Crowdfunding Success Factors: A Meta-Analytic Investigation

Dapeng Xu, Hong Hong, Lingfei Deng, and Xiaoquan (Michael) Zhang

Abstract: A significant body of research has explored various antecedent determinants of crowdfunding success. However, the mixed findings and a lack of theoretical consensus in this domain have impeded efforts to understand which factors truly influence crowdfunding success. In response to this challenge, we carry out a meta-analysis of pertinent research on crowdfunding success factors, guided by the elaboration likelihood model (ELM) to construct central and peripheral information links. Drawing upon 173 empirical studies, we categorize all independent variables into 22 widely investigated factors and scrutinize each one's correlation with crowdfunding performance. Further, we examine the moderating roles of metrics for measuring crowdfunding success, crowdfunding model, platform popularity, and project region in these relationships, which serve as research context factors referring to the role of elaboration likelihood. In addition, a cross-temporal meta-analysis, using 103 samples, uncovers that while the percentage of successful crowdfunding projects across datasets increases as time goes on, the overall increasing rate slows down over time. Our study synthesizes existing research on the determinants of crowdfunding success, reconciles conflicting results, and pinpoints several reasons for the inconsistencies among current studies. Our findings facilitate future theoretical developments in this research area and assist market participants in optimizing their practical strategies.

Keywords: crowdfunding success factors; meta-analytic review; elaboration likelihood model; moderators; cross-temporal meta-analysis

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1. Introduction

Online crowdfunding, facilitated by the Internet for entrepreneurs to raise funds, efficiently bridges the gap between demand and supply sides of financing. From the inauguration of the first crowdfunding platform, ArtistShare, in 2001, an increasing number of individuals and organizations have turned to crowdfunding projects to raise capital via such platforms. Among these, Kickstarter and IndieGoGo, launched in 2009 and 2008 respectively, are globally recognized (Colombo et al. 2015, Joenssen et al. 2014). In a crowdfunding project, there are three primary stakeholders: the fundraiser, the backers, and the platform. Each party aims to reap benefits from the projects' success (Frydrych et al. 2014, Steigenberger 2017, Thies et al. 2018). However, not all crowdfunding projects eventually succeed.

Recognizing the significance of crowdfunding success for fundraisers, backers, and platforms, an abundance of literature over the past two decades has delved into the vastly diverse antecedents. Studies in this field have primarily been rooted in theories derived from disciplines like psychology (Allison et al. 2015, Ba et al. 2021, Jiang et al. 2022), sociology (Cho and Kim 2017, Gafni et al. 2021, Gorbatai and Nelson 2015), management (Ahlers et al. 2015), marketing (André et al. 2017, Ba et al. 2022, Hsieh et al. 2019), economics (Courtney et al. 2017, Kromidha and Robson 2016, Leboeuf 2016, Lin and Viswanathan 2016), and entrepreneurship (Ahlers et al. 2015, Burke 2019, Kincaid et al. 2022), among others (refer to Appendix 1 for more details). Researchers have employed various theories to establish theoretical frameworks and probe the corresponding factors associated with crowdfunding success. Nonetheless, mixed findings have been reported regarding the impact of certain predictors on crowdfunding project performance, stemming from different theories or even when grounded on the same theory. We summarize some common predicaments in the extant literature as follows:

Divergent findings for the same predictor obtained from the same theory. The signaling theory is commonly utilized as a theoretical basis to guide the relationships between crowdfunding success and the antecedents such as the quality of project descriptions (Ba et al. 2021, Cappa et al. 2021, Ho et al. 2021), fundraiser's social capital (Ahlers et al. 2015, Ho et al. 2021) and intellectual capital (Ahlers et al. 2015, Battaglia et al. 2021, Bukhari et al. 2020, Cappa et al. 2021). However, empirical evaluations of these associations have produced inconsistent results. For instance, studies focusing on description quality investigate the influence of textual characteristics, such as text quality, sentiment, and word count, along with the quantity and quality of videos and images. Varied direct correlations between this predictor and

crowdfunding success have been reported: positive (Jiang et al. 2023, Mollick 2014), negative (Courtney et al. 2017, Kim et al. 2016), and even nonsignificant (Anglin et al. 2018a, Cappa et al. 2021).

Divergent findings for the same predictor obtained from different theories. Besides the signaling theory, other theories such as media richness theory (Beier and Wagner 2015, Koch and Siering 2015), information asymmetry (Meoli et al. 2019, Miglo 2022), and language expectancy theory (Parhankangas and Renko 2017) are also used to examine the relationship between description quality and crowdfunding success. The findings are inconsistent and sometimes contradictory to each other. Moreover, apart from the signaling theory, studies have also relied on the social capital theory (Skirnevskiy et al. 2017, Sokolova and Perez 2018, Vigneron 2020), the social network theory (Borst et al. 2018, Jung et al. 2015, Nitani et al. 2019), the media capacity theory (Beier and Wagner 2015), the social identity theory (Jiang et al. 2023, Kromidha and Robson 2016, Oo et al. 2019), and the social influence theory (Razan and Widyastuti 2022) to investigate the effect of social capital. A considerable number of studies has demonstrated that it is a key predictor of crowdfunding success, while still others find negative or nonsignificant effect (Calic and Mosakowski 2016, Jung et al. 2015, Lee et al. 2019, Xu 2018).

The elaboration likelihood model (ELM) (Petty and Cacioppo 1986) stands out and demonstrates its superiority against other theories in that it generally produces very consistent findings across different studies. It is widely used to explore the effects of description quality and intellectual capital, which are found to guide conclusion of convergence in different studies (Allison et al. 2017, Ba et al. 2022, Guo et al. 2015, Lee et al. 2019, Moradi and Badrinarayanan 2021, Wang et al. 2021). These studies verify whether persuasion cues, in terms of project description quality regarded as a central cue and creator credibility, reputation, and prominence regarded as peripheral cues, can predict the performance of a crowdfunding campaign. Moradi and Badrinarayanan (2021) demonstrate positive effects of brand prominence and narrative feature on crowdfunding performance. Allison et al. (2017) and Ba et al. (2022) also provide evidence for intellectual capital's positive influence on crowdfunding success from the perspectives of funding commitment and creator reputation. Therefore, research based on ELM demonstrates that both description quality and intellectual capital are key determinants of crowdfunding success. However, the same predictors examined in studies based on other theories may offer different conclusions: Kim et al. (2016) and Courtney et al. (2017) find a negative effect of description quality, while Anglin et al. (2018a) and Cappa et al. (2021) find insignificant influence of description quality, all contrary to the research findings grounded on ELM.

The divergent findings in existing literature on the antecedents to crowdfunding success create confusion for both researchers and practitioners. This impedes their ability to achieve a unified understanding from the substantial volume of studies in this research area and to grasp the key elements of successful crowdfunding projects. A major cause for this problem is the challenge researchers face in considering all contextual factors that may unknowingly impact the explanatory power of their research models, thereby affecting the results. Moreover, in a single study, researchers may struggle to: (i) integrate various theories in a uniform manner, (ii) incorporate the correct constructs, or (iii) obtain reliable results. Consequently, it becomes imperative to synthesize the findings on this topic by qualitatively integrating and quantitatively consolidating the existing results.

Although this is not the first review on antecedents of crowdfunding success, our study diverges from past ones in several important ways to fill existing conceptual and empirical gaps, as well as to promote theoretical advancement. Specifically, we present a comprehensive picture based on ELM for understanding crowdfunding success from multiple aspects. First, unlike the reviews utilizing qualitative and descriptive approaches to survey crowdfunding success predictors (Deng et al. 2022, Kaartemo 2017, Shneor and Vik 2020), the core task of our work is to conduct a meta-analysis to quantitatively aggregate the findings of previous studies and comprehensively discern the effects of the antecedents on crowdfunding success identified by existing literature.

Second, one of the key contributions of this study is to serve as a complement and extension to the extant meta-analytic research on crowdfunding success. Geiger and Moore (2022) conduct a meta-analysis based on a framework that only connects predictors related to project descriptions to crowdfunding success. They only consider the influence paths from text, visuals, and narrative tone in project descriptions to crowdfunding performance through number of backers (regarding the number of backers as a mediator rather than outcome). Liu et al. (2022) build a more comprehensive framework and also adopt the meta-analytic approach. They classify the predictors into four categories: backer-, fundraiser-, platform-, and project-related factors. Different from these prior studies, we investigate and verify underlying moderators between the antecedents and crowdfunding success to better explain and reconcile the inconsistencies. Through our analysis, we find that research context such as crowdfunding success measure, crowdfunding model, platform popularity, and project location can lead to different findings of crowdfunding success. Our study offers a more comprehensive and arguably more reliable synthesis of a much broader range of research evidence.

Third, using ELM as the overarching framework in this study is a contribution because it provides a comprehensive approach to understanding backers' funding decisions in crowdfunding. While previous research has used various theories to explain specific phenomena, ELM allows for a broader and more integrated analysis. It enables the classification of different types of antecedents based on backers' information processing efforts and incorporates both soft and hard information. Additionally, ELM accommodates moderators related to research context and complements other theories without conflict, offering a versatile and inclusive framework for analyzing crowdfunding success.

Fourth, our additional analyses provide more insights into existing literature on (the antecedents of) crowdfunding success. Besides the meta-analysis of crowdfunding success factors on the micro level, we also conduct a cross-temporal meta-analysis on the macro-level, providing corroborating insights into the variation of crowdfunding success over time. Moreover, we compare between different research fields to scrutinize the relationship between crowdfunding success and its antecedents. By taking this step, we can dissect the potential differences between research fields with different topic and methods.

Last but not the least, we succinctly highlight several major areas that bear opportunities for future research. Our meta-analysis affords us the feasibility to determine the path relations and integrate the synthesized findings into the theoretical model based on our constructed ELM framework. The estimated model provides potential researchers with clear and universal conclusions derived from existing research, as well as promising directions for subsequent research.

2. Research Framework and Literature Overview

2.1. Theoretical Foundation and Research Framework

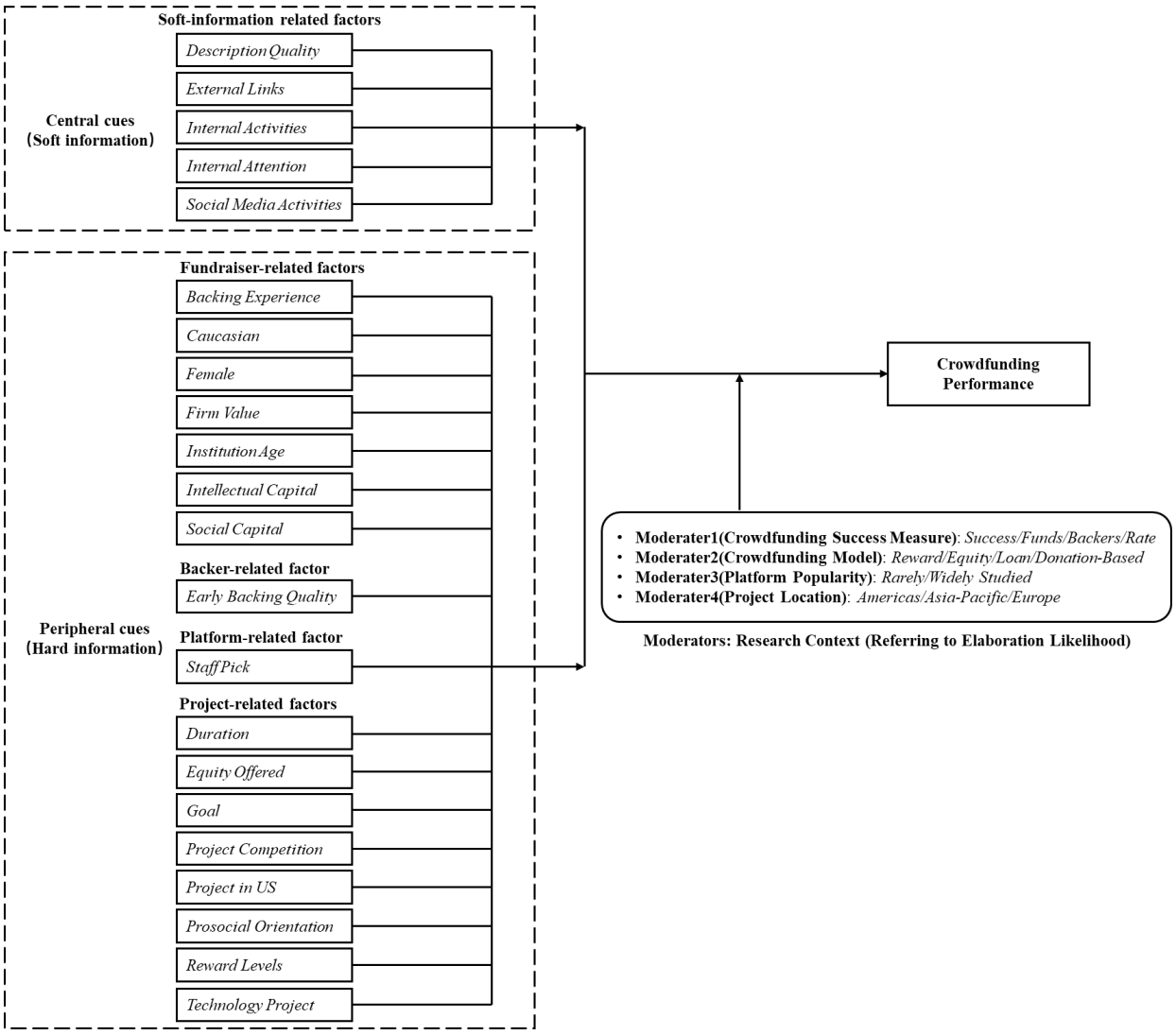

Figure 1. Research Framework

We build a comprehensive research framework for our study, as illustrated in Figure 1. More specifically, we utilize ELM to provide the theoretical lens for understanding the persuasion process of how backers are persuaded to support a crowdfunding project. In the next two subsections, antecedents and moderators will be explained in detail with a literature overview based on this framework.

