보상기반 크라우드 펀딩 플랫폼에서 투자자의 특성이 정보 처리 및 투자 의사결정에 미치는 영향							
Understanding the Influence of Funder Characteristics on Information Processing and Pledging Intention on a							
Reward-based Crowdfunding Platform							
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요 약-

크라우드펀딩은 초기 단계 벤처나 스타트업 기업의 자금 조달의 혁신적인 수단으로 널리 알려져 왔다. 하지만, 투자자의 동기와 능력과 같은 투자자 특성이 그들의 정보 처리와 투자의사 결정에 미치는 영향관계는 아직까지 명확하게 알려지지 않았다. 본 연구는 투자자의 개인 특성, 정보 처리 스타일 및 투자 의사 결정 사이의 관계를 알아보기 위한 실증 연구 모델을 제안하고, 이를 검증하는 것을 목표로 한다. 연구 모델의 검증을 위해 Amazon Mechanical Turk 참가자를 대상으로 온라인 설문조사를 수행하였으며, 총 139명의 유효한 데이터를 수집하였다. 그 결과, 투자자의 자기효능감이 휴리스틱 처리에 긍정적인 영향을 미치지만 체계적 정보 처리에는 유의미한 영향을 미치지 않는다는 것을 알 수 있었다. 반면, 투자자의 관여도는 체계적 및 휴리스틱 정보 처리에 모두 긍정적으로 영향을 미치는 것으로 나타났다. 또한 휴리스틱 정보 처리와 지각된 가치는 긍정적으로, 지각된 위험은 부정적으로 각각 투자 의사 결정에 유의미한 영향을 미쳤다. 이러한 결과는 향후 크라우드펀딩 플랫폼의 디자인을 개선하여 투자자의 정보 요구를 더 잘 지원하는 데 기여할 수 있을 것으로 기대한다. 이러한 결과를 토대로 연구의 함의와 향후 연구 범위에 대해 논의하였다.

키워드 : 보상기반 크라우드펀딩; 정보 처리;휴리스틱-체계적 모델; ELM 모델

$\ensuremath{\mathbb{I}}$. Introduction

Early-stage ventures and startups face a significant

challenge in securing funding to turn their innovative ideas into successful businesses. The rise of the Internet has introduced a new method of raising capital known as crowdfunding, where a crowd of individuals contributes small amounts of money online (Lelo de Larrea *et al.*, 2019). These individuals, referred to as funders,

[†] This work was supported by the Ministry of Education of The Republic of Korea and the National Research Foundation of Korea (NRF-2020S1A5A2A03040798).

backers, or contributors, have various motivations for supporting projects, including receiving rewards, backing ventures, feeling connected to a project, or being part of a community (Buerger *et al.*, 2018; Herrero *et al.*, 2020). This paper focuses specifically on reward-based crowdfunding platforms, where a large number of funders can make contributions and receive rewards in return.

The reward-based crowdfunding platform plays a vital role in providing information to funders. Funders often feel uncertain about the outcome of their pledging decisions within this two-sided market (Courtney et al., 2017). Therefore, funders are highly motivated to gather and assess relevant information to reduce uncertainty (Davies and Giovannetti, 2018). Funders who actively seek information will be more confident in their funding decisions. Furthermore, the information that funders require and how they obtain it may differ depending on the information needs of individual funders; for example, some funders may do meticulous research while others may seek quick information using shortcuts. The conditions underlying a funder's pledging decision are likely to influence not only the funding decision itself but also the process of finding and processing information relevant to the pledging decision. As a result, novice funders and experienced funders may have different information-seeking approaches based on their distinct needs. To ensure the success of project funding, crowdfunding platforms must adequately address the specific information search requirements of funders.

Despite the significance of funders' information search styles and their impact on pledging decisions in crowdfunding, this topic has received little attention from researchers. The field of consumer behavior extensively examines information search, focusing on how individual consumers gather and utilize product information to make informed purchase decisions (Meyer, 1982; Moorthy *et al.*, 1997; Schmidt and Spreng, 1996; Srinivasan and Ratchford, 1991). Subsequently, researchers have explored the influence of information technology on the search process, particularly in reducing information overload (Edmunds and Morris, 2000; Grisé and Gallupe, 1999). However, the study of information search within the context of crowdfunding is relatively new, resulting in a scarcity of research on this topic. Furthermore, there is a lack of understanding regarding how a funder's personal attributes impact their information search style. This study aims to address this gap in existing research and provide valuable insights into the relationship between a funder's personal attributes and their information search behavior.

The primary objective of this research is to examine the relationships among a funder's personal traits, information search style, and funding intentions. We will place particular emphasis on investigating the funder's ability and motivation as significant personal characteristics that can impact their process of acquiring and analyzing pertinent information while making pledging decisions. In light of these distinctions, our ultimate goal is to explore the variations in the strategies employed by novice and experienced funders, as well as highly committed and weakly committed funders, when it comes to seeking and analyzing signals on the crowdfunding platform in order to make informed decisions. To achieve this objective, we review previous studies to construct a conceptual model of a funder's information search approach, which is then tested empirically. The research questions addressed by this study are as follows:

- How do a funder's ability and motivation influence the funder's information processing behavior?
- How does a funder's information processing behavior influence the funder's pledging decision?

The anticipated outcomes of this study will contribute valuable insights into the theoretical connections between a funder's personal characteristics, their information search style, and their decision-making process when participating in crowdfunding. Additionally, the findings will have practical implications for enhancing the functional design of crowdfunding platforms. These improvements will cater to the diverse motivations and capabilities of funders, ultimately helping meet their funding requirements more effectively.

The rest of this paper is organized as follows. Section 2 provides a review of relevant literature, presents our research hypotheses, and outlines the research model. Section 3 explains our research methodology and how data collection process for testing the research model and hypotheses. Moving on to Section 4, we present the findings from the statistical analyses, which encompass tests of reliability, validity, and hypotheses. Finally, in Section 5, we conclude the paper by discussing the implications of our findings and identifying potential avenues for future research.

□. Theoretical Background and Hypotheses

2.1 Information Search in Crowdfunding

When considering a potential commitment to a promising project, a funder faces inherent uncertainty about the outcome of their decision (Lei *et al.*, 2017). To mitigate this uncertainty and make an informed choice, funders rely on information search. Research by Zafar *et al.* (2021) has shown that information search increases a funder's decision confidence to some extent in the context of equity crowdfunding. By extensively searching for relevant information and gaining an understanding of promising projects that can potentially address the problem at hand, a funder increases their chances of reaching an optimal decision.

This study aims to investigate how funders seek, gather, and evaluate information to reduce uncertainty. The theoretical foundation for this research lies in the heuristic-systematic model (HSM) of information processing, which is widely referenced in persuasion literature to explain how individuals receive and process messages (Chaiken, 1980). According to the HSM, attitudes of message recipients can change either systematically or heuristically (Chaiken and Ledgerwood, 2012). A person who systematically processes a message considers the facts carefully and deliberatively and forms an attitude based on the conclusions drawn from this thorough evaluation. Systematic processing involves a cognitive evaluation of information. Conversely, a person who heuristically processes a message uses relatively general rules to quickly arrive at conclusions regarding the message's validity. Thus, heuristic processing requires less cognitive effort to process relevant information. In this study, we employ the HSM to predict whether funders adopt a systematic or heuristic approach when seeking and analyzing project-relevant information on a crowdfunding platform before making an investment pledge. Therefore, the HSM serves as the basis for determining the funders' information search mode under different circumstances.

2.2 Funder's Personal Attributes

While the HSM forms the theoretical foundation of our research, we also incorporate the elaboration likelihood model (ELM) to identify key personal attributes of funders in this study. The ELM is a theoretical model that shares conceptual similarities with the HSM. In the ELM, elaboration refers to the extent to which a person thinks about the issue-relevant arguments contained in a message (Petty and Cacioppo, 1986). Essentially, it represents a recipient's cognitive scrutiny or careful thinking about a message. The ELM is applicable to the crowdfunding context in that it allows us to gain insights into how potential funders mentally engage with and analyze pertinent information to reach a funding decision.

