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Alhammad, Muna, Tan, Chekfoung ORCID: <https://orcid.org/0000-0002-0584-3512>, Alsarhani, Noha and Asnira Zolkepli, Izzal (2020) Factors impacting backers' behavior in reward-based crowdfunding: a systematic review study. In: MENACIS 2020, Third International Conference, 3-4 Dec 2020, Virtual Conference. (In Press)

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Factors Impacting Backers' Behavior in Reward-based Crowdfunding: A Systematic Review Study

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Abstract. With the proliferation of using internet technology, reward-based crowdfunding (RBCF) is seen as alternative finance in the Fintech industry. It allows fund-seekers to pledge an investment through RBCF platforms such as Kickstarter for funding their projects. Backers will get a reward in return. Research has shown that factors impacting the backers' behavior are crucial in determining the success of RBCF campaigns. However, there is a literature gap in providing a holistic view of these factors. Therefore, this paper aims to develop a conceptual model that consists of factors impacting backers' behavior by conducting a systematic literature review (SLR). This paper contributes theoretically by addressing the research gap, and the findings contribute empirically, particularly to the fund-seekers, for increasing their chances for a successful campaign.

Keywords: Systematic Literature Review, Reward-based Crowdfunding, Behavioral theories, Backers Intention, Behavioral Factors

1 Introduction

Over the past decades, the technology and the Internet movement have affected various sectors, including the financial industry, where the finance industry has changed dramatically over the years. Financial technologies (aka Fintech) are characterized as financial innovation enabled by technology that generates new business models, processes, applications, or products that affect financial markets and services [1]. One of Fintech inventions is crowdfunding, which is also known as alternative finance, seen as a social innovation since it facilitates communications between fund seekers and funders through a reliable network mediation [2]. Crowdfunding is the use of the Internet to create an open call for financial resources to fund projects or to hold easy access loans in return for equity, incentives, or interest and sometimes as a form of donation [3, 4]. Crowdfunding is commonly used to raise funds for small businesses and projects [5].

Reward-based crowdfunding (RBCF) is a form of crowdfunding where backers finance the development of an idea, product, or service in return for some benefits such as getting discount products or services. Pledgers or fund-seekers aim to raise funds or get capital to achieve the fundraising goal of their projects or initiatives in the RBCF

platform. Hence, the fund-seekers and the backers are two key user groups in the platform. The first RBCF platform is ArtistShare, launched in 2003, and it is the first crowdfunding company to be founded [3, 6]. Some of the reward-based crowdfunding sites include Kickstarter, Indiegogo, PledgeMusic, and Prosper [7-9].

According to [10], behavioral research is one of the research areas in RBCF. Particularly in information systems, researchers are keen to explore the factors for increasing the chances of success for RBCF projects as it is notable that over 50% of the projects proposals fail to achieve their funding targets [11]. One of the key determinants of the success of such projects lies in individual behavior from the two user groups (fund-seekers and backers) [12]. There are many behavioral studies and models produced in the various contexts of RBCF. The factors impacting backers' behavior suggested in previous studies are varied. For instance, existing research tends to focus on specific backers' behavior, such as motivation [13] or risk [14]. There is a lack of research in providing a cohesive view of these factors in the context of RBCF due to the novelty of the platform. Therefore, this scenario prompts the research question in this paper – what are the factors that impact backers' behavioral intention toward funding projects in RBCF?

Hence, this research aims to answer this research question by conducting a systematic literature review and use the results to develop a conceptual model that consists of factors impacting backers' behavior. This paper discusses the literature of reward-based crowdfunding and relevant behavioral theories. The literature is then applied to derive the conceptual model that describes the individual behavioral factors from the perspective of backers' behavior. This paper contributes theoretically by developing the conceptual model which its measurement could be further developed. From the practical perspective, this research is beneficial for platform owners for designing an efficient platform and for fund-seekers, this research could increase the success rate of their RBCF campaign.

2 Theoretical Foundation

2.1 Reward-based Crowdfunding

Reward-based crowdfunding enables fund-seekers to seek funding for developing their ideas or projects, where backers offer a small or moderate amount of money in exchange for material or immaterial rewards [15]. This approach is generally used by business owners to raise funds and is known as entrepreneur finance. Rewards in this context are either the material rewards, which are usually non-monetary rewards such as the chance to buy the product in advance or the immaterial rewards such as autographs or meet-and-greets [16]. For instance, in a film-funding campaign, the material rewards involve the opportunity to buy the DVD or Blu-Ray in advance, and the immaterial rewards refer to things like visiting the lead roles and film sets or being mentioned in the film credits [12].