Originated in the realm of social psychology, ELM stands as one of the prominent theories of persuasion. It effectively elucidates the process of persuasion, encompassing information processing and attitude development toward various entities such as products, services, and more (Chaiken and Trope 1999, Petty and Cacioppo 1986). Specifically, the model postulates dual distinct routes including a central route and a peripheral route for information processing. These two routes reflect the level of "elaboration continuum" the recipients depend on to process information, which operate in different contexts and can

engender different outcomes on persuasion (Petty 2013, Petty and Cacioppo 1986). The central route involves the high end of the continuum in processing and determining attitude formation. That is, when the information requires more effortful, careful, and thoughtful cognitive processing and the attitude formation needs a high level of involvement and analytical reasoning, persuasion follows the central route. In contrast, the persuasion following the peripheral route involves the low end of the continuum and needs less cognitive effort in information processing and attitude formation (Petty and Cacioppo 1986, Wang et al. 2021).

Researchers focusing on crowdfunding have employed ELM to explain the process of creators' eliciting pledges from backers (Allison et al. 2017, Ba et al. 2022, Moradi and Badrinarayanan 2021, Wang et al. 2021). For example, Wang et al. (2021) regard backers' decision-making on supporting crowdfunding projects as a dual process of persuasion. They put forward that backers seek information about the quality of the projects. In this process, the central route helps backers process quality information embedded in videos and narratives of project descriptions. In contrast, fundraisers' skill level and experience which need less cognitive effort for backers' processing are regarded as peripheral cues. Echoing Petty and Cacioppo (1986), Wang et al. (2021) state that peripheral cues are informational factors beyond the central cues (i.e., the videos and narratives of project descriptions), while can be used by backers to help them assess central cues. Considering the absence of a general and comprehensive theoretical framework in the existing literature, we are inspired from the preceding studies to draw support from the fundamental principles of ELM. Its relevance to the field of crowdfunding success and aligning with our research objectives inspire us to build an integrated guiding structure for understanding the persuasive effectiveness of various factors influencing crowdfunding success. By incorporating ELM, we aim to collate relevant predictors from the extant literature and conduct a meta-analytic study to examine how information processing routes, either central or peripheral, operate within the context of crowdfunding success. Moreover, this theoretical framework also enables us to determine important elaboration likelihood factors, namely contextual factors in our study, that can play moderating roles in the central and peripheral routes for persuading backers' funding decision.

Drawing on ELM and the rich literature in this field, we categorize the antecedent predictors into five distinct groups: soft information-, fundraiser-, backer-, platform-, and project-related predictors. Based on this categorization, we construct central-soft and peripheral-hard links in view of ELM by considering the information formats and the corresponding cognitive effort backers exert. We consider soft information-related predictors as part of the central cues, while the remaining four types featuring hard information are

classified into the peripheral cues. In Section 2.2, we present a comprehensive literature overview, highlighting the rationale for each predictor. This detailed analysis allows us to gain a deeper understanding of the role and significance of these predictors in persuading backers and determining the success of crowdfunding campaigns.

Furthermore, according to ELM and prior research, some factors can serve as elaboration likelihood playing their role in central and peripheral routes toward the concerned outcome and thus can be regarded as the moderators. In our crowdfunding context, elaboration likelihood factors should moderate the effects of central and peripheral cues on backers' cognitive effort to process information and finally on project performance. However, focusing on our meta-analysis of the success factors, the moderators can only be considered research contexts that can influence the research findings across different studies, which cannot be simply equivalent to elaboration likelihood factors under ELM. In order to ensure the integrity and rationality of our constructed ELM framework, we select our research context factors by referring to the role of elaboration likelihood in the real world. As such, four moderators acting as research context factors while highly related to real-world elaboration likelihood are embedded into our constructed ELM framework: measurement of crowdfunding success, crowdfunding model, platform popularity, and project location. See Figure 1 and we provide a literature overview and the rationale for each moderator in Section 2.3.

2.2. Antecedents to Crowdfunding Success

Given the three primary stakeholders in crowdfunding, researchers have conducted numerous studies to examine the effects of factors related to them, as well as those associated with projects, on crowdfunding performance. On one hand, many studies concentrate solely on the influence of one or two dimensions of these predictors, offering only a limited scope of useful knowledge for stakeholders questing for crowdfunding success. For example, in a relatively early study in this field, Agrawal et al. (2011) focus on the role of distance between the fundraisers and backers in affecting backers' investment propensity, which helps the relevant parties to understand the importance of geographic factors for crowdfunding success. On the other hand, several studies that consider multiple dimensions yield mixed and conflicting findings for stakeholders who seek crowdfunding success. For example, Evers (2012) and Cumming et al. (2015), two relatively comprehensive studies, consider multiple dimensions of crowdfunding success factors in terms of project characteristics (such as funding goal), fundraiser-related factors (such as team size), as well as other factors like images, videos and text for telling the project story. While Evers (2012) finds a positive

effect of funding goal and a negative effect of text length on funding performance, Cumming et al. (2015) demonstrate a negative effect of funding goal and a positive effect of text length. As previously stated, our antecedents can be categorized into central and peripheral cues. The former involves "soft information", while the latter encompasses "hard information" indicating antecedents related to fundraisers, backers, platforms, and projects. We will delve into this central-soft and peripheral-hard classification and corresponding predictors in the following two parts (refer to Appendix 2 for details about the definitions and distribution of different effects in extant literature).

2.2.1. Central cues - soft information

The first crucial category we examine is the antecedents related to soft information, representing the central cues. It is worth noting that these factors have been widely explored in predicting the success of crowdfunding projects in prior literature, yet yields many mixed findings. In simpler terms, according to prior research (Iyer et al. 2013, 2016, Pötzsch and Böhme 2010), *Soft Information* in our crowdfunding context refers to unstructured, unverified, and nonstandard information or content provided by fundraisers or backers before, during, and even after a crowdfunding project's funding period. This type of dynamic information often does not have a numeric score and is associated with subjectivity, ambiguity, incomparability, and complexity. It serves to describe the projects' quality and potential. Such information requires potential backers' high cognitive efforts to assess project quality, form attitudes, and make decisions. This necessitates backers' more deliberate and cognitive involvement in information processing. Such cognitive involvement with soft information plays a crucial role in driving crowdfunding success, which is recognized as the central route. Hence, the central-soft link is constructed in our ELM framework. Comprehensively drawing on existing research, *Description Quality*, *External Links*, *Internal Activities*, *Internal Attention*, and *Social Media Activities* are extracted as the predictors related to soft information and classified as central cues. These predictors well match the features of soft information and pertain to the central route.

According to Geiger and Moore (2022), a meta-analysis connecting project descriptions to crowdfunding success, extant literature provides an abundance of quantitative evidence on the effects of *Description Quality* in terms of the amount of text, images, and videos, as well as the tone of the narrative description on crowdfunding success (Bernardino et al. 2021, Cumming et al. 2020, Lee et al. 2019, Sokolova and Perez 2018, Zhao and Sun 2020). Deng et al. (2022) posit that the varied definitions and measures of *Description Quality* and different research contexts across studies are important reasons for

prior mixed findings. For example, Bernardino et al. (2021) find no relationship between video length and funding outcomes, but a strong positive impact of detailed description with images and product/idea explanations on crowdfunding success. Cumming et al. (2020) use a variable of gallery items to indicate the number of images or videos and find its positive effect on funding outcomes. They also demonstrate that a project with a video pitch is more likely to attain its funding goal, while it has no contribution to attract backers. Kim et al. (2016) carry out a linguistic analysis to investigate the impact of project narratives on funding outcomes. Their findings suggest that projects using more language of differentiation and less language of accountability have a higher likelihood of success. They also find that text length can negatively affect funding success, which is inconsistent with the finding by Zhao and Sun (2020) that text length can positively influence crowdfunding performance. Therefore, *Description Quality* is a key predictor we would like to analyze in our study.

Internal Attention and *Internal Activities* are predictors related to content generated during the campaign, where the former indicates the comments given or questions raised by backers to the project and the latter denotes the responses from the project creator to backers. Unlike the nonsignificant effect of *Internal Attention* found by Chan and Parhankangas (2017) and Cappa et al. (2021), a significantly positive effect of the number of comments on crowdfunding success is found by Courtney et al. (2017). For *Internal Activities*, Moradi and Badrinarayanan (2021) and Tafesse (2021) explore the association between the questions answered by the fundraisers and crowdfunding success. The former demonstrates a positive relationship, while the latter a negative one. Besides, some studies use the number of updates for a project to indicate *Internal Activities*, and also get mixed results (Bukhari et al. 2020, Chen et al. 2023, Cho and Kim 2017). *Social Media Activities* and *External Links* are predictors that can provide more information to the public and enhance the influence of the project. *Social Media Activities* are usually reflected by the number of likes, comments, and shares of the postings related to the project on social media (Bukhari et al. 2020, Shahab et al. 2019, Xu 2018), and *External Links* represents the embeddedness of links to external platforms in the campaign page (Kim et al. 2017, Pinkow and Emmerich 2021, Usman et al. 2019). Still, the literature presents mixed findings concerning these predictors.

2.2.2. Peripheral cues - hard information

In addition to the central cues, potential backers may also rely on peripheral cues, which act as supporting information alongside the central cues provided by soft information. These peripheral cues aid in inferring project quality but require less cognitive processing compared to the detailed assessment of soft

information. According to Pötzsch and Böhme (2010), hard information is defined as structured, verified, and standard information which is easily quantified and summarized with a numeric score. Drawing upon Deng et al. (2022) and Liu et al. (2022), we classify all such hard information-related factors closely associated with fundraisers, backers, platforms, and projects as peripheral cues. As such, the peripheral-hard link is constructed in our ELM framework.

Fundraiser-related factors. The second category of factors we concentrate on pertains to those related to fundraisers. These factors are associated with the individual, team, or organization who initiates a crowdfunding project. According to our analysis of the extant literature, these factors are generally fundraisers' attributes or characteristics including fundraisers' gender (e.g., *Female*), ethnicity (e.g., *Caucasian*), *Firm Value*, *Institution Age*, *Intellectual Capital*, *Backing Experience*, and *Social Capital*, etc. The definitions and measures of fundraisers' gender, ethnicity, firm value, institution age are relatively more uniform. For example, Paz (2021) and Zhao et al. (2021) examine the effect of fundraisers' gender on the performance of loan-based crowdfunding projects and find that female fundraisers are more successful than males. Rossi et al. (2020) obtain mixed results after investigating the gender role in predicting crowdfunding success across countries (US vs. UK). In our study, we analyze the gender effect on crowdfunding success by using a proxy of *Female*, indicating whether the fundraiser is female or predominantly female if the fundraiser is a team. For fundraisers' ethnicity, most studies explore the differences between *Caucasians* and other races in crowdfunding performance, which is also our concern. For example, Scheaf et al. (2018) and Oo et al. (2019) find no difference between Caucasians and other races, while Anglin et al. (2018a) and Anglin et al. (2018b) demonstrate that Caucasians and racial minorities are different in terms of crowdfunding success. Prior studies commonly have consistent definition for firm value and institution age, indicating the financial strength and the age of the fundraiser institution respectively (Alexiou et al. 2020, Ralcheva and Roosenboom 2020, Zhao et al. 2021). Our study refers to these definitions and measures.

In contrast, the definitions and measurements for fundraisers' intellectual capital, backing experience, and social capital are varied across studies. For example, Ahlers et al. (2015) regard patents as the venture's intellectual capital, while Battaglia et al. (2021) posit that intellectual capital includes patents, R&D, and team's education level. Intellectual capital can show a venture's innovation, strength, and quality, which is important for its entrance into the market and for its survival. In our study, intellectual capital broadly covers fundraisers' patents (Ahlers et al. 2015, Battaglia et al. 2021), team size (Beier and Wagner 2015, Bernardino et al. 2021), and previous project-creating or entrepreneurial experience (Anglin et al. 2018a,

Chen et al. 2020). Some studies regard fundraisers' backing experience as internal social capital (Anglin et al. 2018a, Chen et al. 2020, Colombo et al. 2015), considering that the projects supported by fundraisers help them establish social connections with peers inside the crowdfunding community. After analyzing the existing literature, we consider fundraisers' external personal ties as social capital, and consider backing experience as another influencing factor alone given its reciprocity effect in crowdfunding (André et al. 2017). Thus, social capital in our study is considered as the value received from fundraisers' fans or friends on online platforms with a social networking function, which is outside the crowdfunding community (Ba et al. 2022, Butticè et al. 2017). By distinguishing internal social capital (i.e., backing experience) and external social capital (i.e., social capital in general), we can more clearly understand the influence of these two factors and avoid unnecessary confusion.

Backer-related factors. Backer-related factors are examined in some studies, which are the factors related to the individuals who support the crowdfunding project, such as backers' geographic location (Lelo de Larrea et al. 2019), previous backing experience (Cornelius and Gokpinar 2020, Xiao and Yue 2018), gender (Greenberg and Mollick 2017), as well as backers' early backing quality in terms of the number of backers or the amount of funds received at the early stage of the campaign (Felipe and Ferreira 2020, Rijanto 2022, Robertson and Wooster 2015). Since there are only a very limited number of existing studies that investigate backer-related factors, only the effect of backers' *Early Backing Quality* meets the meta-analysis requirement in our study. Mixed findings exist in previous research in that Coakley et al. (2018) and Rijanto (2022) suggest a strong positive effect of backers' early backing quality on crowdfunding success, while Felipe and Ferreira (2020) fail to find such a relationship.

Platform-related factors. Extant studies investigating these factors mainly regard staff pick, platform type, market competition, platform age, among others as platform-related factors. However, restricted by the criteria of meta-analysis, we can only incorporate *Staff Pick* in our work. *Staff Pick* denotes that a platform may select and recommend a project to the crowd by displaying it in a conspicuous position on the platform's web page or labelling it with a special mark. Staff-picked projects are selected by the crowdfunding platforms to help them gain more exposure to potential backers (Kincaid et al. 2022, Tian 2021, Wessel et al. 2022, Yang and Koh 2022). In these studies, platform type is often not well defined due to its variation in measurement. For instance, Jiang et al. (2020) treated platform type as a control variable and did not report its impact, Vismara (2019) coded this factor as 1 if the platform was Seedrs and 0 otherwise, and Bengtson (2019) examined the platform factor through group tests between Kiva and

Kickstarter. Given these inconsistencies, we were unable to address this issue comprehensively. We are not able to include market competition, platform age, etc. in the meta-analysis due to the limited number of existing studies on these issues.

