Summer 5-28-2021

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Enterprise Adoption of User Ideas in the Online User Innovation

Community: An Empirical Analysis based on IAM

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Even though a large amount of user-generated content in the innovation community reduces the cost of searching for user ideas by enterprises, the information overload caused by it increases the cost of cognition of effective ideas. Previous studies usually equate enterprises' adoption willingness with adoption behavior of user ideas, lacking the discussion on the adoption mechanism from willingness to behavior. By employing Information Adoption Model, the present study establishes a model of the influencing factors of user idea adoption, and investigates the mechanism of enterprises adoption of user ideas in two stages.

Information Adoption Model was proposed by American scholars Sussman and Siegal in 2003. Through the integration of the classic Elaboration Likelihood Model (ELM) and Technology Acceptance Model (TAM) dual process model, the information adoption process was explained from the central route and the peripheral route. The central route is mainly argument quality, and the peripheral route is mainly source credibility. The perceived usefulness of information recipients is an intermediate variable between information characteristics and information adoption, which has a positive impact on information adoption.

On the basis of IAM, we constructs a model of the influencing factors of user idea adoption. The model is divided into two stages. The first stage mainly analyzes the user ideas text characteristics that affect the designer perceived usefulness. The central route of the model includes information relevance, readability and sentiment features, and the peripheral route includes user authority degree and idea popularity. The second stage mainly studies the process of transforming the designer perceived usefulness into the enterprise's adoption of user ideas. This stage analyzes how the designer perceived usefulness affects the adoption of user ideas, and discusses the moderating effect include degree of feature attention, degree of referencing, and innovation forms on the designer perceived usefulness and user idea adoption.

Through the Python scripting language, we collected the online user ideas data of the MIUI system circle from January 15, 2020 to December 17, 2020. At the same time, a total of 50 update logs in this time period were manually tracked. We collected 432936 pieces of online user ideas. After eliminating the missing personal information (user's score) and no designers' response in the original data, a total of 30001 valid research data were obtained.

The first stage of the study found that the information quality and source credibility of user ideas affect the perceived usefulness of product designers. Relevant information can provide a more detailed description of product innovation, readable text can increase the interest of readers, and positive sentences can improve the willingness of designers to deal with information, so it is conducive to improve the perceived usefulness of designers. Influenced by the authority effect, the higher the user's score, the more credible the designer will consider the suggestions be, so it is easier for designers to accept them. Idea's popularity reflects the consistency of users' needs and implies the potential success rate of the innovative idea in the market, so it can positively

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affect the perceived usefulness of designers.

The above conclusions provide management significance for enterprise operation innovation community. First of all, designers in the enterprise community should guide users to publish their ideas in an appropriate form. Specifically, they should advocate concise and clear forms of expression and encourage positive expressions. Secondly, enterprises should provide more rewards for leading users in the community and establish incentive mechanism, so that leading users can provide more high-quality innovative ideas. For example, when purchasing a brand product, users can deduct their user scores accordingly.

The second stage further verified the view of information adoption model, that is, perceived usefulness is an intermediate variable between information characteristics and adoption behavior, which has a positive impact on information adoption. Product feature attention and reference degree can enhance the impact of designer perceived usefulness on user idea adoption. The more attention paid to the product features, the more users' needs can be met and the higher economic benefits can be brought to the enterprise. The higher the degree of reference, the higher the feasibility of the user ideas. Product designers can refer to related products to achieve improvement. The innovation form has a moderating effect on the designer's perceived usefulness and the user idea adoption. For the improvement suggestions of the original function, the designer's perceived usefulness has a greater impact on the user idea adoption. In other words, enterprises are more inclined to gradual, stable and low-cost innovation.

The above conclusions reveal the mechanism of enterprises from ideas adoption intention to behavior, and suggest that enterprises need to consider market demand, competitive products and R&D difficulty factors in the process of adopting user ideas. When a designer takes a useful user idea as an innovation proposal, he should first examine the market attention of the proposal. High attention may also mean that adopting the user idea for product innovation can obtain more support and profits. Secondly, when enterprises carry out product innovation, they should not be limited to their own products. They should understand the related products, especially the products of competitors, maintain the advantages of their own products, and prevent them from being surpassed by competitive products. Finally, enterprises should consider their own R&D ability in product innovation, and avoid blind investment, so as to avoid the negative effects of excessive investment.

This paper attempts to carry out innovative research from the following aspects: First, use IAM based on the enterprise perspective to expand the application scope of this model in network text analysis. The designer's response is used to measure perceived usefulness, and the text similarity between ideas and product update logs is used to measure the results of user idea adoption, which better solves the measurement problem of two variables. Second, distinguish between the designer's perceived usefulness and the enterprise's adoption behavior of user ideas. And further Exploring the factors that may affect this process to enrich the theoretical content of IAM from the designer's perspective.

The following presents the theoretical significance of this study: (1) the information adoption model is applied to the analysis of user ideas from the perspective of enterprises, expanding the application scope of the model. (2) This paper distinguishes the perceived usefulness of designers and the adoption behavior of enterprises to user ideas, discusses the mechanism of moderating variables from adoption intention to adoption behavior, and improves the research system of enterprise adoption mechanism. The practical significance of the present study is to help enterprises effectively adopt user ideas to support product innovation: (1) it provides management suggestions for enterprise innovation community operation, such as standardizing the form of ideas publishing and establishing leading user incentive mechanism. (2) It is suggested that enterprises should pay more attention to market demand, competitive products and R&D difficulty factors in user idea adoption.