The ELM is a dual-process model that explains how attitudes can be changed (Petty and Cacioppo, 1986). According to the model, attitude can change either centrally (through the argument's quality) or peripherally (through related cues). The likelihood of elaboration moderates the effects of these central and peripheral routes (Bhattacherjee and Sanford, 2006), and two factors influence this likelihood: motivation and ability (Petty and Cacioppo, 1986). When a recipient has high motivation and ability to evaluate an argument, they are more likely to engage in elaboration. Conversely, when either motivation or ability is low, the level of elaboration decreases, and the recipient relies on available cues (such as source credibility or message attractiveness) to evaluate the message (Bhattacherjee and Sanford, 2006). Thus, the likelihood of elaboration affects how a funder seeks and analyzes information about a crowdfunding project. This likelihood is expected to be influenced by the funder's ability and motivation to cognitively evaluate the project's merits.

In the ELM literature, ability is defined as the extent to which one possesses expertise or experience with the topic at hand (Bhattacherjee and Sanford, 2006). In this regard, ability is operationalized as self-efficacy in our study, which conceptually aligns with prior expertise. Since our focus is on overall skills rather than specific experience duration, a self-reported measure (self-efficacy) can effectively capture an individual's ability to participate in crowdfunding. On the other hand, motivation is defined by ELM researchers as the the extent to which consumers perceive the object/objective to be self-related or in some way instrumental in achieving their personal goals and values (Celsi and Olson, 1988; Ghuge, 2010). The consumer behavior literature supports the notion that motivation is determined by personal relevance (Hoyer *et al.*, 2017). Hence, we operationalize motivation as personal relevance.

2.2.1 Funder's Self-Efficacy

Self-efficacy, a concept introduced by psychologist Albert Bandura, refers to an individual's belief in their capacity to perform behaviors necessary for achieving specific outcomes (Bandura, 2009). It has a significant influence on a person's thoughts, actions, and emotions, ultimately contributing to their accomplishments and well-being (Bandura, 1995).

In the context of crowdfunding, funder's self-efficacy pertains to their perceptions of their own skills and capabilities related to crowdfunding activities. These activities include exploring crowdfunding projects, gathering project information, evaluating potential projects, and making funding decisions. Funders vary in their experience levels, with some being beginners and others having considerable prior experience in project funding. Those with more crowdfunding experience tend to be more knowledgeable and competent in performing the tasks required for informed funding decisions. Typically, individuals participating as funders in a crowdfunding campaign are anticipated to experience uncertainty and perceive potential risks related to their funding decisions. Therefore, those with proper funding skills will be highly motivated to reduce uncertainty and risk perception by actively gathering and processing information about a project under consideration (Kaminski and Hopp, 2019). Moreover, there is an information asymmetry between funders and creators, which places significant pressure on funders to mitigate this disparity by conducting extensive information searches (Davies and Giovannetti, 2018). On a crowdfunding platform, funders have access to a wide range of information including a campaign, a creator (i.e., startup), and rewards. A funder's ability to systematically interpret and utilize the information on the platform will depend on their experience levels, as novices will likely have limited knowledge about how to integrate various pieces of information to make a well-informed funding decision and, consequently, rely on heuristics to arrive at a swift decision. Thus, a funder's self-efficacy (i.e., perceived skill level in crowdfunding) would likely be positively related to systematic processing, but negatively related to heuristic processing.

Previous studies (Hu *et al.*, 2007; Ren, 1999) have shown a statistically significant relationship between self-efficacy and information search, indicating that individuals with higher confidence actively engage in external information search. Therefore, a highly skilled funder who possesses confidence in crowdfunding is expected to invest significant cognitive effort in seeking necessary project information and systematically processing it to make informed decisions. Thus, it can be argued that a strong sense of self-efficacy would lead funders to engage in systematic processing. Based on these theoretical grounds, we propose the following hypothesis:

Hypothesis 1: Funder's self-efficacy is positively related to systematic processing.

According to the HSM, individuals tend to resort to heuristic processing when they are unable to allocate sufficient cognitive effort to process information thoroughly (Chaiken and Ledgerwood, 2012). Heuristic processing is a faster and more automatic mode of processing, where individuals rely on easily noticeable and comprehensible cues to arrive at a solution. It is considered relatively automatic because it does not require high levels of motivation or cognitive thinking ability (Chaiken and Ledgerwood, 2012). Lee and Hong (2021) examined the relationship between situational constraints and information processing modes in e-commerce and found that perceived time pressure leads to heuristic processing. Participants who felt time-constrained relied more on available cues (heuristics) to determine which online reviews to read when making purchase decisions. The greater the time pressure individuals experience during a purchase decision, the more their ability to systematically process relevant online reviews is compromised, forcing them to seek quick solutions to their purchase problems (Lee and Hong, 2021).

Therefore, we can infer that similar logic would likely apply in the crowdfunding context. Inability to make the right funding decisions may hinder the cognitive evaluation and processing of information required for arriving at such decisions. In this regard, it can be hypothesized that funders with greater perceived skills and capabilities in crowdfunding are less likely to rely on shortcuts (cognitive heuristics) when processing information before making funding decisions. Consequently, we propose the following hypothesis:

Hypothesis 2: Funder's self-efficacy is negatively related to heuristic processing.

2.2.2 Funder's Personal Relevance

Liberman and Chaiken (1996) define personal relevance as the level of personal involvement or interest an individual has in a specific issue. It refers to how important and relevant the information content is to the individual's target behavior (Bhattacherjee and Sanford, 2006). In this study, personal relevance is defined as the extent to which a potential funder perceives funding for a project as personally important and relevant to their personal goals. The reason why it is important to understand how personal relevance affects information search behavior is that findings of such a study will shed light on how a crowdfunding platform can be designed to better support information searches by funders with varying levels of personal relevance. Funder's personal relevance can play a crucial role in producing successful outcomes of a crowdfunding campaign. First, personal relevance positively affects funder's motivation to contribute to a crowdfunding campaign. And funders who find a campaign personally relevant are likely to provide greater support to the campaign. Second, personal relevance encourages a funder to become actively involved in a campaign. A highly motivated funder has strong loyalty for a campaign under consideration, which helps to give continued contribution. Finally, the greater the number of funders who find a campaign personally relevant, the higher the likelihood of the campaign's success.

According to the HSM theorists, systematic processing occurs only when individuals are motivated (Zuckerman and Chaiken, 1998). Metzger *et al.* (2010) suggest that the amount of effort internet users exert in evaluating the credibility of online resources depends on the context of their information-seeking. They argue that highly motivated users pay more attention to information quality cues and evaluate information more thoroughly than when their motivation is low (Metzger *et al.*, 2010, p. 416). Therefore, when individuals perceive a high level of personal relevance to a particular issue or object, they are more inclined to actively seek and carefully process all available information to make the best decision.

This HSM theory can also be applied to information processing in crowdfunding. Crowdfunding researchers agree that personal relevance is a necessary condition for dedicated information search and utilization. For example, Allison *et al.* (2017) emphasize the importance of funder motivation in committing to a specific project, which is influenced by the level of risk the funder is willing to take to obtain the desired outcome. When funders are highly motivated to support a promising crowdfunding project, they will likely attempt to thoroughly understand any and all available information through careful attention, deep thinking, and intensive reasoning (Chaiken and Ledgerwood, 2012; Chen *et al.*, 1999). Besides, funders who find it personally relevant will likely rely on larger scope of information search, exploring various sources including campaign page, creator profiles, external websites, and social media. In addition, highly motivated funders are likely to spend more time gathering information on comparable funding campaigns assessing potential risks and benefits. This leads us to the following hypothesis:

Hypothesis 3: Funder's personal relevance is positively related to systematic processing.

Previous research indicates an inverse relationship between personal relevance and heuristic processing. The desire to scrutinize relevant facts influences both systematic and heuristic information processing (Chaiken and Ledgerwood, 2012). The strength of this desire is determined by the level of personal relevance or affiliation. The degree to which a funder considers crowdfunding to be personally relevant and important determines the extent to which they rely on cues rather than factual details when deciding whether to fund a project.

The weaker an individual's personal affiliation with an issue, the lower their inclination to exert cognitive effort in evaluating a campaign. Thus, the less relevant and important a funder perceives crowdfunding investments to be, the more likely they are to evaluate information heuristically and the less likely they are to integrate information systematically when making funding decisions. They are unlikely to be enthusiastic about seeking out pertinent campaign-related information. Instead, they are expected to adopt a shortcut approach to information searching, relying on straightforward heuristics. Due to a lack of commitment and enthusiasm, they will opt for an efficient method of seeking and processing information to arrive at a funding decision. Therefore, a low level of personal relevance is likely to result in a weaker desire to examine factual information, leading individuals to rely more on heuristics when making decisions. Based on this rationale, we propose the following hypothesis:

Hypothesis 4: Funder's personal relevance is negatively related to heuristic processing.