Project-related factors. Project characteristics are commonly examined in prior literature, and their definitions are generally not controversial. Specifically, project's funding goal, funding duration, equity offering, operation location, competition, prosocial orientation, and technology nature are the project-related factors we include to analyze in our study. The empirical results related to these factors in prior works are scattered and, in some cases, even contradictory. Most studies find that funding goal and duration have strong negative effects on crowdfunding success (Anglin et al. 2018b, Skirnevskiy et al. 2017, Wang et al. 2018, Wang et al. 2020), but some others find a positive or nonsignificant impact (Ahlers et al. 2015, Cappa et al. 2021, Kromidha and Robson 2016, Lukkarinen et al. 2016). Types of projects have also been examined by some studies. Some researchers focus on exploring the probability of success for projects with a prosocial orientation, which are devoted to environmental protection, social assistance, and sustainable development, etc. (Cumming et al. 2020, Siebeneicher and Bock 2021, Tosatto et al. 2022). For example, Kim et al. (2016) observe mixed results on the relationship between prosocial orientation and crowdfunding success across different measures for the dependent variable in that a project with a prosocial orientation is more likely to get a higher fundraising ratio, obtain more funds, take less time, and attract more backers, but harder to reach the funding goal compared with a project without a prosocial orientation. Each project can set a reward scale to provide incentives for their potential supporters (Bukhari et al. 2020). Different reward levels can attract different numbers of backers and different amounts of funds, as individuals' funding behavior is relatively a profit-seeking behavior. Thus, the more the reward levels of a project, the easier it is for it to attract backers (Cumming et al. 2015). However, different findings still exist. For example, Bukhari et al. (2020) find mixed relationships between the number of reward levels and crowdfunding success when using different measurements for crowdfunding success: The number of reward levels positively affects the number of backers and the amount of funds, but have no association with the dichotomous variable of if goal was attained or not. Moreover, some studies examine whether projects with technology nature can be easier to achieve success (Cicchiello and Kazemikhasragh 2022, Lui et al. 2023, Ralcheva and Roosenboom 2016, Scheaf et al. 2018), also yielding mixed results. For example, Lui et al. (2023) and Ralcheva and Roosenboom (2016) find that technology projects tend to get more attention from backers and thus are easier to succeed, while Scheaf et al. (2018) and Cicchiello and

Kazemikhasragh (2022) find no difference between technology projects and others in attracting backers.

2.3. Moderators for Crowdfunding Success Studies

According to ELM and the preceding discussion of central-soft and peripheral-hard links in our research framework, the two routes play their roles in different circumstances (Petty 2013). In this part, we examine elaboration likelihood factors identified by prior studies (Ba et al. 2022, Moradi and Badrinarayanan 2021, Wang et al. 2021). The empirical effects of crowdfunding success factors differ across studies, which may be influenced by an array of research contexts that have been widely explored in meta-analytic reviews (Cram et al. 2019, Hong et al. 2017). As per our argument, the research contexts cannot be directly considered as elaboration likelihood factors in our constructed ELM framework, as they cannot directly influence backers' cognitive effort. However, we can refer to the role of elaboration likelihood factors to examine the research context factors for our meta-analysis for crowdfunding success predictors and thus ensure the integrity of our ELM framework. Specifically, upon reviewing the existing literature, we first obtain some elaboration likelihood factors that can moderate the effects of central/peripheral cues on the backers' cognitive effort to process information, on the persuasion of their funding decision, and on the crowdfunding performance. Second, we determine the research context factors that are highly related to these elaboration likelihood factors from our included studies. Third, we articulate how the considered elaboration likelihood factors play their moderating roles and provide the rationale behind the research context factors that we propose. In other words, although the moderators are regarded as the factors related to research contexts, they essentially stem from the perspectives of platform and project which can play their roles in influencing backers' cognitive effort and funding decision. This enables us to embed the research context factors into our constructed ELM framework. Owing to space constraints, we provide the moderator definitions in Appendix 3 and articulate the rationale for each moderator in Appendix 4.

3. Research Methodology

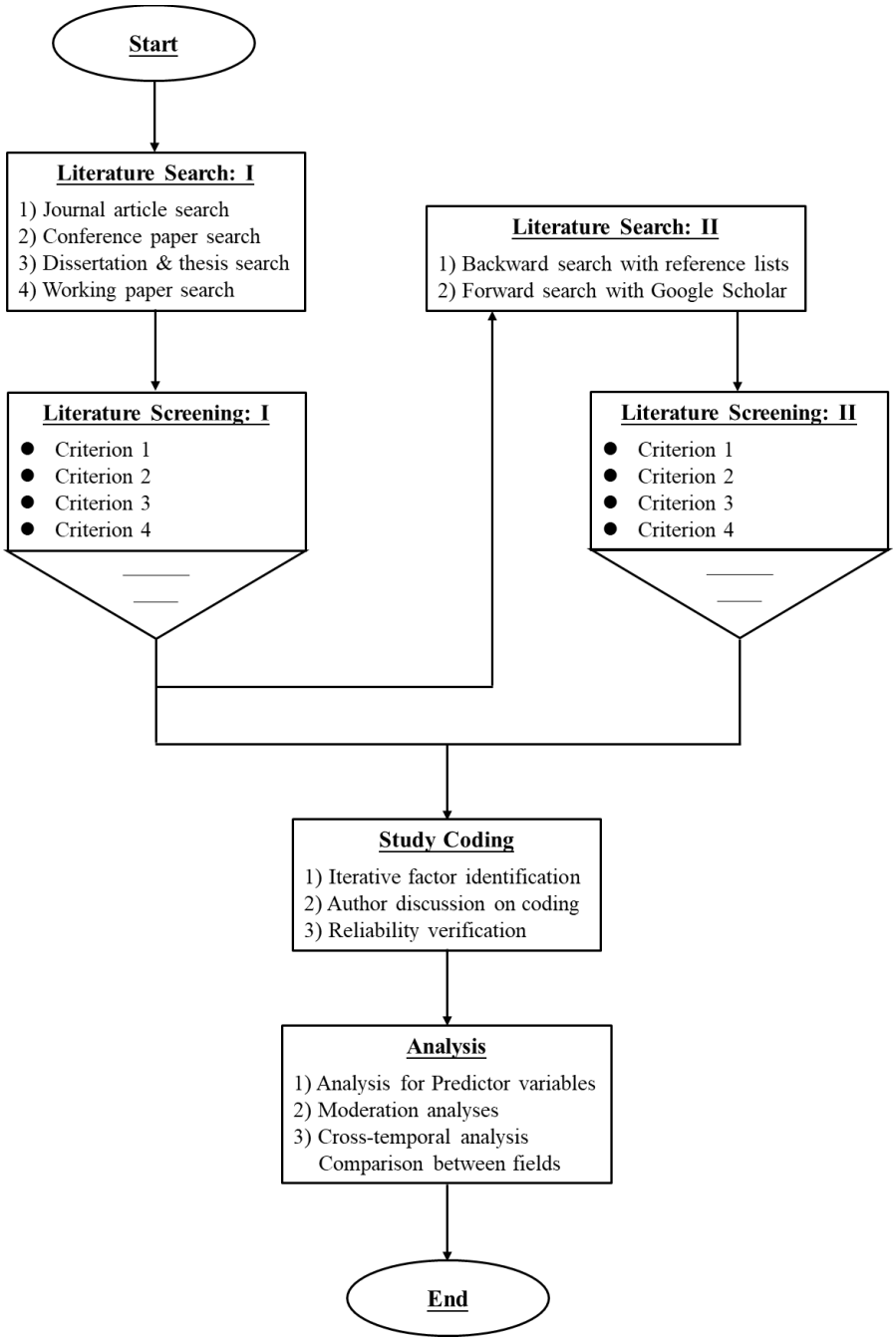

Figure 2. Our Meta-Analytic Process

In order to thoroughly understand the determinants of crowdfunding success, we adopt a mature research technique—meta-analysis—to systematically review existing works on this topic. As a systematic literature review approach, meta-analysis has a standard research process to retrieve, select, code, and analyze studies on a common research question with a series of statistical techniques which are more elaborate than traditional review approaches (Lipsey and Wilson 2001). As a quantitative review method,

it can effectively synthesize various results of several independent studies that empirically address a similar research question (Schmidt and Hunter 2015). Nowadays, meta-analysis has been treated as a powerful tool to rigorously and reliably aggregate a large body of research evidence (Templier and Paré 2015) and applied in many research fields including information systems (IS) and management (Chliova et al. 2015, Cram et al. 2019, Eisend 2019, Qahri-Saremi and Montazemi 2019, Sabherwal et al. 2006, Zhang and Xu 2021).

For this study, we adopt the meta-analytic approach proposed by Lipsey and Wilson (2001), as well as following the guidelines advocated by the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) (Liberati et al. 2009). Specifically, there are four main steps in our meta-analytic review: (i) searching for the related works on crowdfunding success as exhaustive as possible; (ii) picking out the studies that meet our inclusion criteria; (iii) coding the selected studies; and (iv) analyzing to synthesize and reconcile the findings derived from the above individual studies. These steps are illustrated in Figure 2 and elaborated with explanations in the following four sub-sections.

3.1. Literature Search

Two graduate students were recruited and trained as research assistants for the work of literature searching and screening. We collected the related works on crowdfunding success from as many sources as possible to minimize the potential threat of publication bias. In retrieving the documents, we use each of the crowdfunding-related terms ("crowdfund", "crowd-fund", "crowd fund", "crowd funder", "crowd-funder", "crowdfunding", and "crowd funding") and each of the success-related terms ("success", "succeed", "successful", "performance", and "outcome") as the key words. All available documents up to Oct 2023 were collected.

First of all, we searched for journal articles from multiple databases including the ABI/Inform, ACM Digital Library, JSTOR, and EBSCO (including the Academic Source Complete, Academic Source Premier, Business Source Complete, and Business Source Premier). These databases cover most of the publications in related areas such as Computer Science, Economics & Business, and General Social Sciences, which have become common sources of many review works in the IS field (Schryen 2015). It is worth noting that we did not set any restriction on the publication date and publication outlet in order to obtain the related articles with the maximum scope in above process. In addition, to ensure that we do not miss important relevant papers in the field of IS and Business, we also further searched for related papers in major IS journals including *Information Systems Research, MIS Quarterly, Management Science, Journal of Information Technology, Journal of Management Information Systems, Journal of the Association for*

Information Systems, European Journal of Information Systems, Information Systems Journal, Journal of Strategic Information Systems, Decision Support Systems, Information & Management, Journal of the Association for Information Science and Technology as well as major Entrepreneurship journals such as *Entrepreneurship Theory and Practice*, *Journal of Business Venturing*, *Strategic Entrepreneurship Journal*, and many others. Through this process, we collected 11,256 journal articles in total.

Next, we searched for conference papers, unpublished theses, and working papers from several commonly used sources. Specifically, we used the AIS eLibrary to collect related papers from the proceedings of conferences including Americas Conference on Information Systems (AMCIS), European Conference on Information Systems (ECIS), Hawaii International Conference on System Sciences (HICSS), International Conference on Information Systems (ICIS), Pacific Asia Conference on Information Systems (PACIS), and others. A total of 362 papers were collected. Then we used the Proquest D&T to collect related doctoral dissertations and master's theses. A total of 623 works was collected. As for unpublished working papers, we used two websites, SSRN and ResearchGate which are the most influential research-sharing communities, to collect related documents. A total of 238 papers were obtained through this search.

Thirdly, based on the initial set of works that met our inclusion criteria (as detailed in section 3.2 below), we conducted two other search efforts. We searched for works within references of our selected papers (i.e., backward search). Then, we searched, with Google Scholar, for works that cited those papers already in our list (i.e., forward search). Such an approach is widely adopted and recommended (Cram et al. 2019, vom Brocke et al. 2015). Google Scholar identifies some papers from obscure conferences, further ensuring the comprehensiveness of our search process. This process added 35 more works.

Finally, we manually checked the references lists of five recent review papers on this topic (Deng et al. 2022, Geiger and Moore 2022, Kaartemo 2017, Liu et al. 2022, Shneor and Vik 2020) to identify any missing works. This process resulted in three more works.

3.2. Literature Screening

The final set of studies for our meta-analysis was formed by picking out the eligible ones from all of the works gathered through the literature search process as expounded above. The literature screening was conducted according to four criteria as follows. *Criterion 1*: The works must be empirical studies at the project/campaign unit of analysis that investigate success factors in an online crowdfunding context. Conceptual research and qualitative studies were excluded. The studies at other levels of analysis (e.g., platform-level) were also eliminated. Studies not related to an online crowdfunding platform (e.g.,

traditional financing channel) were dropped as well. *Criterion 2*: The objective performance or outcome of crowdfunding projects is investigated in the studies as a dependent variable. The studies examining individuals' subjectivity intention to support a crowdfunding project were not considered. *Criterion 3*: At least one independent variable in a study should be corresponding to our coded factor categories as elucidated in the "Study Coding" section below. Several studies were excluded on account of this criterion, given that the independent variables within them are rarely investigated in the literature. *Criterion 4*: Documents are required to report sufficient data (i.e., sample size and correlation coefficient) for computing an effect size statistic for at least one relation between an independent variable and the dependent variable. The correlations provided in each paper also need to be unique and different from any other one that uses the same dataset, otherwise the aggregated effects may be biased (Wood 2008).

In order to ensure the clarity and reliability of these criteria, we randomly selected 100 works from the initial set and trained the two research assistants to independently screen them according to these four criteria above. The Cohen's Kappa coefficient for evaluating the interrater reliability (Cohen 1960) was calculated as 0.891 (degree of interrater agreement = 97%), which is satisfactory according to Landis and Koch (1977). Where disagreements existed, the authors discussed with the assistants to resolve them.

After screening, 173 works satisfy all four criteria above. The final sample contains 138 journal articles, 6 conference papers, 5 dissertations/theses, and 24 working papers. The basic information about them can be found in Appendix 1. It is worth noting that the volume of our included studies is preferable to most prior meta-analytic reviews in IS journals, such as Cram et al. (2019) with 95 studies, Qahri-Saremi and Montazemi (2019) with 87 studies, Wu and Lederer (2009) with 71 studies, Kohli and Devaraj (2003) with 66 studies, and Hong et al. (2017) with 42 studies. We also provide some typical examples excluded due to the violation of each criterion, provided in Appendix 5.

