows the important role of governance measures in reducing information asymmetry and helping to judge how much of the knowledge sharing content can be referenced. The platform should continue to improve the evaluation mechanism of the authentication marks to make them more targeted and more meaningful.

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