2.3 Behavioral Intention to Make a Pledging Decision

Once funders have completed their information search and processing to minimize uncertainty about the future performance of a project, they reassess the project to determine whether or not to make a pledge. During this process, funders develop perceptions regarding their pledging decision. This section explores the intricate relationships between information processing modes, funding intention, and the funder's perception of the pledging decision.

2.3.1 Information Processing Mode and Pledging Intention

Crowdfunding behavioral intentions encompass both economic contributions and information-sharing (Shneor and Munim, 2019). Economic contribution intention refers to a funder's willingness to provide financial support to a project. Information-sharing intention refers to a funder's willingness to share project knowledge with others, potentially promoting the project to a wider audience. From the ELM's perspective, previous studies indicate a strong association between quality signals (i.e., information elements) and funding intention. For instance, Wang and Yang (2019) found that quality signals on both the central and peripheral routes positively influence funding intentions. The information categories that funders consider when evaluating a project have an impact on their behavioral intention. Consequently, a funder's information processing approach when making a funding decision is likely to affect their funding intention.

The crowdfunding literature emphasizes that funding intention, sometimes referred to as pledging intention, is significant in that it can directly impact the business success of crowdfunding campaigns (Wang and Yang, 2019; Zhao *et al.*, 2017). The strong funding intentions of backers not only offer immediate financial support but also foster a positive atmosphere that attracts additional backers, validates the project concept, and contributes to the overall success of the campaign.

As mentioned in an earlier section, information search is often driven by the motivation to seek information. The extent to which an individual relies on information when making judgments, decisions, or taking actions is determined by their level of motivation to carefully consider these factors (van Knippenberg et al., 2021). Spending more time searching through information increases the likelihood of discovering information that can lead to a more informed funding decision (Zafar et al., 2021). Thus, a potential funder who conducts a thorough search and analysis of project-related information is more likely to rely on that information and develop a strong intention to fund the project. Similarly, a funder who relies on heuristics due to a lack of motivation or ability to make an informed crowdfunding decision is more likely to develop an intention to follow the crowd by jumping on the bandwagon of funding a particular project. Therefore, we propose the following two hypotheses:

- Hypothesis 5: Systematic processing is positively related to funding intention.
- Hypothesis 6: Heuristic processing is positively related to funding intention.

2.3.2 Funder Perceptions and Funding Intention

Funders' perceptions of pledging funds for a project, such as perceived risk and perceived value, can influence their funding intentions. In the context of consumer behavior, perceived risk refers to the negative consequences consumers associate with uncertain situations (Mitchell, 1999). It is considered a major barrier to consumer purchase decisions, especially in online buying. This negative influence of perceived risk also exists in the crowdfunding context. Zhao *et al.* (2017) conducted an empirical study on the antecedents of funding intention in crowdfunding and found that perceived risk has a negative impact on funding intention.

Research also demonstrates that funders' perceptions of the benefits of pledging funds for a crowdfunding project positively influence their funding

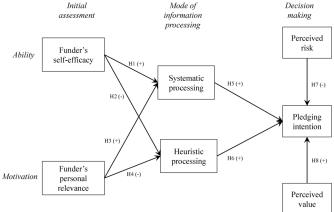
intention. For example, Zhao et al. (2017) found that commitment mediates the relationship between perceived benefit and funding intention. Strong perceptions of expected benefits increase funders' commitment, thereby bolstering their funding intention. This reasoning leads us to the conclusion that, on one hand, perceptions of crowdfunding risks negatively impact behavioral intention, while on the other hand, expectations of the benefits from funding a specific project (perceived value) positively affect funding intention. A creator, or a startup launching a campaign, must bear in mind that the success of their crowdfunding campaign relies on effective management of perceived risks and the clear communication of value to potential backers. Therefore, we propose the following two hypotheses:

Hypothesis 7: Perceived risk is negatively related to funding intention.Hypothesis 8: Perceived value is positively related to funding intention.

<Figure 1> presents the comprehensive model that

2.4 The Conceptual Model







Perceived

has been developed to explore the relationship between a funder's personal characteristics, information search behaviors, and pledging decisions in crowdfunding. The model considers ability and motivation as crucial personal attributes in the crowdfunding process. Ability is operationalized as self-efficacy (Luszczynska and Schwarzer, 2015), while motivation is defined as personal relevance (Bhattacherjee and Sanford, 2006). The study examines the impact of these personal attributes on two modes of information search: systematic processing and heuristic processing. Additionally, the complex interplay between information search approaches and pledging intention is investigated. Furthermore, the study explores the effects of perceived risk and perceived value on the pledging intention.

III. Research Method

3.1 Measures

A survey instrument was employed to empirically test the hypotheses in the research model, using a seven-point Likert scale to rate the questionnaire items. To ensure content validity, most of the scales were adapted from previous studies discussed in the development of the hypotheses, with minor modifications made to suit the current research context. Regarding the personal characteristics of funders, we adapted three items from Eastin and LaRose (2000) to measure funder's self-efficacy, and three items from Bhattacherjee and Sanford (2006) to measure funder's personal relevance.

To assess the mode of information processing as either heuristic or systematic, we developed questionnaires based on a comprehensive review of previous literature on crowdfunding. Scholars have extensively studied the various types of information available on crowdfunding platforms and how funders utilize this limited information as signals for their decision-making process. We reviewed these studies to compile a list of information categories, which we categorized into three groups: campaign information, creator information, and reward information.

Campaign description is a primary source of information used by backers to make pledging decisions. This includes textual pitches, images, and short videos showcasing functional prototypes and/or product manufacturing plans (Bi et al., 2017; Moy et al., 2018; Zhou et al., 2018). Factors such as language tone (Allison et al., 2015), spelling errors in textual pitches (Mollick, 2014), picture count (Colombo et al., 2015), and video length (Colombo et al., 2015; Mollick, 2014; Thies et al., 2016) have been found to influence funders' decisions. Further, campaign status information, such as the current pledged amount, target amount, number of backers, and remaining funding period, has a positive impact on funding success (Barbi and Bigelli, 2017; Frydrych et al., 2014). For example, Agrawal et al. (2014) demonstrate that the cumulative number of backers and the pledged amount signal the project's quality and drive herd behavior. Additionally, a project's creativity and popularity, including the number of social media shares, also influence funding decisions (Thies et al., 2016; Wang and Yang, 2019).

The creator's abilities, such as the number of projects created, and the resources employed to manage and complete past projects, are important factors contributing to the success of a crowdfunding project (Liang *et al.*, 2019; Wang and Yang, 2019). Other creator-related factors include responsiveness to funder feedback and project update frequency (Mollick, 2014), social capital (e.g., size and strength of the creator's social network), location, and gender (Colombo *et al.*, 2015; Liang *et al.*, 2019; Mollick, 2014). Furthermore, the type of reward (e.g., prototype products, ego-boosting events, community-belonging events) and information about rewards (e.g., value, price, diversity) are asso-

ciated with funding decisions (Calic and Mosakowski, 2016; Colombo *et al.*, 2015).

Based on the reviewed information categories, participants were asked to assess the importance of each specific information available on Kickstarter.com in their decision-making process. Four items were used to measure systematic processing: campaign story (Allison *et al.*, 2015; Colombo *et al.*, 2015; Liang *et al.*, 2019; Mollick, 2014; Thies *et al.*, 2016), creator's information (Colombo *et al.*, 2015; Liang *et al.*, 2019; Wang and Yang, 2019), communication (Mollick, 2014), and reward information (Calic and Mosakowski, 2016; Colombo *et al.*, 2015). Five items were used to measure heuristic processing: backers' reactions (Mollick, 2014), target attainment (Agrawal *et al.*, 2014; Colombo *et al.*, 2015; Thies *et al.*, 2016), pledging goal (Agrawal *et al.*, 2014; Colombo *et al.*, 2015; Thies *et al.*, 2016), pledged amount (Agrawal *et al.*, 2014; Colombo *et al.*, 2015; Thies *et al.*, 2016), and number of backers (Colombo *et al.*, 2015; Mollick, 2014; Thies *et al.*, 2016).