3.3. Study Coding

Due to the wide range of theoretical bases employed in the crowdfunding success literature, a variety of independent variables are examined by the studies included in our analysis. In order to identify common groupings of variables where a meta-analysis could be performed, two of the authors as coders identified each of the independent variables investigated in the 173 documents. When there are multiple analyses in a study, we treat them as distinct studies as long as the samples used are different in accordance with the current mainstream practice (e.g., Cram et al. (2019)). Because several documents report data from more than one sample, a total of 185 independent datasets were included in our study. Each of the independent

variables was iteratively put into a factor category in which a common meaning exists. This is relatively explicit for the cases in which common measurements are used for the variables, such as *Goal* and *Duration*. However, other factor categories cover distinct variables which could be integrated into a group. For example, the number of words and video length used to describe a project are coded into the category of *Description Quality*, and the number of "likes" and that of "forwardings" for a project-related posting are coded into the category of *Social Media Activities*. In addition, theory is also taken into account to create the factor categories. For instance, some studies investigate the number of projects previously backed by fundraisers based on reciprocity theory, while some others treat it as the experience of the fundraisers similar to the number of projects previously created from the perspective of the human capital theory. To better differentiate them, two distinct categories are created: *Backing Experience* and *Intellectual Capital*.

If uncertainty exists in the factors, all authors discussed the variables with the coders and double checked the measurement adopted by each study to determine if an independent variable could be grouped with another similar variable or if a new factor should be added. For the cases where two or more independent variables within a paper could be placed into a common factor, all of them were included and the composite correlation was computed and used for analysis. Such an approach avoids the threat of an unintended inflation of the meta-analysis result (O'Boyle et al. 2011; Schmidt and Hunter 2015). Ultimately, all independent variables were classified into 22 distinct factor categories (please refer to Appendix 2 for details). If an independent variable in a study was not grouped into any one of the 22 factors, it was because that too few other studies investigated the same or a similar variable. In order to verify the reliability of the coding process in our analysis, the two coders independently matched the independent variables of 20 randomly selected publications from the 173 included articles to one of the 22 factor categories. The degree of interrater agreement for categorization was 96.79% (Cohen's Kappa coefficient = 0.934). In addition, the degrees of interrater agreement for sample size coding and effect size coding are 100% and 91.08%, respectively. Disagreements were addressed through discussions among all authors.

For the minimum number of studies that are sufficient to conduct a meta-analysis, there exist different opinions. Some researchers, such as Valentine et al. (2010), argue that two studies are enough; whereas some others, such as Doi et al. (2015), claim that at least five studies are needed to ensure the reliability of the analysis; yet others hold other views. Considering both these perspectives and the nature of our collected data, we set the minimum number of studies per factor as three.

3.4. Analysis

For each of the 22 factors included, we conduct a separate meta-analysis. Following the prevailing practice, we use the reported correlation (r) to calculate a weighted mean effect size by transforming the results to standard scores while assigning weights based on the sample sizes used (Roth et al. 2018). All references to "effect size" hereafter relate to this weighted mean effect size.

In order to evaluate the validity and reliability of the main meta-analysis results, we conduct multiple tests for the significance (Z-test) and heterogeneity (Q-test) of each factor, and calculate the credibility value, confidence interval, and percent of variance accounted for by sampling and measurement errors (PVA) for each factor. Details of these tests are provided in the following section. We also analyze the data for our moderators as a means to help explain why inconsistent relationships exist across different studies within a particular factor (Schmidt and Hunter 2015). Appendix 6 provides the details on the moderators for each paper included in our meta-analysis.

In addition, as an exploratory investigation into the trend of crowdfunding success from a macro-perspective, we conduct a cross-temporal meta-analysis based on 103 available samples out of the 185 samples included in our main meta-analysis. Moreover, considering the potential differences in focus between different research areas, we also conduct a comparison for all the 22 meta-analytic results between the fields of information systems and business.

4. Meta-Analytic Results

4.1. Predictor Variables

The combined effect sizes for 22 meta-analyses constitute our analysis for predictor variables. The results are summarized in Table 1. The combined effect sizes are reported in the fifth column. Z-test is conducted to check the significance of each predictor's effect size. At $p<0.05$ level, all predictors are found to have significant relationships with crowdfunding success except *Early Backing Quality*, *Female*, and *Technology Project*. Soft information-related predictors including *Description Quality*, *External Links*, *Internal Activities*, *Internal Attention*, and *Social Media Activities* are all found to have positive effects on crowdfunding success. As for fundraiser-related ones, with the exception of *Female*, the other factors (*Backing Experience*, *Caucasian*, *Firm Value*, *Institution Age*, *Intellectual Capital*, and *Social Capital*) are all positively associated with crowdfunding success. The combined effect of the platform-related factor of *Staff Pick* is also positively significant. In terms of project-related factors, *Goal*, *Project in US*, *Prosocial Orientation*, and *Reward Levels* have significantly positive effects; *Duration*, *Equity Offered*, and *Project Competition* have significantly negative effects. Overall, our meta-analysis is a beneficial substitution for

significance testing in individual studies to the development of cumulative knowledge (Schmidt 1996).

Table 1. Results of the Analysis for Predictor Variables

Category		Factor	# of studies	Total sample size	Mean effect size	Z-value	95% CI[a]	80% CV[b]	*Q*-value	PVA[c]
Peripheral-hard	Backer-related	*Early Backing Quality*	11	15,101	0.170	1.397	[-0.069, 0.390]	[-0.332, 0.596]	2025.670	0.49%
	Fundraiser-related	*Backing Experience*	25	143,184	**0.195*** **	9.106	[0.154, 0.236]	[0.067, 0.317]	1321.045	1.82%
		Caucasian	10	9,693	**0.110***	2.301	[0.016, 0.202]	[-0.075, 0.288]	172.791	5.21%
		Female	43	2,459,743	0.023	1.446	[-0.008, 0.054]	[-0.099, 0.144]	16967.215	0.25%
		Firm Value	18	16,567	**0.269*** **	4.543	[0.156, 0.376]	[-0.046, 0.536]	907.059	1.87%
		Institution Age	29	40,607	**0.127*** **	9.790	[0.102, 0.152]	[0.057, 0.197]	129.225	21.67%
		Intellectual Capital	115	4,137,351	**0.155*** **	11.912	[0.130, 0.181]	[-0.017, 0.319]	68512.181	0.17%
		Social Capital	40	808,901	**0.143*** **	8.096	[0.108, 0.176]	[0.009, 0.271]	7358.157	0.53%
	Platform-related	*Staff Pick*	25	620,520	**0.268*** **	16.878	[0.238, 0.298]	[0.173, 0.358]	2868.359	0.84%
	Project-related	*Duration*	97	2,284,934	**-0.040*** **	-4.407	[-0.058, -0.022]	[-0.148, 0.068]	15404.041	0.62%
		Equity Offered	27	18,270	**-0.092*** **	-3.437	[-0.144, -0.040]	[-0.251, 0.073]	305.802	8.50%
		Goal	151	4,454,452	**0.074****	3.275	[0.030, 0.117]	[-0.269, 0.400]	304419.390	0.05%
		Project Competition	6	1,136,188	**-0.091***	-2.069	[-0.176, -0.005]	[-0.224, 0.046]	6443.357	0.08%
		Project in US	12	135,136	**0.019***	2.220	[0.002, 0.036]	[-0.007, 0.045]	52.939	20.78%
		Prosocial Orientation	18	137,255	**0.073****	2.721	[0.020, 0.124]	[-0.063, 0.206]	1228.089	1.38%
		Reward Levels	38	625,463	**0.238*** **	13.882	[0.206, 0.270]	[0.111, 0.357]	5557.493	0.67%
		Technology Project	18	44,629	0.022	0.615	[-0.047, 0.090]	[-0.157, 0.199]	600.987	2.83%
Central-soft	Soft information-related	*Description Quality*	118	3,138,713	**0.187*** **	11.631	[0.156, 0.218]	[-0.031, 0.388]	83837.987	0.14%
		External Links	37	610,290	**0.138*** **	7.038	[0.100, 0.175]	[-0.007, 0.277]	6594.162	0.55%
		Internal Activities	72	1,059,800	**0.305*** **	14.440	[0.266, 0.343]	[0.082, 0.499]	31566.694	0.22%
		Internal Attention	64	1,064,292	**0.380*** **	12.301	[0.324, 0.433]	[0.071, 0.623]	62795.649	0.10%
		Social Media Activities	27	266,964	**0.269*** **	9.249	[0.214, 0.322]	[0.086, 0.434]	3342.267	0.78%

Notes. *: $p < 0.05$, **: $p < 0.01$, ***: $p < 0.001$; [a]: CI indicates confidence interval; [b]: CV means credibility value; [c]: PVA stands for percent of variance accounted for by sampling and measurement errors.

To check the possibility of moderating effects, a homogeneity test (*Q*-test) is performed for each of the 22 meta-analyses. As seen, the *Q*-values reported in Column 9 are significant for all factors, indicating that the variability of each effect size exceeds what is expected only from sampling error (Lipsey and Wilson 2001). Therefore, we will further conduct subgroup analyses by moderators in Section 4.3.

Confidence intervals at the 95% thresholds and credibility values at 80% are reported in Table 1. The confidence intervals represent the range of mean values (i.e., correlations in our case). They tell us about the variability around the mean given the number of studies in the analysis. As shown in the table, most intervals do not include zero, implying corresponding effects' significance at $p<0.05$ significance level. In contrast, the credibility intervals represent the range of effect sizes at the population level (with artifactual variance removed). They give us an estimation for the range of values of individual studies at the population level. We also provide the PVA values. As seen, they are generally small.

We also investigate the publication bias issue. Publication bias refers to the potential threat for meta-analytic results to be biased by the published studies, as effect sizes from published studies are assumed to be more representative (McDaniel et al. 2006, Rothstein et al. 2005, Schmidt and Hunter 2015). Following the practice proposed by Kepes et al. (2012) and Cram et al. (2019), we address the publication bias concern by comparing the combined effect sizes for the grey group including unpublished studies and those for the

published group. Our unpublished group includes 5 dissertations/theses, 6 conference papers, and 24 working papers, while the published group includes 138 journal papers.[1] As we can see from the table in Appendix 7, for *External Links*, studies within the grey group are found to have a significantly larger effect size than the published group, which is in contrast to the typical concern of publication bias (Schmidt and Hunter 2015). There is no significant difference between the effect size of the grey group and that of the published group for any other factor. Therefore, publication bias is not an issue for our study.

4.2. Moderator Analyses

According to the results of the homogeneity tests shown in Section 4.1, it is essential to conduct a moderator analysis. Investigating the effects of moderators helps us further understand the relationships between antecedent factors and crowdfunding success. Here, we only report the results with significant difference between groups. More detailed results of our moderator analyses are provided in Appendix 8.

4.2.1. The Moderator of Crowdfunding Success Measure

As shown in Table 2, crowdfunding success measure significantly moderates the effects of *Social Capital*, *Staff Pick, Duration, Goal*, *Reward Levels*, *Technology Project*, *External Links*, *Internal Activities*, and *Internal Attention* on crowdfunding success.

Table 2. Moderator Analysis Results (Moderator 1: Crowdfunding Success Measure)

Category	Factor	DV measure	# of studies	Total sample size	Mean effect size	95% CI[a]	80% CV[b]	|Effect size difference|[c]	*Q*-between[d]
Fundraiser-related	*Social Capital*	Backers	8	8,807	**0.284**	[0.208, 0.356]	[0.035, 0.499]	0.244***	23.455
		Funds	13	35,677	0.039	[-0.023, 0.102]	[-0.052, 0.130]		
		Backers	8	8,807	**0.284**	[0.205, 0.360]	[0.036, 0.500]	0.147**	8.280
		Success	14	661,697	**0.138**	[0.076, 0.199]	[-0.005, 0.274]		
		Funds	13	35,677	0.040	[-0.017, 0.097]	[-0.051, 0.131]	0.170**	9.066
		Rate	4	66,055	**0.211**	[0.116, 0.302]	[0.063, 0.350]		
		Funds	13	35,677	0.039	[-0.025, 0.103]	[-0.052, 0.130]	0.098*	4.827
		Success	14	661,697	**0.137**	[0.077, 0.197]	[-0.005, 0.274]		
Platform-related	*Staff Pick*	Backers	4	13,726	**0.213**	[0.135, 0.288]	[0.144, 0.279]	0.120**	7.188
		Success	10	355,794	**0.333**	[0.286, 0.378]	[0.240, 0.420]		
		Funds	7	75,403	**0.229**	[0.166, 0.291]	[0.092, 0.357]	0.106**	6.680
		Success	10	355,794	**0.335**	[0.283, 0.384]	[0.242, 0.421]		
Project-related	*Duration*	Backers	23	588,782	0.017	[-0.026, 0.060]	[-0.047, 0.082]	0.110***	12.224
		Rate	20	431,987	**-0.093**	[-0.136, -0.048]	[-0.259, 0.080]		
		Backers	23	588,782	0.014	[-0.017, 0.044]	[-0.051, 0.078]	0.094***	22.050
		Success	32	1,143,653	**-0.080**	[-0.105, -0.055]	[-0.170, 0.011]		
		Funds	21	120,178	0.011	[-0.045, 0.067]	[-0.100, 0.122]	0.103*	6.584
		Rate	20	431,987	**-0.092**	[-0.147, -0.036]	[-0.259, 0.080]		
		Funds	21	120,178	0.010	[-0.024, 0.045]	[-0.101, 0.121]	0.091***	16.541
		Success	32	1,143,653	**-0.080**	[-0.108, -0.053]	[-0.171, 0.011]		
	Goal	Backers	38	660,379	**0.221**	[0.102, 0.334]	[-0.191, 0.567]	0.197*	5.857
		Funds	34	278,172	**0.418**	[0.306, 0.519]	[-0.186, 0.793]		
		Backers	38	660,379	**0.220**	[0.140, 0.297]	[-0.192, 0.566]	0.366***	36.535

[1] Even if we have made our every effort to collect as many papers as possible to minimize potential publication bias, we still have probably missed, due to various reasons, certain relevant papers that exist. Please refer to Appendix 7 for details on how we avoid potential publication bias by maintaining a good balance between the number of published and working papers.

