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Exploring the Cognitive Factors of Corrective Health Information Adoption Intention in Infodemic Using SEM and fsQCA

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Short Research Paper

Exploring the Cognitive Factors of Corrective Health Information Adoption Intention in Infodemic Using SEM and fsQCA

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Abstract: This paper applied the Protective Action Decision Model (PADM) and the Heuristic System Model (HSM) to explore the cognitive factors of the web users' corrective health information adoption intention. The path analyses showed that both systematic processing and heuristic processing can positively affect perceived information overload and false information perception, and these two variables had mediating effects between heuristic processing and corrective health information adoption intention; Systematic processing, protection action perception, stakeholder perception and e-health literacy positively affected the corrective health information adoption intention. The fsQCA found that there were two types of configurations leading to corrective health information adoption intention. Systematic processing, stakeholder perception, perceived information overload and hazard-related attributes were important antecedents. The results of this study can be helpful to take up measures to enhance the corrective health information adoption and reduce the risks brought by infodemic.

Keyword: Corrective health information adoption; Infodemic; SEM; fsQCA

1. INTRODUCTION

"We're not just fighting an epidemic, we're fighting an infodemic"[1]. Infodemics are an excessive amount of information about a problem, which makes it difficult to identify a solution. There exist misinformation, disinformation and rumors during a health emergency. Infodemics can also hamper an effective public health response and create confusion and distrust among people[2]. The production and disinformation of corrective health information can be helpful to eliminate the negative influences of infodemic. The corrective health information is to correct the public's wrong beliefs, which are supported by clear evidence and expert opinion[3]. By combing through the literature, we found that previous studies mainly concentrated on the dissemination process of corrective health information, what cognitive factors affect corrective health information adoption intention were rarely examined. In light of these gaps, we focus on how self-perceptions and information processing types exert influences on corrective health information adoption intention.

2. THEORETICAL FOUNDATION AND HYPOTHESES

The Protective Action Decision Model (PADM) is a comprehensive framework that explains how people's information processing behaviors and self-perceptions affect their responses to external risk events and hazards, and three dimensions of perceptions—protective action perception, stakeholder perception and risk perception—should be accounted for in the decisions whether to perform hazard adjustment actions[4]. The protective action perception includes hazard-related attributes and resource-related attributes [4]. In this paper, the risk perception concerning infodemic is demonstrated by perceived information overload and false information perception. And the stakeholder perception reflects the degree of cognitive evaluation by authorities and professionals. HSM defines two types of information processing: systematic processing and heuristic processing. Systematic processing means that individuals make judgments by carefully examining information and correlating it with existing information. In heuristic processing, individuals often use simple peripheral cues without extra effort to help them make judgments about specific information [5].

Based on PADM, HSM and related researches, this study developed the theoretical model and raised seven groups of

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hypotheses: (1) Risk perception positively affects corrective health information adoption intention; (2) Information processing type positively affects risk perception; (3) Information processing type positively affects corrective health information adoption intention; (4) Risk perception mediates the relationship between information processing type and corrective health information adoption intention; (5) Hazard-related attributes positively affect corrective health information adoption intention; while resource-related attributes negatively affect corrective health information adoption intention; (6) Stakeholder perception positively affects corrective health information adoption intention; (7) e-Health literacy positively affects corrective health information adoption intention.

3. RESEARCH METHODOLOGY AND RESULTS

SEM was applied in this study for testing the net effects of causal paths in the structural model. Based on the survey of 365 web users, the results of the proposed research model showed a good fit: CMIN/df =2.213, GFI = 0.844, CFI = 0.916, NFI=0.858 and RMSEA = 0.058. The factors loading of all items in the model were high (0.62) and significant ($p<0.001$). SEM results indicated that both systematic processing and heuristic processing positively affected risk perception; systematic processing ($\beta=0.171$, $p<0.01$), heuristic processing ($\beta=0.099$, $p>0.05$), hazard-related attributes ($\beta=0.267$, $p<0.001$), stakeholder perception ($\beta=0.375$, $p<0.001$) and e-Health literacy ($\beta=0.150$, $p<0.01$) had positive effects on corrective health information adoption intention respectively. Resource-related attributes ($\beta=0.197$, $p<0.01$) positively influenced corrective health information adoption intention. The perceived information overload and false information perception both had mediating effects in the relationship between heuristic processing and corrective health information adoption intention. While the mediating effect of systematic processing was not significant.

The sufficient configurations leading to high level of corrective health information adoption intention were achieved by fsQCA (performed using fsQCA 3.0). fsQCA found two configurations. The first one indicated that the core conditions leading to corrective health information adoption intention were high-level systematic processing, high-level perceived information overload, high-level hazard-related attributes and high-level stakeholder perception. The auxiliary conditions were high-level heuristic processing and high-level resource-related attributes. The second one included four sub-modes. The core conditions that led to the corrective health information adoption intention were high-level systematic processing and high-level stakeholder perception. The common auxiliary condition of the four sub-models was high-level e-Health literacy.

4. CONCLUSION AND DISCUSSIONS

Theoretically, this research applies PADM model which provides a new perspective for information adoption research; the functions of systematic processing and heuristic processing on the corrective health information adoption intention are examined to address on the importance of different information processing types on protection action decision in infodemic. Managerially, the SEM findings suggest that government, public media as stakeholders have the responsibilities to disseminate corrective health information; the fsQCA results also confirmed the importance of stakeholder perception and systematic processing in corrective health information adoption intention when facing information overload. Interestingly, people would allocate more resources such as taking time and effort, learning professional knowledge and collaborating with others to obtain corrective health information. Thus, the e-Health intervention strategies should be designed and implemented to improve health literacy skills among web users in a variety of settings. However, this study had limitations. The survey was carried out online and 33.3% of the respondents were younger than 25, so sampling bias and non-response bias may exist; since a configuration for predicting high outcome is not simply the mirror opposite of the recipe achieving outcome negation, future work should examine the low level of the corrective health information adoption intention by fsQCA.

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