Perceived value was measured using four items adapted from Yang *et al.* (2019), and perceived risk was measured using four items adapted from Gierczak *et al.* (2014). Finally, the items for measuring the pledg-ing intention were adapted from Flavián *et al.* (2016). <Table 1> presents the measures, definitions, and corresponding questionnaire items with references.

Measure	Definition	Questionnaire Items	References
Self-efficacy	A funder's perceived ability to go about the task of both acquiring and using information for a crowdfunding de- cision	 I feel confident in understanding the terms/words related to crowdfunding. I feel confident in funding a project through crowdfunding. I am confident in evaluating a project for a pledging decision. 	Eastin and LaRose (2000)
Personal relevance	The extent to which a funder perceives crowd- funding for a project as personally relevant or important	 Funding this project is important for me. Funding this project is relevant (appropriate) for me. I am serious about this project. 	Bhattacherjee and Sanford (2006)
		was a critical part of information that I gathered and used to make a pledging decision.	
	The extent to which a	• Campaign story including pictures, text, and video (descriptions of the product and its risks)	Allison <i>et al.</i> (2015), Colombo <i>et al.</i> (2015), Liang <i>et al.</i> (2019), Mollick (2014), Thies <i>et al.</i> (2016)
Systematic processing	funder cognitively proc- esses central in- formation to make a pledging decision	• Creator's information (creator's profile in- cluding the number of projects created, the number of projects backed, and other de- scriptions on the creator)	Colombo <i>et al.</i> (2015), Liang <i>et al.</i> (2019), Wang and Yang (2019)
		• Communication (creator's answers/re- sponses to backers' inquiries)	Mollick (2014)
		• Reward information (reward's value, price, and other reward-related information)	Calic and Mosakowski (2016), Colombo <i>et al.</i> (2015)

(Table 1) Measures, Scales, and Definitions

Measure	Definition	Questionnaire Items	References
Measure	Definition	was a critical part of information that I gathered and used to make a pledging decision.	Kelefences
Heuristic processing	The extent to which a funder relies on periph- eral cues to make a pledging decision	• Other backers' reactions (backer's com- ments about the product: good or bad)	Mollick (2014)
		• Target attainment (goal achievement rate)	Agrawal <i>et al.</i> (2014), Colombo <i>et al.</i> (2015), Thies <i>et al.</i> (2016)
		• Pledging goal (goal of the pledged amount)	Agrawal <i>et al.</i> (2014), Colombo <i>et al.</i> (2015), Thies <i>et al.</i> (2016)
		• Pledged amount (actual pledged amount)	Agrawal <i>et al.</i> (2014), Colombo <i>et al.</i> (2015), Thies <i>et al.</i> (2016)
		• Number of backers (total number of backers who actually pledged)	Colombo <i>et al.</i> (2015), Mollick (2014), Thies <i>et al.</i> (2016)
Perceived value	The perception of pos- itive outcomes likely to result from a crowd- funding commitment	 My participation in the crowdfunding campaign will increase my knowledge and understanding of the product. My participation in the crowdfunding campaign will help in building my social networks by connecting funders. My participation in the crowdfunding campaign will give me a sense of belonging. My participation in the crowdfunding campaign will give me a sense of belonging. 	Yang <i>et al.</i> (2019)
Perceived risk	A funder's perceived level of uncertainty re- garding the outcome of a funding decision	 I am concerned that the product may not perform as expected. I am concerned that the creator may not be as competent. I am concerned that the project may not produce successful outcomes. I am concerned that I may end up with a financial loss. 	Gierczak <i>et al.</i> (2014)
Pledging in- tention	A funder's willingness to pledge for a crowd- funding project	 This project is worth funding. I am willing to pledge for this project. I will probably recommend this project to other backers. 	Flavián et al. (2016)

(Table 1) Measures, Scales, and Definitions (Continued)

3.2 Research Procedure

To validate the model, we combined a virtual crowdfunding project experiment on kickstarter.com. Prior to completing the main survey, participants were requested to evaluate the project available at the time of the survey. By utilizing a virtual experiment as stimuli, we aimed to minimize discrepancies in participant responses that could arise from their previous experiences and memories, which are challenging to control and generalize across individuals. Appendix A showcases some screenshots from this web-based experiment.

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	Values	Frequency	Percentage	
Condon	Male	52	37.41%	
Gender	Female	87	62.59%	
	21~30	21	15.11%	
	31~40	64	46.04%	
Age	41~50	35	25.18%	
	51~60	16	11.51%	
	More than 61	3	2.16%	
	Highschool degree	33	23.74%	
Education	College degree	75	53.96%	
	Advanced degree	31	22.30%	
Europianaa	Have never used crowdfunding	46	33.09%	
Experience	Have used crowdfunding	93	66.91%	
	Below 20,000	22	15.83%	
	\$20,000~\$30,000	41	29.50%	
Wage	\$30,000~\$40,000	28	20.14%	
	\$40,000~\$50,000	16	11.51%	
	More than \$50,000	32	23.02%	

$\langle Table 2 \rangle$ Respondent Profile (n = 139)

We collected the data using Amazon Mechanical Turk. After conducting a pilot test with 30 subjects to ensure the questionnaire's reliability and validity, we launched the project with a total of 150 participants. A financial incentive of US\$2 was provided to encourage participation in the survey. The participants from Mechanical Turk were monitored based on their IP addresses, and only U.S. residents were eligible to take part in the survey. After eliminating responses with inadequate or missing data, we obtained a total of 139 valid responses. The respondents' profiles are summarized in <Table 2>.

IV. Results

We employed the Partial Least Squares method for Structural Equation Modeling (PLS-SEM) to conduct data analysis and evaluate the research model. PLS-SEM is a statistical technique that integrates factor analysis, utilizing a measurement model, and path analysis, employing a structural model (Qureshi and Compeau, 2009; Wetzels et al., 2009). In comparison to other statistical techniques, PLS-SEM offers more flexibility in its assumptions, allowing for partial handling of multicollinearity. Furthermore, it reduces measurement error through confirmatory factor analysis (CFA) by utilizing multiple indicators per construct. It is recommended to have a sample size of at least 10 times the maximum number of measurement variables for PLS-SEM analysis (Gefen et al., 2000). In our study, since we have a maximum of four measurement variables, the sample size of 139 (> 40) is deemed sufficient. To test the model, we utilized R with the PLS-PM package (Sanchez, 2013). Our analysis proceeded by first examining the measurement model and subsequently assessing the structural model.

4.1 Measurement Model Assessment

To assess the internal consistency (reliability), we

Measurements	No. of items	Cronbach's alpha	Reliability (DG. Rho)	AVE
Self-efficacy	2	0.70	0.87	0.754
Personal relevance	3	0.91	0.94	0.841
Systematic processing	2	0.66	0.86	0.743
Heuristic processing	4	0.81	0.87	0.629
Perceived risk	4	0.89	0.92	0.745
Perceived value	4	0.88	0.92	0.742
Pledging intention	3	0.92	0.95	0.866

(Table 3) Reliability and Convergent Validity Assessment of the Measurement Model

utilized Cronbach's alpha and composite reliability (Dillon Goldstein's Rho). The summary of the results can be found in <Table 3>. After conducting principal component analysis, we identified the need to remove certain items from the measurement scales.

Specifically, the second item of the self-efficacy measurement, the first and fourth items of the systematic processing measurement, and the fourth item of the heuristic processing measurement were excluded.

With the exception of the systematic processing measurement, which still displayed an acceptable value of 0.66, all Cronbach's alpha values exceeded the recommended reliability threshold of 0.7 (Fornell and Larcker, 1981). Additionally, all composite reliability

values were greater than 0.7. We also assessed convergent validity by examining the average variance extracted (AVE). The results indicated that the AVE value for each construct exceeded the cut-off value of 0.5 (Yoo and Alavi, 2001).