		Rate	34	455,198	**-0.146**	[-0.230, -0.060]	[-0.277, -0.010]		
		Backers	38	660,379	**0.218**	[0.159, 0.276]	[-0.194, 0.565]	0.376***	74.594
		Success	40	1,292,993	**-0.157**	[-0.216, -0.098]	[-0.252, -0.060]		
		Funds	34	278,172	**0.415**	[0.325, 0.497]	[-0.190, 0.792]	0.561***	61.829
		Rate	34	455,198	**-0.146**	[-0.246, -0.044]	[-0.277, -0.010]		
		Funds	34	278,172	**0.406**	[0.346, 0.462]	[-0.201, 0.787]	0.563***	148.602
		Success	40	1,292,993	**-0.158**	[-0.220, -0.094]	[-0.252, -0.060]		
	Reward Levels	Backers	7	169,892	**0.224**	[0.167, 0.280]	[0.040, 0.394]	0.078*	4.291
		Success	10	340,196	**0.302**	[0.254, 0.348]	[0.270, 0.333]		
		Rate	12	57,077	**0.173**	[0.121, 0.224]	[-0.089, 0.413]	0.129***	11.754
		Success	10	340,196	**0.302**	[0.249, 0.353]	[0.270, 0.333]		
	Technology Project	Backers	8	3,690	**0.092**	[0.023, 0.160]	[-0.088, 0.266]	0.261***	16.462
		Success	3	28,511	**-0.169**	[-0.270, -0.064]	[-0.226, -0.110]		
		Rate	5	6,665	0.079	[-0.012, 0.170]	[-0.140, 0.292]	0.248***	11.439
		Success	3	28,511	**-0.169**	[-0.275, -0.059]	[-0.227, -0.110]		
Soft information-related	*External Links*	Backers	9	170,121	**0.067**	[0.001, 0.132]	[-0.009, 0.141]	0.211***	17.273
		Funds	6	16,106	**0.277**	[0.203, 0.348]	[0.017, 0.503]		
		Funds	6	16,106	**0.280**	[0.194, 0.362]	[0.020, 0.505]	0.172**	9.132
		Rate	10	148,054	**0.108**	[0.037, 0.178]	[0.012, 0.202]		
		Funds	6	16,106	**0.281**	[0.189, 0.369]	[0.021, 0.506]	0.143*	5.924
		Success	12	276,009	**0.138**	[0.067, 0.207]	[-0.002, 0.272]		
	Internal Activities	Backers	13	250,008	**0.357**	[0.280, 0.429]	[0.238, 0.465]	0.146**	8.876
		Rate	26	271,813	**0.211**	[0.152, 0.268]	[-0.019, 0.420]		
		Rate	26	271,813	**0.212**	[0.135, 0.285]	[-0.019, 0.421]	0.203***	12.993
		Success	18	474,297	**0.415**	[0.333, 0.490]	[0.167, 0.613]		
	Internal Attention	Funds	16	31,430	**0.479**	[0.368, 0.577]	[0.024, 0.770]	0.189*	5.410
		Success	17	558,654	**0.290**	[0.167, 0.405]	[-0.037, 0.561]		

Notes. [a]: CI indicates confidence interval; [b]: CV means credibility value; [c]: |Effect size difference| is the absolute value of the effect size difference between the two groups; [d]: *Q*-statistic is used to test the significance of |Effect size difference|; *: $p < 0.05$, **: $p < 0.01$, ***: $p < 0.001$.

4.2.2. The Moderator of Crowdfunding Model

As shown in Table 3, crowdfunding model significantly moderates the effects of *Female*, *Institution Age*, *Intellectual Capital*, *Social Capital*, *Duration*, *Goal*, *Description Quality*, and *Internal Activities* on crowdfunding success.

Table 3. Moderator Analysis Results (Moderator 2: Crowdfunding Model)

Category	Factor	Project model	# of studies	Total sample size	Weighted effect size	95% CI[a]	80% CV[b]	|Effect size difference|[c]	*Q*-between[d]
Fundraiser-related	*Female*	Donation	3	7,780	**0.112**	[0.029, 0.193]	[0.025, 0.197]	**0.159****	**10.690**
		Equity	12	7,057	-0.047	[-0.094, 0.000]	[-0.125, 0.031]		
		Equity	12	7,057	-0.050	[-0.113, 0.014]	[-0.127, 0.028]	**0.119***	**5.413**
		Loan	6	2,397,678	0.069	[-0.008, 0.145]	[-0.055, 0.190]		
		Equity	12	7,057	**-0.047**	[-0.093, -0.001]	[-0.125, 0.031]	**0.075****	**6.920**
		Reward	21	46,910	0.028	[-0.003, 0.059]	[-0.051, 0.107]		
	Institution Age	Equity	25	23,364	**0.137**	[0.107, 0.166]	[0.065, 0.208]	**0.119***	**5.528**
		Reward	3	1,048	0.018	[-0.078, 0.113]	[-0.193, 0.227]		
	Intellectual Capital	Equity	33	24,955	**0.199**	[0.161, 0.236]	[0.092, 0.301]	**0.114****	**8.342**
		Loan	8	2,624,830	**0.085**	[0.016, 0.153]	[-0.043, 0.209]		
	Social Capital	Donation	3	21,741	**0.143**	[0.092, 0.193]	[0.045, 0.238]	**0.081***	**5.141**
		Loan	3	432,373	**0.062**	[0.014, 0.110]	[0.011, 0.113]		
		Equity	4	1,035	**0.165**	[0.089, 0.238]	[-0.089, 0.398]	**0.102***	**5.081**
		Loan	3	432,373	**0.062**	[0.015, 0.109]	[0.011, 0.113]		
Project-related	*Duration*	Equity	8	4,761	0.058	[-0.005, 0.121]	[-0.115, 0.227]	**0.104****	**9.580**
		Reward	77	2,152,325	**-0.045**	[-0.063, -0.028]	[-0.136, 0.046]		
	Goal	Donation	18	129,013	**0.171**	[0.102, 0.238]	[-0.438, 0.672]	**0.207*****	**28.672**
		Reward	92	1,912,502	**-0.037**	[-0.068, -0.006]	[-0.180, 0.108]		
		Equity	31	21,532	**0.352**	[0.236, 0.459]	[-0.195, 0.732]	**0.345***	**6.459**
		Loan	8	2,390,236	0.007	[-0.236, 0.249]	[-0.421, 0.433]		
		Equity	31	21,532	**0.339**	[0.296, 0.381]	[-0.209, 0.725]	**0.377*****	**198.259**
		Reward	92	1,912,502	**-0.038**	[-0.064, -0.012]	[-0.181, 0.107]		
Soft information-	*Description Quality*	Donation	14	124,032	**0.128**	[0.100, 0.156]	[0.014, 0.239]	**0.130*****	**35.825**
		Loan	7	1,547,744	-0.002	[-0.034, 0.030]	[-0.052, 0.048]		

related		Equity	9	3,394	**0.081**	[0.034, 0.127]	[-0.164, 0.317]	**0.083****	**8.564**
		Loan	7	1,547,744	-0.002	[-0.032, 0.028]	[-0.052, 0.048]		
		Loan	7	1,547,744	-0.001	[-0.101, 0.098]	[-0.051, 0.049]	**0.217*****	**17.279**
		Reward	86	1,462,374	**0.216**	[0.188, 0.244]	[-0.007, 0.419]		
	Internal Activities	Donation	12	117,827	**0.157**	[0.050, 0.262]	[0.008, 0.300]	**0.176****	**9.414**
		Reward	58	939,866	**0.333**	[0.289, 0.376]	[0.101, 0.531]		

Notes. [a]: CI indicates confidence interval; [b]: CV means credibility value; [c]: |Effect size difference| is the absolute value of the effect size difference between the two groups; [d]: *Q*-statistic is used to test the significance of |Effect size difference|; *: $p < 0.05$, **: $p < 0.01$, ***: $p < 0.001$.

4.2.3. The Moderator of Platform Popularity

As shown in Table 4, platform popularity is found to significantly moderate the effects of *Early Backing Quality*, *Social Capital*, *Goal*, and *Description Quality* on crowdfunding success.

Table 4. Moderator Analysis Results (Moderator 3: Platform Popularity)

Category	Factor	Platform popularity	# of studies	Total sample size	Weighted effect size	95% CI[a]	80% CV[b]	|Effect size difference|[c]	*Q*-between[d]
Backer-related	*Early Backing Quality*	Rarely Studied	6	6,050	0.029	[-0.068, 0.126]	[-0.085, 0.142]	**0.513*****	**48.854**
		Widely Studied	3	7,005	**0.542**	[0.445, 0.627]	[0.423, 0.643]		
Fundraiser-related	*Social Capital*	Rarely Studied	14	36,218	**0.237**	[0.179, 0.293]	[0.046, 0.410]	**0.143*****	**15.000**
		Widely Studied	25	772,364	**0.094**	[0.050, 0.137]	[-0.040, 0.224]		
Project-related	*Goal*	Rarely Studied	51	173,167	**0.186**	[0.113, 0.256]	[-0.344, 0.626]	**0.204*****	**19.049**
		Widely Studied	87	4,264,681	-0.019	[-0.074, 0.037]	[-0.334, 0.300]		
Soft information-related	*Description Quality*	Rarely Studied	40	172,579	**0.133**	[0.078, 0.188]	[0.015, 0.248]	**0.078***	**5.323**
		Widely Studied	75	2,964,300	**0.212**	[0.173, 0.249]	[-0.010, 0.413]		

Notes. [a]: CI indicates confidence interval; [b]: CV means credibility value; [c]: |Effect size difference| is the absolute value of the effect size difference between the two groups; [d]: *Q*-statistic is used to test the significance of |Effect size difference|; *: $p < 0.05$, ***: $p < 0.001$.

4.2.4. The Moderator of Project Region

As shown in Table 5, project region is found to significantly moderate the effects of *Firm Value*, *Duration*, *Goal*, *Reward Levels*, *Technology Project*, and *Internal Activities* but not those of other factors on crowdfunding success.

Table 5. Moderator Analysis Results (Moderator 4: Project Region)

Category	Factor	Project region	# of studies	Total sample size	Weighted effect size	95% CI[a]	80% CV[b]	|Effect size difference|[c]	*Q*-between[d]
Fundraiser-related	*Firm Value*	Americas	5	7,428	0.068	[-0.028, 0.163]	[0.003, 0.133]	**0.342*****	**15.930**
		Asia-Pacific	3	448	**0.410**	[0.276, 0.528]	[-0.026, 0.715]		
		Americas	5	7,428	0.068	[-0.083, 0.216]	[0.002, 0.133]	**0.284****	**9.600**
		Europe	9	8,474	**0.352**	[0.248, 0.448]	[0.102, 0.560]		
Project-related	*Duration*	Americas	24	856,456	-0.019	[-0.063, 0.025]	[-0.135, 0.097]	**0.069***	**3.903**
		Asia-Pacific	18	49,798	**-0.088**	[-0.141, -0.036]	[-0.398, 0.239]		
	Goal	Americas	28	856,224	**-0.069**	[-0.137, -0.001]	[-0.222, 0.087]	**0.298*****	**39.092**
		Asia-Pacific	33	58,963	**0.229**	[0.166, 0.290]	[-0.438, 0.734]		
		Americas	28	856,224	**-0.070**	[-0.122, -0.018]	[-0.223, 0.086]	**0.294*****	**59.808**
		Europe	28	26,183	**0.224**	[0.172, 0.276]	[-0.255, 0.615]		
	Reward Levels	Americas	9	371,193	**0.290**	[0.260, 0.320]	[0.235, 0.344]	**0.109*****	**14.753**
		Asia-Pacific	6	14,979	**0.181**	[0.134, 0.228]	[0.101, 0.259]		
	Technology Project	Americas	5	25,590	**-0.102**	[-0.185, -0.018]	[-0.230, 0.030]	**0.136***	**5.717**
		Europe	7	2,724	0.034	[-0.039, 0.108]	[-0.031, 0.100]		
Soft information-related	*Internal Activities*	Asia-Pacific	14	42,635	**0.259**	[0.195, 0.322]	[0.086, 0.417]	**0.097***	**4.386**
		Europe	13	32,245	**0.356**	[0.290, 0.419]	[0.235, 0.467]		

Notes. [a]: CI indicates confidence interval; [b]: CV means credibility value; [c]: |Effect size difference| is the absolute value of the effect size difference between the two groups; [d]: *Q*-statistic is used to test the significance of |Effect size difference|; *: $p < 0.05$, **: $p < 0.01$, ***: $p < 0.001$.

4.3. Additional Analyses

4.3.1. Cross-Temporal Meta-Analysis

The above meta-analysis examines the antecedents of crowdfunding success on a micro level. In this section, we use the technique of cross-temporal meta-analysis to investigate the change of crowdfunding success over time from a macro perspective. As a modified meta-analysis technique, it can uncover the longitudinal variation of the characteristics of variables or relationships between variables from a cohort of related empirical studies (Twenge 2000, Twenge and Campbell 2001).

In light of the Bass diffusion model (Bass 2004, Bass et al. 1994), we expect that the proportion of successful crowdfunding projects increases gradually but the increasing rate slows down over time. To verify this, we manually collected the available information about project year, sample size, and success ratio from the included articles. In total, we obtained 103 observations for our analysis, and the details are displayed in Appendix 9. Following Twenge et al. (2008), we run a regression on the linear and quadratic terms of project year when weighted by sample size within Stata. The results show that the coefficient of the linear term and that of the quadratic term are significantly positive and negative respectively, confirming our expectation. The details of the results are shown in Table 6.

Table 6. Regression Results of Cross-Temporal Meta-Analysis

Variable	Coefficient	Standard error	t-value	Significance
Year	0.0774592	0.0001240	624.71	$p < 0.001$
$Year^2$	-0.0074020	0.0000134	-553.82	$p < 0.001$
Constant	0.2210550	0.0002946	750.46	$p < 0.001$

Note. The variable of *Year* in this table is derived from its raw data by subtracting 2009 from the raw value given that the earliest year in the raw data set is 2010.

