

An Interdisciplinary Review of Investor Decision-Making in Crowdfunding

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Crowdfunding is a quickly expanding phenomenon that emerged as an alternative way to finance ventures or individuals about a decade ago. In crowdfunding, individuals or ventures use online platforms to collect funds from a relatively large group of investors [1]. Today, it provides increasing competition for traditional financing agents such as venture capitalists (VCs), business angels (BAs), and banks on the one hand [2]. On the other hand, it offers new opportunities to individuals and entrepreneurs in need for financing [3]. The global funding volume was over \$34 bn. in 2015 with a growth of more than 1,000% in 3 years according to a recent industry study [4]. Low entry barriers stimulate this growth: in contrast to highly regulated traditional financing markets, investing money through digital channels on crowdfunding platforms is open to almost anyone with an internet connection [3]. But when amateurs become investors, a lack of education and experience in financial decision-making can turn into an expensive endeavor, especially as human decisions frequently seem irrational by economic standards [5, 6].

How investors make decision in traditional startup financing or bank loans is well researched. For crowdfunding, however, prior research covers many individual factors of investment decisions, but does not provide an integrated view on those factors. A better understanding of how investment decisions are made in crowdfunding settings will help crowdfunding concepts and platforms evolve. It can also support investors to make better investment decisions and avoid potentially costly choices. Furthermore, better understanding decision-making in crowdfunding can provide insights into how information systems change the way financial decisions are made. Therefore the research question we address is: *Which factors influence investor decision-making in crowdfunding?*

To answer this question, we conducted a systematic and interdisciplinary literature review on the broad body of crowdfunding studies published to date. For this review we followed Webster & Watson's [7] and Okoli and Schabram's [8] guides for literature reviews. We narrowed our initial selection of 785 crowdfunding articles down to 69 articles that research decision-making in crowdfunding. Using a concept matrix [7] we extracted all factors that do or might influence crowdfunding investment decisions. We inductively developed more abstract clusters by grouping

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similar influencing factors. Instead of using pre-defined categories, we allowed the clusters to emerge and develop during our analysis [9]. We continuously discussed and developed the clusters to ensure exhaustive coverage of all factors as well as mutually exclusive clusters with minimal overlap [10]. We used those clusters to build a crowdfunding decision-making framework. During the analysis of our data and concept matrix, six clusters of influencing factors emerged:

Outcome & Quality: the basic value proposition or promised outcome, as well as the (perceived) quality of product, project, and process.

Financial Risk & Campaign Statistics: the financial risk involved in an investment as well as information about the status and characteristics of the crowdfunding campaign.

Founder Perception & Attributes: all characteristics of the founders and how they are perceived by the investors. This includes the basis on which investors derive or judge those qualities.

Social, Community & 3rd Parties: any kind of relations to and behavior of third parties that potentially influence the investment decision.

Context: all attributes of the decision-making context that should not influence a rational investor but impact human decision-makers.

Investor Characteristics: Everything about the investors and their attributes, such as their personal traits and preferences, motives, or involvement.

The framework allows to analyze the many influencing factors from the extant literature and structure our findings. It also enables future discussion and research to build on a more abstract basis, instead of handling a multitude of small factors. We describe the influence of each cluster and the associated factors on decision-making based on findings and example from the analyzed literature.

Based on our analysis and the extant literature, we elicit systematic differences between crowdfunding and traditional investments, such as venture capital or bank loans. The first difference is an even higher impact of social capital that is particularly critical to trigger investment dynamics through herding behavior [12]. Second, crowdfunding investors use many different information sources to substitute a lack of verified data, personal access to the founders and their own experience. These alternative source rank from behavior of others [11, 12], over soft factors (e.g., emotional reactions) [13, 14], to campaign statistics provided by the crowdfunding platform [1]. Finally, the different and more ubiquitous contextual presence of digital technology influences decisions, e.g., through features and functionality of the platform [59], or dependent on the channel investors' use to access a crowdfunding campaign [43].

Literature suggests that the use of information systems as foundation for crowdfunding is the major driver for those systematic differences (e.g., [15–17]). For once, the reach of crowdfunding platforms is high and entry barriers are often low or even nonexistent. Thus, amateurs with little experience regarding such decisions can participate [18, 19]. At the same time, the increased reach and interconnection of digital crowdfunding platforms with other information systems (e.g., social network sites) makes every investment activity highly transparent, thus fostering herding

behavior [11]. Second, computer-mediation can increase the perceived (social) distance between founder and investor and increase the propensity to lie [20]. In contrast to professional investors, amateurs have little access to reliable data, collateral, or the chance to meet the founder in person [18, 21]. Hence, they need other means to judge an investment opportunity. Lastly, the interaction of crowdfunding founders and investors is guided by information systems. The platforms create a digital context around the transaction that determines how both parties interact with each other. In addition, digital interfaces guide each investor's decision process [22]. Therefore this context influences the decision.

Our findings lead to different takeaways for IS researchers and practitioners. A better understanding of the IS specific factors in crowdfunding decision-making would be beneficial, e.g., how interfaces and platform functionality influence decisions on crowdfunding platforms. On this basis, platform design could be re-evaluated and interfaces improved to help investors decide in their own best interest. In addition, focusing on the entire decision-making process and how different influencing factors and clusters interact could lead to insights on why and how investors decide. Many extant studies focus on assessing correlations between single factors and the funding success of a campaign. Investigating the whole decision-making process in detail and how information systems influence it could build on those findings and lead to additional insights. Experimental and design studies could be useful approaches to elicit better ways to build platforms and learn how to create interactions with information systems in investment situations. Lastly, more research into traditional investments versus crowdfunding could help to narrow down which deviations in investment behavior are due to differences in the concepts (one or few professional investors versus large crowd) and which are rooted in the usage of information technology to implement the concept.

Crowdfunding offers new ways of financing ventures as well as new opportunities to support others and invest money. Given the historic growth rate and the size of the market for loans and investments, its impact on credit markets, venture capital, and entrepreneurial dynamics will likely further expand. We believe that a better understanding of how decisions are made in this context will benefit all involved parties and help mitigate bad choices for investors and founders. The authors hope that their results can bring inspiration to future research and thereby support the development of the field.

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