To examine the discriminant validity, we conducted a comparison between the square root of the average variance extracted (AVE) for each construct and their cross-correlation with other constructs. This analysis aimed to determine whether a latent variable explains the variance of its own indicators more effectively than the variance of other latent variables. The results, presented in <Table 4>, provided support for the discriminant validity of our constructs. Specifically, the

	1	2	3	4	5	6	7	8	9	10	11	12
1. Self-efficacy	0.87											
2. Personal relevance	0.11	0.92										
3. Systematic processing	0.12	0.43	0.86									
4. Heuristic processing	0.24	0.48	0.62	0.80								
5. Perceived risk	-0.33	-0.23	-0.01	-0.11	0.86							
6. Perceived value	0.19	0.61	0.39	0.49	-0.25	0.86						
7. Previous experience	0.08	-0.01	-0.03	-0.06	0.01	0.00	1.00					
8. Gender	0.07	-0.05	0.05	0.02	-0.04	-0.22	0.12	1.00				
9. Age	0.17	0.02	-0.04	-0.06	-0.03	-0.07	-0.42	-0.16	1.00			
10. Education	-0.02	-0.24	-0.18	-0.26	-0.01	-0.33	-0.04	-0.02	0.20	1.00		
11. Income	-0.06	0.02	-0.08	-0.01	0.06	0.00	0.13	-0.08	-0.05	0.01	1.00	
12. Pledging intention	0.26	0.77	0.34	0.51	-0.47	0.69	0.06	-0.04	-0.06	-0.22	-0.04	0.93

(Table 4) Discriminant validity assessment of the measurement model

Note: The inter-correlation matrix's principal diagonal (in boldface) represents the square root of the average variance extracted (AVE) per construct.

diagonal elements in the matrix (representing the square root of AVE) were consistently greater than the off-diagonal elements in the corresponding rows and columns. To further ensure discriminant validity, we conducted a test of the cross-loading of the items for each construct. The detailed results of this analysis can be found in Appendix B.

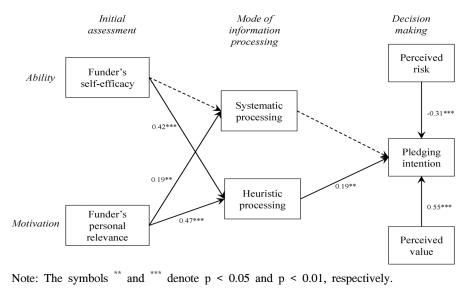
Additionally, to evaluate the presence of common method bias, we employed Harman's single factor test. The total variance explained by the common method factor was found to be 30.05%, which is below the threshold of 50%. This indicates that common method bias is not a significant concern in our study. (Podsakoff *et al.*, 2003).

4.2 Structural Model Assessment

The evaluation of the structural model involved estimating the path coefficients and R^2 values. The R^2 value for pledging intention was determined to be 51.1%, indicating a substantial level of explanatory power. The path coefficients are visually represented in <Figure 2>, while the comprehensive results are summarized in <Table 5>.

The first two hypotheses regarding the impact of self-efficacy on systematic and heuristic processing have yielded unexpected results. The first hypothesis failed to demonstrate statistical significance (H1: β = 0.08, t = 1.03, p = 0.306). In contrast, the second hypothesis revealed a statistically significant effect in the opposite direction (H2: β = 0.19, t = 0.07, p = 0.013). These findings are surprising and contradict our initial expectations, which posited that more experienced funders would predominantly employ systematic processing, while less experienced funders would lean towards heuristic processing. Instead, the results indicate that even experienced funders rely significantly on heuristic information as a crucial component to make funding decisions.

In contrast, when considering personal relevance, we discovered a substantial, positive influence on systematic processing, thereby providing support for the third hypothesis at a 1% significance level (H3: β = 0.42, t = 5.37, p < 0.01). Consequently, we can



〈Figure 2〉Path Coefficients

deduce that highly motivated funders invest more effort in meticulously analyzing information, including campaign stories with visuals, text, and videos, details about project creators and their previous projects, as well as more comprehensive information about reward. Similarly, like in the case of H2, the effect of personal relevance on heuristic processing was refuted due to the opposite direction but still maintained statistical significance (H4: $\beta = 0.47$, t = 6.31, p < 0.01). Once again, this outcome suggests that both backers' self-efficacy and personal relevance positively influence heuristic information processing, underscoring the vital role of heuristic information in the decision-making process for funding. Concerning the impact of information processing mods on funding decisions, we initially anticipated that both systematic and heuristic processing would positively influence funding decisions. However, our findings reveal that only heuristic processing exhibits a significant effect. The hypothesis suggesting that systematic processing enhances the intention to pledge did not find support (H5: $\beta = 0.00$, t = 0.01, p = 0.996). In contrast, heuristic processing displayed a statistically significant positive association with the intention to pledge (H6: $\beta = 0.19$, t = 2.45, p = 0.016). This suggests that, between the two information processing modes, only heuristic processing directly impacts the decision to pledge. Strikingly, this implies that

Hypotheses	Effect	Coefficient	S.E.	t-sta- tistics	p- value	Conclusion
H1	Self-efficacy \rightarrow Systematic processing	0.08	0.08	1.03	0.306	Reject
H2	Self-efficacy \rightarrow Heuristic processing	0.19**	0.07	2.52	0.013	Reject [†]
H3	Personal relevance \rightarrow Systematic processing	0.42***	0.08	5.37	0.000	Accept
H4	Personal relevance \rightarrow Heuristic processing	0.47***	0.07	6.31	0.000	Reject [†]
Н5	Systematic processing \rightarrow Pledging intention	0.00	0.07	0.01	0.996	Reject
H6	Heuristic processing \rightarrow Pledging intention	0.19**	0.08	2.45	0.016	Accept
H7	Perceived risk \rightarrow Pledging intention	-0.31***	0.06	-5.34	0.000	Accept
H8	Perceived value \rightarrow Pledging intention	0.55***	0.07	7.34	0.000	Accept
Moderation tests	Systematic processing x Perceived risk \rightarrow Pledging intention	0.06	0.09	0.71	0.478	
	Systematic processing x Perceived value \rightarrow Pledging intention	0.07	0.07	1.01	0.314	
	Heuristic processing x Perceived risk \rightarrow Pledging intention	0.03	0.08	0.37	0.710	
	Heuristic processing x Perceived value \rightarrow Pledging intention	-0.07	0.07	-0.97	0.336	
	Prior experience \rightarrow Pledging intention	0.07	0.06	1.12	0.263	
Cantral	Gender \rightarrow Pledging intention	0.06	0.06	0.99	0.324	
Control Variables	Age \rightarrow Pledging intention	0.02	0.06	0.35	0.724	
v arrautes	Education \rightarrow Pledging intention	0.01	0.06	0.24	0.814	
	Income \rightarrow Pledging intention	-0.02	0.06	-0.36	0.720	

(Table 5) Structural Model Assessment Results

Note: The symbols ** and *** denote p < 0.05 and p < 0.01, respectively. The symbol ^{*} denotes a statistically significant value with an opposite sign.

funders might tend to overlook detailed campaign information for systematic processing and instead focus primarily on heuristic and intuitive elements, such as the current pledged amount and the number of existing backers.

The negative effect of perceived risk on the intention to pledge a crowdfunding project was supported at a 1% significance level (H7: β = -0.31, t = -5.34, p < 0.01). Additionally, we found a significant positive effect of perceived value on pledging intention (H8: $\beta = 0.55$, t = 7.34, p < 0.01). These perceptions held by funders can impact the influence of both systematic and heuristic processing on pledging intention Specifically, the positive effects of information processing on pledging intention can be enhanced by the perceived benefits, while they can be weakened by the perceived risks associated with the project. To delve deeper into this matter, we investigated the potential moderating effects of perceived risk and perceived value on the relationship between information processing and pledging intention. However, our findings indicate that these moderating effects were not statistically significant as shown in <Table 5>.

Finally, the research model included control variables such as differences in prior crowdfunding experience, gender, age, education, and income level. However, these variables did not impact the intention to pledge. Additionally, we assessed the interaction effects of gender on the relationships between funders' characteristics, information processing, and subsequent impacts on purchasing intention, yet these examinations did not yield any significant results.

V. Discussion and Conclusion

5.1 Discussion

This study aimed to address the question of whether

a funder's personal characteristics can influence their pledging behavior for a specific crowdfunding project. Our findings revealed several interesting insights. Firstly, we found that a funder's self-efficacy positively affects heuristic processing but does not significantly impact systematic processing. This result contradicted our initial hypotheses, which suggested that experienced funders would engage in systematic processing rather than heuristic processing. However, this unexpected finding can be explained by considering the relationship between heuristic processing and funding intention, which was found to be positive, while systematic processing showed no such relationship. This suggests that people experienced in crowdfunding recognize the significance of heuristic processing better than beginners and, as a result, focus more on peripheral signals rather than systematic ones.