4.3.2. Comparison Between Research Fields

According to Eisend (2015) and Milstein et al. (2022) who have conducted meta-analyses and considered the differences owing to research fields, we conclude that research methods, maturity, topical issues, theoretical frameworks, and definitions of constructs may differ across different fields. Eisend (2015) conducted a meta-analysis for marketing research and confirmed the idea of Lakatos (1977) that the maturity of a research field can influence the findings. That is, researchers in a nascent research field are more likely to make main and strong contributions whereas subsequent studies are unlikely to make significant breakthroughs. Eisend (2015) states that the research methodology and the demands for rigorous research can influence the effects disclosed in different studies. Hence, different research methods employed across different fields may cause different findings. For example, researchers in the information systems field are more likely to utilize econometric and modeling methods and focus more on platform design, while those in psychology and organizational management are good at survey and experimental

research and focus more on crowdfunding strategies. Milstein et al. (2022) point out that the definitions of rivalry differ across diverse research fields such as on-field sports, management, psychology, and culture. Their moderator meta-analysis demonstrates that research fields can moderate the association between rivalry and performance.

Prior studies are unclear on the potential role that the research fields may play in influencing the relationships between crowdfunding success and its antecedents. We seek to fill this gap by conducting a meta-analysis by comparing the results between the two groups of *Management Information Systems (MIS)* and *Business (BIZ)*, which are dominant venues for relevant research. We conduct moderator analysis for studies in these two fields. The minimum number of studies for each factor-field group is still 3. In the end, we obtain 13 moderator analysis results, detailed in Appendix 10. As shown, there is no significant difference between research fields for the effect of any factor on crowdfunding success.

5. Discussions and Implications

In this study, we draw upon ELM to construct a research framework for crowdfunding success research. Initially, we systematically review the antecedents to crowdfunding success and examine their combined mean effects using meta-analysis techniques. Then, we conduct multiple moderator analyses for the direct relationships. Based on the results presented in Section 4, we obtain a series of intriguing insights. We summarize our main findings, along with their implications, as well as recommendations for future research directions in Appendix 11. To provide more general insights, we integrate the obtained path relations, synthesized findings, and most promising areas for future research, into the proposed theoretical model based on our ELM framework (illustrated by Figure 3).

5.1. An Integrated Framework with Our Findings and Future Directions

With a view to promoting knowledge advancement in the domain of crowdfunding success, we here first provide several comprehensive promising areas that bear opportunities for future research by simultaneously parsing the meta-analytic findings for the antecedents and moderators, and further integrate some major ones into our proposed ELM framework (see Figure 3). Then, more detailed research gaps and research directions will be discussed later in the following two subsections.

Future research of antecedents. We advise potential scholars to pay attention to our constructed central-soft and peripheral-hard links. It is important to realize the generally positive relationships between soft information-related central cues and backers' funding decision and the varied relationships between hard information-related peripheral cues, especially the project-related ones, and fundraising performance.

In light of this, cumulative effect of backers' attention and sentiment, fundraiser's social interactions with friends versus strangers, ethnicity analysis by comparing different ethnic groups, theories including goal-setting theory, prospect theory, and social capital theory, are worth more attention from future researchers. Besides, an ideal balance between target capital amount and fundraising duration is also an open issue.

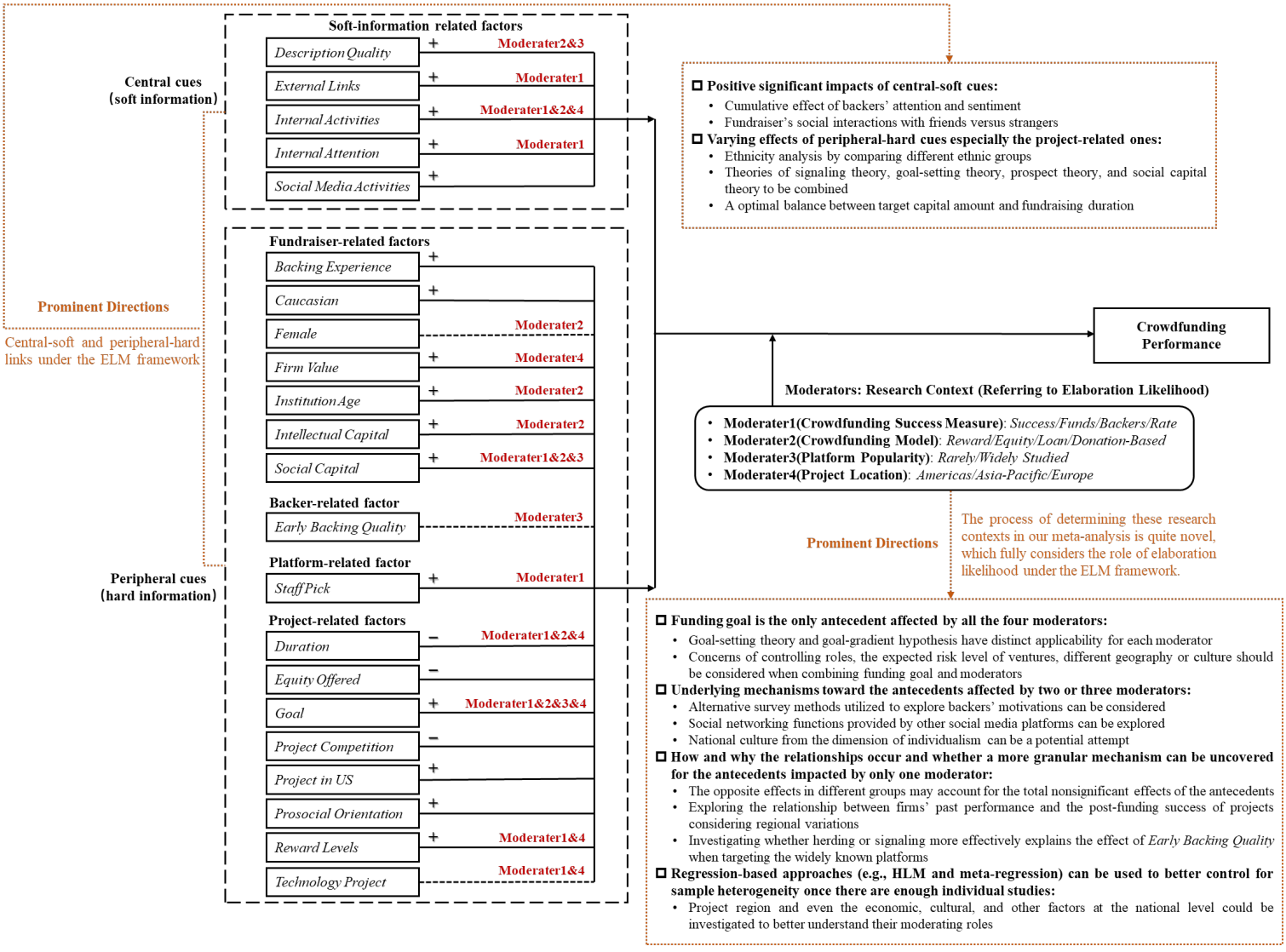

Figure 3. An Integrated Framework with Meta-Analytic Findings and Future Research Directions

Future research of moderators. We also provide several comprehensive directions regarding the moderators. In a meta-analysis, the moderators are regarded as the research context factors influencing the research findings. The process of determining these research contexts in our meta-analysis fully considers the role of elaboration likelihood under the ELM framework: (1) under the ELM framework, we identify the elaboration likelihood factors that could play a role of affecting backers' cognitive effort and funding

decision; (2) we also determine research context factors that are closely related to these elaboration likelihood factors and articulate the rationale by referring to the role of the corresponding elaboration likelihood. Our findings can be summarized as follows:

First, funding goal is the only antecedent found to be moderated by all the four moderators. Goal-related theories such as goal-setting theory and goal-gradient hypothesis may have distinct applicability in each moderator's exploration. Concerns of controlling roles, the expected risk level of ventures, different cultural characteristics should be taken into account when combining funding goal and the moderators.

Second, we identify nuanced moderating effects. *Internal Activities* and *Duration* are not moderated by platform popularity, and *Social Capital* is not moderated by project region, but all three are moderated by other moderators. *Description Quality* is only moderated by crowdfunding model and platform popularity, and *Reward Levels* and *Technology Project* are moderated by crowdfunding success measure and project region. Future research can delve deeper into the underlying mechanisms toward these relations. For instance, studies exploring backers' motivations, social networking functions provided by other social media platforms, and national culture from the dimension of individualism versus collectivism can be potential paths to follow.

Third, the remaining antecedents showing heterogeneous relationships with crowdfunding success are associated with at most one of the four moderators. We find that that the crowdfunding success measure is the most important research context. *Staff Pick*, *External Links*, and *Internal Attention* only respond to this moderator. Moreover, *Female*, *Intellectual Capital*, *Institution Age*, and *Firm Value* are highlighted to show heterogeneous relationships with crowdfunding success for only one moderator, with the former three related to crowdfunding model and the latter one related to project region. In addition, the association of *Early Backing Quality* with crowdfunding success is only moderated by platform popularity. As such, scholars are suggested to examine how and why these relationships occur and whether a more granular mechanism can be uncovered from various perspectives. Besides, given the immense heterogeneity of the effect size of every antecedent observed from the analysis for predictor variables, finding out effective moderators for those factors not moderated by any one of our four moderators (e.g., *Backing Experience* and *Equity Offered*) may be a pressing task for subsequent research.

Fourth, the findings from moderator analyses can partially explain the results for the antecedent analysis. For instance, the opposite or nonsignificant effects obtained in different groups may account for the overall nonsignificant effects of antecedents on crowdfunding success found for *Female* and *Technology*

Project.

Last, in the future, we can go beyond the correlation-based analysis and use regression-based approaches (e.g., hierarchical linear model and meta-regression) to better investigate sample heterogeneity when there are enough available individual studies. By then, project region and even the economic, cultural, and other factors at the national level could be investigated to better understand their moderating roles.

5.2. Future Directions for Antecedents

As articulated earlier, more research efforts can be made in several domains in view of the central-soft and peripheral-hard links we construct.

First, it would be interesting to uncover the mechanisms underlying the relatively consistent and positive impacts of soft information-related central cues on backers' funding decision. A promising research direction is to examine the cumulative effect of backers' attention and sentiment, as reflected in their content, on crowdfunding performance. Another intriguing direction would be to investigate the relative importance of a fundraiser's social interactions with friends versus strangers for crowdfunding success.

Second, varied effects of peripheral-hard cues require more attention in future work. Specifically, we propose the following gaps combining ELM and other appropriate theories. (1) *Fundraiser-related factors*. Regarding ethnicity analysis, the most appropriate approach would be to compare different ethnic groups, such as Black-White, Hispanic-Asian, or even Korean-Japanese, etc. However, we find that the majority of the literature on ethnicity primarily focuses on comparing Caucasians with all other ethnic groups using a single dummy variable, making us unable to conduct more fine-grained analyses across various ethnic groups. Future research in this more granular manner could provide deeper insights. Investigating the interactive effects of fundraisers' gender and ethnicity also presents an interesting avenue for future work. (2) *Backer-related factors*. Future work could explore the potential differential effects of early backing from experienced funders versus newcomers. (3) *Platform-related factors*. Combining the signaling theory with ELM could aid in predicting the success of crowdfunding projects. An interesting research question could be whether there is a systematic difference in the ultimate success of ventures between staff-picked projects and others. (4) *Project-related factors*. Future work can further examine the relationship between *Duration* and crowdfunding success and the moderators. The integration of the goal-setting theory, altruism, choice overload, time pressure, the prospect theory, and the resource-based view could provide a comprehensive examination of this category of factors. For analyses related to project country and category, comparisons between different groups in a (quasi-)experimental setting would be ideal. Investigating the interactive

effects of project country and project category may also provide valuable insights.

5.3. Future Directions for Moderators

Based on our moderator analyses, we also propose several research opportunities.

The moderator of crowdfunding success measure. Future researchers are suggested to pay attention to the funding rules of each platform, which may be the key reason for extant researchers' measure choice to accurately assess crowdfunding success; this is also the key information for backers' consideration of funding success. For instance, considering different measures of crowdfunding success, future work can be conducted to examine the relative importance of internal social capital on the crowdfunding platform and external social capital on other social media platforms. When targeting *Staff Pick*, whether the form of platform recommendation should be uniform or varied based on different funding rules is worth future investigation. Future attention should also be paid to underlying reasons for the rather counterintuitive negative effect of funding duration on crowdfunding success measured by whether the project reaches its funding goal or target achievement ratio. Theoretically, it is very important to control the variable of funding goal in regression analyses under any of the four measures for crowdfunding success to obtain more reliable findings. It is necessary for future research to develop a more comprehensive measure of crowdfunding success incorporating funds raised, backers attracted, and project goal. Further explorations for central-soft cues in terms of *External Links*, *Internal Activities*, and *Internal Attention* can target the mechanisms underlying the difference between "all-or-nothing" rule and "keep-it-all" rule. A plausible explanation in need of future investigation is that although technology projects may attract more backers, these backers tend to give lower support considering the higher risks of technology projects.

The moderator of crowdfunding model. Researchers should pay attention to the role of crowdfunding model as a research context. They should also focus on its role in affecting the cognitive efforts of backers who support projects with different crowdfunding models due to their differential demands and motivations. Specifically, uncovering the mechanism behind the differential effect of *Female* from psychological and cultural angles needs more research in future. Future study can explore the comparative effects of different intellectual capital (human capital, organizational capital, relational capital, etc.) on success in view of different crowdfunding models. The expected risk level of ventures may be the reason for the effect of target capital on project success, which needs to be verified by future research. Backers' expected time interval from investing to getting returns, the setting of funding goal with different risk levels, and the backers' altruism levels need to be studied by potential research. For *Description Quality*, a promising research

direction should examine the underlying difference between loan-based and other types of crowdfunding. Investigating backers' motivations using survey methods when considering *Internal Activities* is also a viable direction.

The moderator of platform popularity. Future work should further examine platform popularity both as the research context and as an elaboration likelihood factor affecting backers' cognitive efforts. Future studies could investigate whether the herding effect or the signaling theory more effectively explains the importance of *Early Backing Quality* when targeting widely known platforms. Future research can further investigate the relative importance of internal social capital (on the crowdfunding platform) and external social capital (accumulated through other social networks) for projects on widely and rarely known platforms comparatively. Especially for niche platforms, it is important to understand how to develop and consolidate social networking functions and integrate the crowdfunding platform with other social media platforms. For serial entrepreneurs, whether there is a pattern across different funding goals is also a plausible direction. Future studies can investigate the comparative effectiveness of different forms of *Description Quality* for project outcome on platforms with different levels of popularity.

The moderator of project region. When setting sights on the role of a research context and the elaboration likelihood factor that influence backers' understanding of specific soft/hard information pertaining to a given project, project location as a key moderator could also be explored by more future research. Exploring the relationship between firms' past performance and the post-funding success of projects considering regional variations is worthwhile. Future work can focus on the underlying reason for the differences from cultural perspectives when targeting funding duration. Goal-related theories such as the goal-setting theory and the goal-gradient hypothesis may have distinct applicability in different geographic or cultural regions. Further investigation in the future can delve into the underlying factors that contribute to the varying impact of funding goals on crowdfunding success, specifically focusing on the cultural and psychological aspects, both within the Americas and in other regions. When examining *Reward Levels,* future work can study the moderating role of individualism. It is also valuable to explore the factors that contribute to the negative relation between the technology nature and project performance in the American region.

6. Conclusion

Understanding the factors that contribute to successful fundraising campaigns is crucial for all stakeholders in the crowdfunding industry. Extensive research has identified various antecedent

determinants of crowdfunding success from different theoretical perspectives. However, the mixed findings and the lack of theoretical consensus in this field have prompted us to conduct a meta-analytic study. This study encompasses a total of 185 samples from 173 empirical works. Based upon a comprehensive theoretical framework rooted in ELM, our meta-analysis delves into the antecedents categorized into central and peripheral cues, as well as the moderating influence of research contexts referring to the role of the elaboration likelihood. We observe a relative strength in the link between soft information-related factors and crowdfunding success, as well as a relative weakness in the relationship between backer-related factors and crowdfunding success. We also identify varied effects of project-related factors, the moderating roles of crowdfunding success measures, crowdfunding models, platform popularity, and project regions in the relationship between antecedent factors and crowdfunding success. Additionally, we note a diminishing crowdfunding success rate at the macro level and find insignificant differences in research findings across various research fields.

Our study consolidates and integrates existing research on factors influencing crowdfunding success, resolving the mixed findings reported in previous studies. We identify several reasons for the inconsistencies in these findings, providing insights from both theoretical and practical perspectives. Theoretically, our study offers a comprehensive list of the determinants of crowdfunding success, filling gaps in the existing literature and suggesting promising avenues for future research. By applying the ELM in the context of crowdfunding, we extend the theoretical application of this model. Practically, our findings have important implications for various stakeholders in the crowdfunding ecosystem. Backers can make more informed decisions in selecting projects with a higher likelihood of success among the vast number of available options. Fundraisers can optimize their crowdfunding campaigns to enhance their chances of raising funds effectively. Crowdfunding platforms can improve system design, utilize our findings to enhance their service offerings, and improve user experience. Additionally, regulators and policymakers can benefit from our study to formulate policies that foster a healthy and conducive crowdfunding environment. In summary, our study provides insights for both researchers and practitioners. It advances our understanding of the factors influencing crowdfunding success and offers practical implications for stakeholders involved in the crowdfunding industry.

Despite its strengths in synthesizing existing findings, our study does have certain limitations that should be acknowledged. First, the factors analyzed in our study are based on the availability of sufficient studies and data. As a result, certain potentially relevant variables, such as facial expressions, ethnicity

comparisons of fundraisers, and the gender, education, and experience of backers, as well as competition and age of crowdfunding platforms, were not included due to data insufficiency. This limitation highlights the need for future research to explore these factors in greater depth. Second, it is important to recognize that our meta-analytic results may not fully capture all the contextual differences present in the included studies. There may be additional potential moderators that can provide a more comprehensive explanation for the mixed findings observed in prior research. Exploring these moderators would further enhance our understanding of the factors influencing crowdfunding success. Third, some of our analyses are based on a small number of individual studies, which may result in limited statistical power and potentially obscure the effects of certain variables. Caution should be exercised when interpreting and making decisions based on these results. Finally, considering the nature of meta-analysis, the results we obtained are correlational or causal only within the scope of the original studies included in our analysis. Acknowledging these limitations, future research should strive to address data deficiencies, explore additional moderators, and ensure sufficient statistical power to provide more robust and reliable insights into the determinants of crowdfunding success.

References

Agrawal AK, Catalini C, Goldfarb A (2011) The geography of crowdfunding. Working paper, National Bureau of Economic Research, Cambridge, MA, USA.

Ahlers GKC, Cumming D, Günther C, Schweizer D (2015) Signaling in equity crowdfunding. *Entrepreneurship Theory and Practice* 39(4):955-980.

Alexiou K, Wiggins J, Preece SB (2020) Crowdfunding acts as a funding substitute and a legitimating signal for nonprofit performing arts organizations. *Nonprofit and Voluntary Sector Quarterly* 49(4):827-848.

Allison TH, Davis BC, Short JC, Webb JW (2015) Crowdfunding in a prosocial microlending environment: Examining the role of intrinsic versus extrinsic cues. *Entrepreneurship Theory and Practice* 39(1):53-73.

Allison TH, Davis BC, Webb JW, Short JC (2017) Persuasion in crowdfunding: An elaboration likelihood model of crowdfunding performance. *Journal of Business Venturing* 32(6):707-725.

André K, Bureau S, Gautier A, Rubel O (2017) Beyond the opposition between altruism and self-interest: Reciprocal giving in reward-based crowdfunding. *Journal of Business Ethics* 146:313-332.

Anglin AH, Short JC, Drover W, Stevenson RM, McKenny AF, Allison TH (2018a) The power of positivity? The influence of positive psychological capital language on crowdfunding performance. *Journal of Business Venturing* 33(4):470-492.

Anglin AH, Wolfe MT, Short JC, McKenny AF, Pidduck RJ (2018b) Narcissistic rhetoric and crowdfunding performance: A social role theory perspective. *Journal of Business Venturing* 33(6):780-812.

Ba Z, Zhao YC, Song S, Zhu Q (2021) Understanding the determinants of online medical crowdfunding project success in China. *Information Processing & Management* 58(2): Article 102465.

Ba Z, Zhao YC, Song S, Zhu Q (2022) Does the involvement of charities matter? Exploring the impact of charities' reputation and social capital on medical crowdfunding performance. *Information Processing &*

Management 59(3): Article 102942.
Bass FM (2004) A new product growth for model consumer durables. *Management Science* 50(12_supplement):1825-1832.
Bass FM, Krishnan TV, Jain DC (1994) Why the Bass model fits without decision variables. *Marketing Science* 13(3):203-223.
Battaglia F, Busato F, Manganiello M (2021) A cross-platform analysis of the equity crowdfunding Italian context: The role of intellectual capital. *Electronic Commerce Research* 22(2):649-689.
Beier M, Wagner K (2015) Crowdfunding success: A perspective from social media and e-commerce. *Proceedings of the 36th International Conference on Information Systems* (Association for Information Systems, Atlanta, GA), Paper 11.
Bernardino S, Santos JF, Oliveira S (2021) The impact of social media and e-WOM on the success of reward-based crowdfunding campaigns. *Management Letters / Cuadernos de Gestión* 21(2):35-48.
Borst I, Moser C, Ferguson J (2018) From friendfunding to crowdfunding: Relevance of relationships, social media, and platform activities to crowdfunding performance. *New Media & Society* 20(4):1396-1414.
Bukhari FAS, Usman SM, Usman M, Hussain K (2020) The effects of creator credibility and backer endorsement in donation crowdfunding campaigns success. *Baltic Journal of Management* 15(2):215-235.
Burke QL (2019) Determinants of securities crowdfunding success under SEC regulation crowdfunding. Working paper, Farmer School of Business, Miami University, Miami, USA.
Butticè V, Colombo MG, Wright M (2017) Serial crowdfunding, social capital, and project success. *Entrepreneurship Theory and Practice* 41(2):183-207.
Calic G, Mosakowski E (2016) Kicking off social entrepreneurship: How a sustainability orientation influences crowdfunding success. *Journal of Management Studies* 53(5):738-767.
Cappa F, Pinelli M, Maiolini R, Leone MI (2021) "Pledge" me your ears! The role of narratives and narrator experience in explaining crowdfunding success. *Small Business Economics* 57:953-973.
Chaiken S, Trope Y (1999) *Dual-Process Theories in Social Psychology* (Guilford Press, New York).
Chan CSR, Parhankangas A (2017) Crowdfunding innovative ideas: How incremental and radical innovativeness influence funding outcomes. *Entrepreneurship Theory and Practice* 41(2):237-263.
Chen Y, Zhang W, Yan X, Jin J (2020) The life-cycle influence mechanism of the determinants of financing performance: An empirical study of a Chinese crowdfunding platform. *Review of Managerial Science* 14:287-309.
Chen Y, Zhou S, Jin W, Chen S (2023) Investigating the determinants of medical crowdfunding performance: A signaling theory perspective. *Internet Research* 33(3):1134-1156.
Chliova M, Brinckmann J, Rosenbusch N (2015) Is microcredit a blessing for the poor? A meta-analysis examining development outcomes and contextual considerations. *Journal of Business Venturing* 30(3):467-487.
Cho M, Kim G (2017) A cross-cultural comparative analysis of crowdfunding projects in the United States and South Korea. *Computers in Human Behavior* 72:312-320.
Cicchiello AFF, Kazemikhasragh A (2022) Tackling gender bias in equity crowdfunding: An exploratory study of investment behaviour of Latin American investors. *European Business Review* 34(3):370-395.
Coakley J, Lazos A, Liñares-Zegarra J (2018) Follow-on equity crowdfunding. Working paper, Essex Business School, University of Essex, Essex, UK.
Cohen J (1960) A coefficient of agreement for nominal scales. *Educational and Psychological Measurement* 20(1): 37-46.
Colombo MG, Franzoni C, Rossi-Lamastra C (2015) Internal social capital and the attraction of early contributions in crowdfunding. *Entrepreneurship Theory and Practice* 39(1):75-100.
Cornelius PB, Gokpinar B (2020) The role of customer investor involvement in crowdfunding success. *Management Science* 66(1):452-472.

Courtney C, Dutta S, Li Y (2017) Resolving information asymmetry: Signaling, endorsement, and crowdfunding success. *Entrepreneurship Theory and Practice* 41(2):265-290.

Cram WA, D'Arcy J, Proudfoot JG (2019) Seeing the forest and the trees: A meta-analysis of the antecedents to information security policy compliance. *MIS Quarterly* 43(2):525-554.

Cumming DJ, Leboeuf G, Schwienbacher A (2015) Crowdfunding models: Keep-It-All vs. All-Or-Nothing. Working paper, Schulich School of Business, York University, Toronto, Canada.

Cumming DJ, Leboeuf G, Schwienbacher A (2020) Crowdfunding models: Keep-It-All vs. All-Or-Nothing. *Financial Management* 49(2):331-360.

Deng L, Ye Q, Xu D, Sun W, Jiang G (2022) A literature review and integrated framework for the determinants of crowdfunding success. *Financial Innovation* 8: Article 41.

Doi SAR, Barendregt JJ, Khan S, Thalib L, Williams GM (2015) Advances in the meta-analysis of heterogeneous clinical trials I: The inverse variance heterogeneity model. *Contemporary Clinical Trials* 45(Part A):130-138.

Eisend M (2015) Have we progressed marketing knowledge? A meta-meta-analysis of effect sizes in marketing research. *Journal of Marketing* 79(3):23-40.

Eisend M (2019) Explaining digital piracy: A meta-analysis. *Information Systems Research* 30(2):636-664.

Evers M (2012) Main drivers of crowdfunding success: A conceptual framework and empirical analysis. Unpublished master's thesis, Erasmus University, Rotterdam, Netherlands.

Felipe IJdS, Ferreira BCF (2020) Determinants of the success of equity crowdfunding campaigns. *Revista Contabilidade & Finanças* 31(84):560-573.

Frydrych D, Bock AJ, Kinder T, Koeck B (2014) Exploring entrepreneurial legitimacy in reward-based crowdfunding. *Venture Capital* 16(3):247-269.

Gafni H, Hudon M, Périlleux A (2021) Business or basic needs? The impact of loan purpose on social crowdfunding platforms. *Journal of Business Ethics* 173:777-793.

Geiger M, Moore K (2022) Attracting the crowd in online fundraising: A meta-analysis connecting campaign characteristics to funding outcomes. *Computers in Human Behavior* 128: Article 107061.

Gorbatai A, Nelson L (2015) The narrative advantage: Gender and the language of crowdfunding. Working paper, Haas School of Business, University of California, Berkeley, Berkeley, USA.

Greenberg J, Mollick E (2017) Activist choice homophily and the crowdfunding of female founders. *Administrative Science Quarterly* 62(2):341-374.

Guo L, Zhou D, Chen Y, Huy R (2015) Platform strategy and market response impact on the success of crowdfunding: A Chinese case. *Asian Journal of Innovation and Policy* 4(3):397-409.

Ho H-C, Chiu CL, Mansumitrchai S, Yuan Z, Zhao N, Zou J (2021) The influence of signals on donation crowdfunding campaign success during COVID-19 crisis. *International Journal of Environmental Research and Public Health* 18(14): Article 7715.

Hong H, Xu D, Wang GA, Fan W (2017) Understanding the determinants of online review helpfulness: A meta-analytic investigation. *Decision Support Systems* 102:1-11.

Hsieh H-C, Hsieh Y-C, Vu THC (2019) How social movements influence crowdfunding success. *Pacific-Basin Finance Journal* 53:308-320.

Iyer R, Khwaja AI, Luttmer EFP, Shue K (2013) Screening peers softly: Inferring the quality of small borrowers. Working paper, Sloan School of Management, MIT, Cambridge, MA.

Iyer R, Khwaja AI, Luttmer EFP, Shue K (2016) Screening peers softly: Inferring the quality of small borrowers. *Management Science* 62(6):1554-1577.

Jiang C, Han R, Xu Q (2023) The impact of social media input intensity on reward-based crowdfunding performance: Evidence from China. *Electronic Commerce Research* 23(3):1753-1774.

Jiang Y, Ho Y-CC, Yan X, Tan Y (2022) What's in a "username"? The effect of perceived anonymity on herding in crowdfunding. *Information Systems Research* 33(1):1-17.