Second, we discovered that a funder's personal relevance positively influences both systematic and heuristic processing. It is not surprising that highly motivated funders would exert more effort in analyzing information systematically. However, contrary to our expectations, we also observed that motivation had a similar effect to self-efficacy in increasing the tendency to engage in heuristic processing. This implies that given the importance of heuristic processing in funding decisions (H6), motivated funders are willing to spend time not only for systematically searching for relevant information but also for heuristically scanning for quick information to make the best pledging decision possible. This finding is also consistent with that of previous studies. As Chaiken and Ledgerwood (2012) concluded, individuals tend to engage in heuristic processing unless they are both motivated and able to think carefully about information, in which case the two modes of processing can have additive, attenuating, or interactive effects.

After examining the impact of funder characteristics,

we turned our attention to the influence of information processing modes on pledging decisions. Although we expected both systematic and heuristic processing to have a positive impact on funding decisions, we discovered that only heuristic processing has a significant effect. This unexpected finding challenges previous research that emphasized the importance of providing detailed campaign information for systematic processing. Some studies, for example, have shown that the presence of a high-quality video description of a product's prototype is important to project success (Colombo et al., 2015; Mollick, 2014; Thies et al., 2016). It should be noted, however, that these studies focus on the provision of specific information and the project's success rather than the funders' information retrieval and decision-making behavior. Therefore, it is difficult to confirm whether the funder decided to fund the project by watching the product prototype video solely from this result. Nevertheless, this result could imply that successful project creators typically put in more effort and, as a result, deliver higher-quality videos than unsuccessful project creators. Instead of such extensive central information queues, we can highlight the importance of peripheral signals for heuristic information processing and their considerable effects on final funding decisions by directly asking potential funders.

Lastly, we found that funder perceptions, such as perceived value and perceived risk, significantly influence their intention to pledge. Similar to online transactions, perceived value plays a crucial role in a funder's decision to engage in a transaction. A funder's perception of value for a specific crowdfunding project positively impacts their behavioral intention to pledge. Conversely, perceived risk acts as a barrier to behavioral intention. If a funder holds strong reservations about the potential outcomes of a crowdfunding project or perceives a high risk of failure, they are likely to hesitate

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in investing in the project.

5.2 Academic Implications

The findings of this study have significant implications both in academia and for crowdfunding practitioners. Firstly, unlike previous studies that focused on the availability of information, our research sheds light on how actual funders utilize information in making funding decisions. Several previous crowdfunding studies have gathered archived data from past projects that were already completed at the time of the study. Therefore, while the relationship between the provision of various information and project success has been established, these studies are limited in their examination of how actual funders use this information to make funding decisions. By examining funders' information processing behavior, we contribute to a deeper understanding of their decision-making process.

Secondly, our study contributes to the existing literature by being the first to investigate the relationship between funders' personal characteristics and their information processing style, employing HSM. Through our research, we provide valuable insights into how funders' individual attributes, such as self-efficacy and personal relevance, shape their approach to processing information in the context of crowdfunding. Our findings reveal that self-efficacy positively impacts funders' heuristic processing. This suggests that funders with a greater sense of self-efficacy in participating in crowdfunding projects are more inclined to rely on intuitive, rule-of-thumb strategies when processing information. On the other hand, our results indicate that self-efficacy has no significant effect on systematic processing, contradicting our initial hypotheses. This unexpected finding challenges the notion that more experienced funders would predominantly engage in systematic processing, highlighting the nuanced nature of information processing in the crowdfunding context. Similarly, we demonstrate that personal relevance plays a role in influencing both systematic and heuristic processing. Contrary to our expectations, we find that increased relevance is associated with a higher tendency to engage in heuristic processing. This implies that motivated funders, despite their inclination towards systematic processing, also value the efficiency and simplicity of heuristic cues in making quick funding decisions. This finding underscores the intricate interplay between personal relevance, motivation, and information processing strategies in the crowdfunding context.

Thirdly, our research contributes to the development of a model for predicting funders' behavioral intention to pledge for crowdfunding projects. By examining the influence of funders' perceptions, such as perceived risk and perceived value, on pledging intention, we provide valuable insights into the factors that impact funding decisions. Furthermore, our study explores the moderating role of perceived risk and perceived value in the relationship between information processing modes and pledging intention. While conventional wisdom suggests that the impact of systematic or heuristic processing may vary based on the strength of perceived risk or value, our findings contradict this assumption. These results call for further investigation to gain a clearer understanding of the moderating role of these perceptions.

5.3 Managerial Implications

Our research findings hold significant practical implications for project creators and crowdfunding platform operators, enabling them to optimize their strategies and enhance the effectiveness of their crowdfunding campaigns.

Firstly, our study highlights the importance of peripheral cues in influencing heuristic processing during crowdfunding campaigns. Startups and small businesses seeking funds should recognize the value of these intuitive cues, which are easily obtainable and processed. It is essential to understand that peripheral cues are not limited to novice funders but also hold significance for experienced funders. Contrary to our initial assumptions, we discovered that a funder's self-efficacy has a positive influence on heuristic processing. This implies that experienced funders place greater importance on peripheral cues when making funding decisions. Therefore, project creators should pay attention to revealing critical cues that can guide funders towards making a pledging decision on the platform. These cues may include metrics such as goal achievement rate, pledging goal, pledged amount, number of backers, and backers' comments. By strategically presenting and emphasizing these cues, project creators can effectively engage both novice and experienced funders, increasing the chances of securing pledges.

Secondly, considering the goal of crowdfunding to raise funds from the general public, it is crucial for campaign information used for systematic processing, such as campaign stories and company profiles, to be readily accessible to anyone interested in the campaign. Our findings indicate that a funder's self-efficacy is unrelated to systematic processing, contradicting our initial hypothesis. However, this presents an opportunity for practitioners, as it suggests that funders may not necessarily require specific funding-related knowledge or prior experience to process more detailed central cues systematically. Thus, it becomes essential for project creators to ensure that comprehensive campaign information is readily available to potential funders, enabling them to make informed funding decisions based on detailed central cues.

Lastly, our research has significant implications for crowdfunding platform operators. It is crucial for platform operators to recognize that potential funders exhibit varying levels of ability and motivation. Therefore, designing crowdfunding platforms that can accommodate the personal attributes of each potential funder becomes paramount. Platforms should be designed to support the unique needs and preferences of funders at the initial phase of project evaluation. For instance, for new funders with low motivation, the platform should provide quick and easily accessible cues to facilitate their decision-making process. By tailoring the platform experience to cater to individual abilities and motivations, operators can enhance user engagement, increase funding participation, and create a conducive environment for successful crowdfunding campaigns.

In summary, our findings offer practical guidance for project creators and crowdfunding platform operators. By recognizing the importance of peripheral cues, project creators can effectively engage both novice and experienced funders. Ensuring the availability of comprehensive campaign information for systematic processing allows funders to make informed decisions regardless of their self-efficacy levels. Moreover, platform operators can optimize their platforms by understanding and catering to the diverse abilities and motivations of potential funders, thereby creating an environment conducive to successful crowdfunding endeavors. These insights equip practitioners with valuable knowledge to navigate the crowdfunding landscape and maximize the potential for funding success.

5.4 Limitations and Scope for Future Research

While our study provides valuable insights, it is important to acknowledge the limitations and identify areas for future research to build upon our findings.

From a theoretical standpoint, one limitation is the use of an online survey rather than a controlled experiment to collect data and test our model and hypotheses. We selected a single Kickstarter.com campaign as a stimulus to elicit responses from participants, as our primary focus was to understand how funders process information on a given platform, irrespective of campaign variations. However, future studies should consider examining multiple campaigns with diverse characteristics and conditions to enhance the generalizability of our results. Additionally, employing experimental designs that manipulate independent variables, such as motivation levels (high vs. low) or ability levels (high vs. low), would provide a clearer understanding of the direct effects of funder's personal attributes on information search approaches.

Another limitation stems from our relatively small sample size, potentially restricting the generalizability of our research findings. To enhance the robustness of our study, a larger and more diverse participant pool would have been ideal. However, encountering data validity and robustness challenges during our pilot test through Amazon Mechanical Turk led us to implement strict monitoring based on IP addresses and restrict survey eligibility to U.S. residents only. Nevertheless, it is noteworthy that crowdfunding is most prevalent in the United States, thereby underscoring the relevance of our constrained sample. Furthermore, in our sample, still only 67% possessed prior experience with crowdfunding platforms. Those unfamiliar with these platforms may have been less inclined to participate in the survey, contributing to our limited sample size. To address this limitation, future research efforts should aim to overcome these challenges by employing diverse recruitment strategies to obtain a more representative and expansive sample.

Lastly, our findings are specific to the context of reward-based crowdfunding. It would be valuable for future studies to explore equity crowdfunding and investigate whether potential funders perceive greater risks associated with potential losses in equity crowdfunding projects. Expanding the scope of research to encompass different types of crowdfunding platforms and their unique characteristics would provide a more comprehensive understanding of funder perceptions and decision-making processes.

In conclusion, while our study contributes to the current knowledge, there are limitations that should be considered. Conducting controlled experiments, expanding the participant pool, and exploring other types of crowdfunding platforms would address these limitations and further advance our understanding of funders' behaviors and decision-making in crowdfunding contexts.

References

- Agrawal, A., C. Catalini, and A. Goldfarb, "Some simple economics of crowdfunding", *Innovation Policy and the Economy*, Vol.14, No.1, 2014, pp. 63-97.
- [2] Allison, T. H., B. C. Davis, J. C. Short, and J. W. Webb, "Crowdfunding in a prosocial microlending environment: Examining the role of intrinsic versus extrinsic cues", *Entrepreneurship Theory and Practice*, Vol.39, No.1, 2015, pp. 53-73, Available at https://doi.org/10.1111/eta p.12108.
- [3] Allison, T. H., B. C. Davis, J. W. Webb, and J. C. Short, "Persuasion in crowdfunding: An elaboration likelihood model of crowdfunding performance", *Journal of Business Venturing*, Vol.32, No.6, 2017, pp. 707-725.
- [4] Bandura, A., "Exercise of personal and collective efficacy in changing societies", Cambridge University Press, 1995.
- [5] Bandura, A., "Social cognitive theory of mass communication", In Media effects (pp. 110-140).

Routledge, 2009.

- [6] Barbi, M. and M. Bigelli, "Crowdfunding practices in and outside the US", *Research in International Business and Finance*, Vol.42, 2017, pp. 208-223, Available at https://doi.org/10.1016/j.ribaf.2017.05.013.
- [7] Bhattacherjee, A. and C. Sanford, "Influence processes for information technology acceptance: An elaboration likelihood model", *MIS Quarterly*, Vol.30, No.4, 2006, pp. 805-825.
- [8] Bi, S., Z. Liu, and K. Usman, "The influence of online information on investing decisions of reward-based crowdfunding", *Journal of Business Research*, Vol.71, 2017, pp. 10-18, Available at https://doi.org/10.1016/j.jbusres.2016.10.001.
- [9] Buerger, B., A. Mladenow, N. M. Novak, and C. Strauss, "Equity crowdfunding: Quality signals for online-platform projects and supporters' motivations", *International Conference on Research* and Practical Issues of Enterprise Information Systems, Prague, Czech Republic, 2018.
- [10] Calic, G. and E. Mosakowski, "Kicking off social entrepreneurship: How a sustainability orientation influences crowdfunding success", *Journal of Management Studies*, Vol.53, No.5, 2016, pp. 738-767, Available at https://doi.org/10.1111/ joms.12201.
- [11] Celsi, R. L. and J. C. Olson, "The role of involvement in attention and comprehension processes", *Journal of Consumer Research*, Vol.15, No.2, 1988, pp. 210-224.
- [12] Chaiken, S., "Heuristic versus systematic information processing and the use of source versus message cues in persuasion", *Journal of Personality and Social Psychology*, Vol.39, No.5, 1980, p. 752.
- [13] Chaiken, S. and A. Ledgerwood, "A theory of heuristic and systematic information processing",

In P. A. M. Van Lange, A. W. Kruglanski, & E. T. Higgins (Eds.), *Handbook of Theories of Social Psychology* (Vol. 1), SAGE Publishing, 2012, pp. 246-166.

- [14] Chen, S., K. Duckworth, and S. Chaiken, "Motivated heuristic and systematic processing", *Psychological Inquiry*, Vol.10, No.1, 1999, pp. 44-49.
- [15] Colombo, M. G., C. Franzoni, and C. Rossi-Lamastra, "Internal social capital and the attraction of early contributions in crowdfunding", *Entrepreneurship Theory and Practice*, Vol.39, No.1, 2015, pp. 75-100, Available at https://doi.org/10.1111/etap.12118.
- [16] Courtney, C., S. Dutta, and Y. Li, "Resolving information asymmetry: Signaling, endorsement, and crowdfunding success", *Entrepreneurship Theory and Practice*, Vol.41, No.2, 2017, pp. 265-290.
- [17] Davies, W. E. and E. Giovannetti, "Signalling experience & reciprocity to temper asymmetric information in crowdfunding evidence from 10,000 projects", *Technological Forecasting and Social Change*, Vol.133, 2018, pp. 118-131, Available at https://doi.org/10.1016/j.techfore. 2018.03.011.
- [18] Eastin, M. S. and R. LaRose, "Internet self-efficacy and the psychology of the digital divide", *Journal of Computer-Mediated Communication*, Vol.6, No.1, 2000, Available at https://doi.org/ 10.1111/j.1083-6101.2000.tb00110.x.
- [19] Edmunds, A. and A. Morris, "The problem of information overload in business organisations: A review of the literature", *International Journal of Information Management*, Vol.20, No.1, 2000, pp. 17-28.
- [20] Flavián, C., R. Gurrea, and C. Orús, "Choice confidence in the webrooming purchase process:

The impact of online positive reviews and the motivation to touch", *Journal of Consumer Behaviour*, Vol.15, No.5, 2016, pp. 459-476.

- [21] Fornell, C. R. and D. F. Larcker, "Evaluating structural equation models with unobservable variables and measurement error", *Journal of Marketing Research*, Vol.18, No.1, 1981, pp. 39-50.
- [22] Frydrych, D., A. J. Bock, T. Kinder, and B. Koeck, "Exploring entrepreneurial legitimacy in reward-based crowdfunding", *Venture Capital*, Vol.16, No.3, 2014, pp. 247-269, Available at https://doi.org/10.1080/13691066.2014.916512.
- [23] Gefen, D., D. Straub, and M.-C. Boudreau, "Structural equation modeling and regression: Guidelines for research practice", *Communications of the Association for Information Systems*, Vol.4, 2000, Available at https://doi.org/10.177 05/1cais.00407.
- [24] Ghuge, S., The role of personal relevance and mood on the persuasive impact of gain and loss frames in advertising messages about a vaccine against alcohol addiction [Master's thesis, Iowa State University]. Ames, Iowa, 2010.
- [25] Gierczak, M., U. Bretschneider, and J. M. Leimeister, "Is all that glitters gold? Exploring the effects of perceived risk on backing behavior in reward-based crowdfunding", *Thirty Fifth International Conference on Information Systems*, Auckland, New Zealand, 2014.
- [26] Grisé, M.-L. and R. B. Gallupe, "Information overload: Addressing the productivity paradox in face-to-face electronic meetings", *Journal of Management Information Systems*, Vol.16, No.3, 1999, 1999/12/01, pp. 157-185, Available at https://doi.org/10.1080/07421222.1999.11518260.
- [27] Herrero, Á., B. Hernández-Ortega, and H. San Martín, "Potential funders' motivations in re-

ward-based crowdfunding: The Influence of Project Attachment and business viability", *Computers in Human Behavior*, Vol.106, 2020, Available at https://doi.org/10.1016/j.chb.2019. 106240.