Joenssen DW, Michaelis A, Müllerleile T (2014) Link to new product preannouncement: Success factors in crowdfunding. Working paper, Department of Quantitative Methods for Economics, Ilmenau University of Technology, Ilmenau, Germany.

Jung EJ, Susarla A, Sambamurthy V (2015) Community engagement and collective evaluation in crowdfunding. Working paper, The Eli Broad College of Business, Michigan State University, East Lansing, USA.

Kaartemo V (2017) The elements of a successful crowdfunding campaign: A systematic literature review of crowdfunding performance. *International Review of Entrepreneurship* 15(3):291-318.

Kepes S, Banks GC, McDaniel M, Whetzel DL (2012) Publication bias in the organizational sciences. *Organizational Research Methods* 15(4):624-662.

Kim PH, Buffart M, Croidieu G (2016) TMI: Signaling credible claims in crowdfunding campaign narratives. *Group & Organization Management* 41(6):717-750.

Kim T, Por MH, Yang S-B (2017) Winning the crowd in online fundraising platforms: The roles of founder and project features. *Electronic Commerce Research and Applications* 25:86-94.

Kincaid PA, Short JC, Wolfe MT (2022) Got ink, get paid? Exploring the impact of tattoo visibility on crowdfunding performance. *Journal of Business Venturing Insights* 17: Article e00317.

Koch J-A, Siering M (2015) Crowdfunding success factors: The characteristics of successfully funded projects on crowdfunding platforms. *Proceedings of the 23rd European Conference on Information Systems* (Association for Information Systems, Atlanta, GA), Paper 106.

Kohli R, Devaraj S (2003) Measuring information technology payoff: A meta-analysis of structural variables in firm-level empirical research. *Information Systems Research* 14(2):127-145.

Kromidha E, Robson P (2016) Social identity and signalling success factors in online crowdfunding. *Entrepreneurship & Regional Development* 28(9-10):605-629.

Lakatos I (1977) *Lakatos: The Methodology of Scientific Research Programmes: Philosophical Papers Volume 1* (Cambridge University Press, Cambridge, UK).

Landis JR, Koch GG (1977) The measurement of observer agreement for categorical data. *Biometrics* 33(1):159-174.

Leboeuf G (2016) Does the crowd forgive? Working paper, SKEMA Business School, Université de Lille, Euralille, France.

Lee CH, Bian Y, Karaouzene R, Suleiman N (2019) Examining the role of narratives in civic crowdfunding: Linguistic style and message substance. *Industrial Management & Data Systems* 119(7):1492-1514.

Lelo de Larrea G, Altin M, Singh D (2019) Determinants of success of restaurant crowdfunding. *International Journal of Hospitality Management* 78:150-158.

Liberati A, Altman DG, Tetzlaff J, Mulrow C, Gøtzsche PC, Ioannidis JPA, Clarke M, Devereaux PJ, Kleijnen J, Moher D (2009) The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate health care interventions: Explanation and elaboration. *Journal of Clinical Epidemiology* 62(10):e1-e34.

Lin M, Viswanathan S (2016) Home bias in online investments: An empirical study of an online crowdfunding market. *Management Science* 62(5):1393-1414.

Lipsey MW, Wilson DB (2001) *Practical Meta-Analysis* (SAGE Publications, Thousand Oaks, CA).

Liu Z, Ben S, Zhang R (2022) Factors affecting crowdfunding success. *Journal of Computer Information Systems* 63(2):241-256.

Lui SS, Zhu Z, Liu J (2023) Success of crowdfunding: A trustworthiness perspective. *Asia Pacific Journal of Management* 40(2):681-706.

Lukkarinen A, Teich JE, Wallenius H, Wallenius J (2016) Success drivers of online equity crowdfunding campaigns. *Decision Support Systems* 87:26-38.

McDaniel MA, Rothstein HR, Whetzel DL (2006) Publication bias: A case study of four test vendors. *Personnel Psychology* 59(4):927-953.

Meoli A, Munari F, Bort J (2019) The patent paradox in crowdfunding: An empirical analysis of Kickstarter data. *Industrial and Corporate Change* 28(5):1321-1341.

Miglo A (2022) Comparing crowdfunding theory and practice: The case of technology industry in England. Working paper, University of Glasgow, Scotland, UK.

Milstein N, Striet Y, Lavidor M, Anaki D, Gordon I (2022) Rivalry and performance: A systematic review and meta-analysis. *Organizational Psychology Review* 12(3):332-361.

Mollick E (2014) The dynamics of crowdfunding: An exploratory study. *Journal of Business Venturing* 29(1):1-16.

Moradi M, Badrinarayanan V (2021) The effects of brand prominence and narrative features on crowdfunding success for entrepreneurial aftermarket enterprises. *Journal of Business Research* 124:286-298.

Nitani M, Riding A, He B (2019) On equity crowdfunding: Investor rationality and success factors. *Venture Capital* 21(2-3):243-272.

Oo PP, Allison TH, Sahaym A, Juasrikul S (2019) User entrepreneurs' multiple identities and crowdfunding performance: Effects through product innovativeness, perceived passion, and need similarity. *Journal of Business Venturing* 34(5): Article 105895.

Parhankangas A, Renko M (2017) Linguistic style and crowdfunding success among social and commercial entrepreneurs. *Journal of Business Venturing* 32(2):215-236.

Paz FL (2021) Ending poverty is urgent: Determining the factors that affect prosocial crowdfunding success. Unpublished master's thesis, ISCTE - University Institute of Lisbon, Lisbon, Portugal.

Petty RE (2013) Two routes to persuasion: State of the art. d'Ydewalle G, Bertelson P, Eelen P, eds. *International Perspectives On Psychological Science, II: The State of the Art* (Psychology Press, London, UK), 229-247.

Petty RE, Cacioppo JT (1986) The elaboration likelihood model of persuasion. Berkowitz L, ed. *Advances in Experimental Social Psychology*, vol. 19 (Academic Press, New York), 123-205.

Pinkow F, Emmerich P (2021) Re-examining crowdfunding success: How the crowdfunding goal moderates the relationship of success factors and crowdfunding performance. *Central European Business Review* 10(3):91-114.

Pötzsch S, Böhme R (2010) The role of soft information in trust building: Evidence from online social lending.(Springer Berlin Heidelberg, Berlin, Germany), 381-395.

Qahri-Saremi H, Montazemi AR (2019) Factors affecting the adoption of an electronic word of mouth message: A meta-analysis. *Journal of Management Information Systems* 36(3):969-1001.

Ralcheva A, Roosenboom P (2016) On the road to success in equity crowdfunding. Working paper, Delft University of Technology, Delft, Netherlands.

Ralcheva A, Roosenboom P (2020) Forecasting success in equity crowdfunding. *Small Business Economics* 55:39-56.

Razan KF, Widyastuti A (2022) Exploring success factors in Indonesian equity crowdfunding. *Journal of Digital Innovation Studies* 1(1):21-38.

Rijanto A (2022) Creative industries project financing through crowdfunding: The roles of fund target & backers. *Creative Industries Journal* 15(1):79-96.

Robertson EN, Wooster RB (2015) Crowdfunding as a social movement: The determinants of success in Kickstarter campaigns. Working paper, Department of Economics, Portland State University, Portland, USA.

Rossi A, Vanacker T, Vismara S (2020) Equity crowdfunding: New evidence from US and UK markets. Working paper, Department of Management, University of Bergamo, Bergamo, Italy.

Roth PL, Le H, Oh I-S, Van Iddekinge CH, Bobko P (2018) Using beta coefficients to impute missing correlations in meta-analysis research: Reasons for caution. *Journal of Applied Psychology* 103(6):644-658.

Rothstein HR, Sutton AJ, Borenstein M (2005) Publication bias in meta-analysis. Rothstein HR, Sutton AJ, Borenstein M, eds. *Publication Bias in Meta Analysis: Prevention, Assessment, and Adjustments* (John

Wiley & Sons, Chichester, UK), 1-7.
Sabherwal R, Jeyaraj A, Chowa C (2006) Information system success: Individual and organizational determinants. *Management Science* 52(12):1849-1864.
Scheaf DJ, Davis BC, Webb JW, Coombs JE, Borns J, Holloway G (2018) Signals' flexibility and interaction with visual cues: Insights from crowdfunding. *Journal of Business Venturing* 33(6):720-741.
Schmidt FL (1996) Statistical significance testing and cumulative knowledge in psychology: Implications for training of researchers. *Psychological Methods* 1(2):115-129.
Schmidt FL, Hunter JE (2015) *Methods of Meta-Analysis: Correcting Error and Bias in Research Findings*, 3rd ed. (SAGE Publications, Thousand Oaks, CA).
Schryen G (2015) Writing qualitative IS literature reviews—guidelines for synthesis, interpretation, and guidance of research. *Communications of the Association for Information Systems* 37:286-325.
Shahab Y, Ye Z, Riaz Y, Ntim CG (2019) Individual's financial investment decision-making in reward-based crowdfunding: Evidence from China. *Applied Economics Letters* 26(4):261-266.
Shneor R, Vik AA (2020) Crowdfunding success: A systematic literature review 2010–2017. *Baltic Journal of Management* 15(2):149-182.
Siebeneicher SP, Bock C (2021) Sustainable aim or personal gain? How signals of personal and shared sustainable value relate to crowdfunding success. Working paper, Department of Law and Economics, Technische Universität Darmstadt, Hochschulstr.
Skirnevskiy V, Bendig D, Brettel M (2017) The influence of internal social capital on serial creators' success in crowdfunding. *Entrepreneurship Theory and Practice* 41(2):209-236.
Sokolova K, Perez C (2018) The digital ingredients of donation-based crowdfunding. A data-driven study of Leetchi projects and social campaigns. *Journal of Decision Systems* 27(3):146-186.
Steigenberger N (2017) Why supporters contribute to reward-based crowdfunding. *International Journal of Entrepreneurial Behavior & Research* 23(2):336-353.
Tafesse W (2021) Communicating crowdfunding campaigns: How message strategy, vivid media use and product type influence campaign success. *Journal of Business Research* 127:252-263.
Templier M, Paré G (2015) A framework for guiding and evaluating literature reviews. *Communications of the Association for Information Systems* 37:112-137.
Thies F, Wessel M, Benlian A (2018) Network effects on crowdfunding platforms: Exploring the implications of relaxing input control. *Information Systems Journal* 28(6):1239-1262.
Tian J (2021) Do you want to foresee your future? The best model predicting the success of Kickstarter campaigns. *Proceedings of the 13th International Conference on Machine Learning and Computing* (Association for Computing Machinery, New York), 223–231.
Tosatto J, Cox J, Nguyen T (2022) With a little help from my friends: The role of online creator-fan communication channels in the success of creative crowdfunding campaigns. *Computers in Human Behavior* 127: Article 107005.
Twenge JM (2000) The age of anxiety? Birth cohort change in anxiety and neuroticism, 1952-1993. *Journal of Personality and Social Psychology* 79(6):1007-1021.
Twenge JM, Campbell WK (2001) Age and birth cohort differences in self-esteem: A cross-temporal meta-analysis. *Personality and Social Psychology Review* 5(4):321-344.
Twenge JM, Konrath S, Foster JD, Campbell WK, Bushman BJ (2008) Egos inflating over time: A cross-temporal meta-analysis of the narcissistic personality inventory. *Journal of Personality* 76(4):875-901.
Usman SM, Bukhari FAS, Usman M, Badulescu D, Sial MS (2019) Does the role of media and founder's past success mitigate the problem of information asymmetry? Evidence from a UK crowdfunding platform. *Sustainability* 11(3): Article 692.
Valentine JC, Piggott TD, Rothstein HR (2010) How many studies do you need? A primer on statistical power for meta-analysis. *Journal of Educational and Behavioral Statistics* 35(2):215-247.

Vigneron L (2020) Distance in reward based crowdfunding. Working paper, Université Polytechnique Hauts de France - LARSH, Valenciennes, France.

vom Brocke J, Simons A, Riemer K, Niehaves B, Plattfaut R, Cleven A (2015) Standing on the shoulders of giants: Challenges and recommendations of literature search in information systems research. *Communications of the Association for Information Systems* 37:205-224.

Wang N, Li Q, Liang H, Ye T, Ge S (2018) Understanding the importance of interaction between creators and backers in crowdfunding success. *Electronic Commerce Research and Applications* 27:106-117.

Wang N, Liang H, Xue Y, Ge S (2021) Mitigating information asymmetry to achieve crowdfunding success: Signaling and online communication. *Journal of the Association for Information Systems* 22(3):773-796.

Wang W, Chen W, Zhu K, Wang H (2020) Emphasizing the entrepreneur or the idea? The impact of text content emphasis on investment decisions in crowdfunding. *Decision Support Systems* 136: Article 113341.

Wessel M, Thies F, Benlian A (2022) The role of prototype fidelity in technology crowdfunding. *Journal of Business Venturing* 37(4): Article 106220.

Wood JA (2008) Methodology for dealing with duplicate study effects in a meta-analysis. *Organizational Research Methods* 11(1):79-95.

Wu J, Lederer A (2009) A meta-analysis of the role of environment-based voluntariness in information technology acceptance. *MIS Quarterly* 33(2):419-432.

Xiao S, Yue Q (2018) Investors' inertia behavior and their repeated decision-making in online reward-based crowdfunding market. *Decision Support Systems* 111:101-112.

Xu LZ (2018) Will a digital camera cure your sick puppy? Modality and category effects in donation-based crowdfunding. *Telematics and Informatics* 35(7):1914-1924.

Yang Y, Koh Y (2022) Is restaurant crowdfunding immune to the COVID-19 pandemic? *International Journal of Contemporary Hospitality Management* 34(4):1353-1373.

Zhang N, Xu H (2021) Reconciling the paradoxical findings of choice overload through an analytical lens. *MIS Quarterly* 45(4):1893-1920.

Zhao L, Sun Z (2020) Pure donation or hybrid donation crowdfunding: Which model is more conducive to prosocial campaign success? *Baltic Journal of Management* 15(2):237-260.

Zhao Y, Xie X, Yang L (2021) Female entrepreneurs and equity crowdfunding: The consequential roles of lead investors and venture stages. *International Entrepreneurship and Management Journal* 17(3):1183-1211.