- [28] Hoyer, W. D., D. J. MacInnis, R. Pieters, E. Chan, and G. Northey, *Consumer Behaviour: Asia-Pacific Edition*, Cengage AU, 2017.
- [29] Hu, J., B. A. Huhmann, and M. R. Hyman, "The Relationship between task complexity and information search: The role of self-efficacy", *Psychology & Marketing*, Vol.24, No.3, 2007, pp. 253-270.
- [30] Kaminski, J. C. and C. Hopp, "Predicting outcomes in crowdfunding campaigns with textual, visual, and linguistic signals", *Small Business Economics*, 2019, pp. 1-23.
- [31] Lee, J. and I. B. Hong, "The influence of situational constraints on consumers' evaluation and use of online reviews: A heuristic-systematic model perspective", J. Theor. Appl. Electron. Commer. Res., Vol.16, 2021, pp. 1517-1536, Available at https:// doi.org/https://doi.org/10.3390/jtaer16050085.
- [32] Lei, Y., A. A. Yayla, and S. Kahai, "Guiding the herd: The effect of reference groups in crowdfunding decision making", *Proceedings of the* 50th Hawaii International Conference on System Sciences, 2017.
- [33] Lelo de Larrea, G., M. Altin, and D. Singh, "Determinants of success of restaurant crowdfunding", *International Journal of Hospitality Management*, Vol.78, 2019, pp. 150-158, Available at https://doi.org/10.1016/j.ijhm.2018.10.003.
- [34] Liang, T.-P., S. P.-J. Wu, and C.-C. Huang, "Why funders invest in crowdfunding projects: Role of trust from the dual-process perspective", *Information & Management*, Vol.56, No.1, 2019, pp. 70-84, Available at https://doi.org/10.1016/

j.im.2018.07.002.

- [35] Liberman, A. and S. Chaiken, "The direct effect of personal relevance on attitudes", *Personality* and Social Psychology Bulletin, Vol.22, No.3, 1996, pp. 269-279.
- [36] Luszczynska, A. and R. Schwarzer, "Social cognitive theory", In M. Conner & P. Norman (Eds.), *Predicting and changing health behaviour: Research and practice with social cognition models* (3rd ed.), McGraw-Hill, 2015, pp. 225-251.
- [37] Metzger, M. J., A. J. Flanagin, and R. B. Medders, "Social and heuristic approaches to credibility evaluation online", *Journal of Communication*, Vol.60, No.3, 2010, pp. 413-439.
- [38] Meyer, R. J., "A descriptive model of consumer information search behavior", *Marketing Science*, Vol.1, No.1, 1982, pp. 93-121.
- [39] Mitchell, V. W., "Consumer perceived risk: Conceptualisations and models", *European Journal of Marketing*, Vol.33, No.1/2, 1999, pp. 163-195.
- [40] Mollick, E., "The dynamics of crowdfunding: An exploratory study", *Journal of Business Venturing*, Vol.29, No.1, 2014, pp. 1-16. Available at https://doi.org/10.1016/j.jbusvent. 2013.06.005.
- [41] Moorthy, S., B. T. Ratchford, and D. Talukdar, "Consumer information search revisited: Theory and empirical analysis", *Journal of Consumer Research*, Vol.23, No.4, 1997, pp. 263-277.
- [42] Moy, N., H. F. Chan, and B. Torgler, "How much is too much? The effects of information quantity on crowdfunding performance", *PLoS One*, Vol.13, No.3, 2018, p. e0192012, Available at https://doi.org/10.1371/journal.pone.0192012.
- [43] Petty, R. E. and J. T. Cacioppo, "The elaboration likelihood model of persuasion", In L. Berkowitz (Ed.), Advances in experimental social psychol-

ogy (Vol. 19), Academic Press, 1986, pp. 123-205.

- [44] Podsakoff, P. M., S. B. MacKenzie, J. Y. Lee, and N. P. Podsakoff, "Common method biases in behavioral research: A critical review of the literature and recommended remedies", *Journal* of Applied Psychology, Vol.88, No.5, 2003, pp. 879-903, Available at https://doi.org/10.1037/ 0021-9010.88.5.879.
- [45] Qureshi, I. and D. Compeau, "Assessing between-group differences in information systems research: A comparison of covariance-and componet-based SEM", *MIS Quarterly*, Vol.33, No.1, 2009, pp. 197-214.
- [46] Ren, W.-H., "Self-efficacy and the search for government information: A study of small-business executives", *Reference & User Services Quarterly*, 1999, pp. 283-291.
- [47] Sanchez, G., PLS Path Modeling with R (Trowchez Editions ed.), Berkeley, 2013, Available at http://www.gastonsanchez.com/PLSPathModeling withR.pdf.
- [48] Schmidt, J. B. and R. A. Spreng, "A proposed model of external consumer information search", *Journal of the Academy of Marketing Science*, Vol.24, No.3, 1996, pp. 246-256.
- [49] Shneor, R. and Z. H. Munim, "Reward crowdfunding contribution as planned behaviour: An extended framework", *Journal of Business Research*, Vol.103, 2019, pp. 56-70, Available at https://doi.org/10.1016/j.jbusres.2019.06.013.
- [50] Srinivasan, N. and B. T. Ratchford, "An empirical test of a model of external search for automobiles", *Journal of Consumer Research*, Vol.18, No.2, 1991, pp. 233-242.
- [51] Thies, F., M. Wessel, and A. Benlian, "Effects of social interaction dynamics on platforms", *Journal of Management Information Systems*, Vol.33, No.3, 2016, pp. 843-873. Available at

https://doi.org/10.1080/07421222.2016.124396 7.

- [52] van Knippenberg, D., S. R. Giessner, E. Sleebos, and W. P. van Ginkel, "A motivated information processing perspective on the antecedents of empowering leadership", *Journal of Applied Social Psychology*, Vol.51, No.2, 2021, pp. 79-89.
- [53] Wang, Z. and X. Yang, "Understanding backers' funding intention in reward crowdfunding: An elaboration likelihood perspective", *Technology in Society*, Vol.58, 2019, Available at https://doi.org/10.1016/j.techsoc.2019.101149.
- [54] Wetzels, M., G. Odekerken-Schroder, and C. V. Oppean, "Using PLS path modeling for assessing hierarchical construct models: Guidelines and empirical illustration", *MIS Quarterly*, Vol.33, No.1, 2009, pp. 177-195.
- [55] Yang, X., K. Zhao, X. Tao, and E. Shiu, "Developing and validating a theory-based model of crowdfunding investment intention—Perspectives from social exchange theory and customer value perspective", *Sustainability*, Vol.11, No.9, 2019, p. 2525.
- [56] Yoo, Y. and M. Alavi, "Media and group cohesion: relative influences on social present, task participation, and group consensus", *MIS Quarterly*, Vol.25, No.3, 2001, pp. 371-390.
- [57] Zafar, S., J. Waddingham, M. Zachary, and J. Short, "Search behavior and decision confidence in equity crowdfunding: an information search process model perspective", *Journal of Small Business Management*, 2021, pp. 1-34.
- [58] Zhao, Q., C.-D. Chen, J.-L. Wang, and P.-C. Chen, "Determinants of backers' funding intention in crowdfunding: Social exchange theory and regulatory focus", *Telematics and Informatics*, Vol.34, No.1, 2017, pp. 370-384. Available at https://doi.org/10.1016/j.tele.2016.

06.006.

[59] Zhou, M. J., B. Lu, W. P. Fan, and G. A. Wang, "Project description and crowdfunding success: an exploratory study", *Inf Syst Front*, Vol.20, No.2, 2018, pp. 259-274. Available at https://doi.org/10.1007/s10796-016-9723-1.

[60] Zuckerman, A. and S. Chaiken, "A heuristicsystematic processing analysis of the effectiveness of product warning labels", *Psychology & Marketing*, Vol.15, No.7, 1998, pp. 621-642. Information Systems Review Volume 25 Number 4 November 2023

Understanding the Influence of Funder Characteristics on Information Processing and Pledging Intention on a Reward-based Crowdfunding Platform

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Abstract

Even though crowdfunding has become popular as a novel means of raising capital for early-stage ventures and startups through an Internet-based platform, it is unclear how a funder's characteristics, such as motivation and ability, influence their information processing and pledging decision. This study aims to propose and test a research model for determining the relationships between a funder's personal attributes, information processing style, and funding intention. To test the research model, we collected data from 139 Amazon Mechanical Turk participants through an online questionnaire survey. The findings indicate that a funder's self-efficacy has a positive effect on heuristic processing but has no significant effect on systematic processing. By contrast, a funder's personal relevance positively influences both systematic and heuristic processing. Furthermore, heuristic processing, as well as perceived value and perceived risk, influence pledging intentions positively. Our findings potentially contribute to improving the design of crowdfunding platforms to better support a funder's information needs. Based on our findings, we discuss the implications of our study as well as the directions for future research.

Keywords: Reward-based Crowdfunding, Information Processing, Heuristic-systematic Model, Elaboration Likelihood Model

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논문접수일: 2023년 09월 02일 1차 수정일: 2023년 10월 19일 게재확정일: 2023년 10월 20일