There are two fundamental principles in reward-based crowdfunding: *all-or-nothing* and *keep-it-all* [17]. For *all-or-nothing* principle, fund-seekers will only get the money if the target funding goal is met within a specific timeframe; or the backers will get their money back, and the fund-seekers will get nothing from the project. If fund-seekers sign up for the *keep-it-all* principle, they will receive the money collected in the

platform. Kickstarter offers only projects with the *all-or-nothing* principle, whereas Indiegogo offers projects with both principles. Therefore, the *all-or-nothing* principle is seen as a risky approach for the fund-seekers as they might spend time waiting for the fund that they might not get.

One distinctive characteristic of reward-based crowdfunding is that backers support a project, not because of financial incentives, but more towards the product functionalities or service features. Moreover, reward-based crowdfunding usually revolves around consumer goods and services, and it enables backers to co-create values with the fund-seekers [18]. The backers will have the first-hand experience of the product or service. Hence, their feedback can be solicited by the fund-seekers to improve the next version of the product or service further. In this way, reward-based crowdfunding allows fund-seekers to leverage the backers (potential customers) as their valuable resources for their product or service innovation activities.

Clear information about the project or campaign is imperative for the success of raising funds in reward-based crowdfunding platforms [19]. Initially, fund-seekers will create a project or campaign on reward-based crowdfunding platforms such as Kickstarter and Indiegogo. They will also provide information such as the project's title, descriptions, and media (e.g., pictures and promotional videos) on the project page. Also, the fund-seekers will outline the reward types available for the backers. If the backers are interested in their product, they will pick a reward option. For instance, Kickstarter offers four common reward types such as *project-related reward* (e.g., the finished product or an assembled version of a DIY kit), *creative collaboration* (e.g., a backer may appear as a hero in a comic book or maybe painted on a wall), *creative experience* (e.g., a film set tour, a phone call from the director, or party with the casts) and *creative mementos* (e.g., images sent from the filming location, explicit thanks in the film closing credits) [20]. For backers who are convinced with the project, the reward options play a role in attracting backers to contribute more to the project [19]. Hence, designing the right reward options are imperative for fund-seekers in achieving the funding target.

2.2 Behavioral Theories and Factors Impacting Crowdfunding Users

Scholars have been using various theories to study factors impacting backers or fund-seekers behavior. Theories such as the Theory of Reasoned Action (TRA) [21], Theory of Planned Behavior (TPB)[22], Technology Acceptance Model (TAM) [23], Two-Factor Theory [24], Innovation Diffusion Theory (IDT) [25], Status Quo Bias Theory (SQBT) [26], and Unified Theory of Technology Acceptance Model (UTAUT) [27] have significantly contributed to our understanding of users' behavior concerning acceptance and rejection of a range of technologies (for a detail review, see [27]). Research in crowdfunding tends to be theoretically build based on one of these behavioral theories with extending the model to consider other factors relevant to the context of crowdfunding, while few others use a combination of more than one behavioral theory to study the behavioral factors that impact backers or fund-seekers behavior. For example, [28] proposes a theoretical model for crowdfunding by extending the Theory of Planned Behavior (TPB) to include trust factor, beside attitude, subjective norm, and perceived behavioral control, due to the role it plays in influencing backers behavior. Additionally, [29] extended the UTAUT model and found that social influence, effort expectancy, and perceived trust are the only factors that impact the backer's behavior.

Surprisingly, according to their finding, performance expectancy was found to be insignificant. Performance expectancy is one of the important factors when studying technology acceptance and the users' behavioral adoption. This factor was identified previously in TAM1 /TAM2 under another name, i.e., perceived usefulness and proved to be significant in many studies and across different contexts such as the study of [30] and [31].

Another example is the work of [32], where the scholars combined three theories, i.e. Two-Factor Theory, Innovation Diffusion Theory (IDT), and Status Quo Bias Theory (SQBT), in studying the behavioral factors in crowdfunding. The Two-Factor theory explains the internal (intrinsic) or external (extrinsic) factors that cause satisfaction and dissatisfaction among employees [24]. The internal (intrinsic) factors include achievement, recognition, the work itself, responsibility and advancement, while the external (extrinsic) factors are company policy, supervision, salary, interpersonal relations, and working conditions. [32] adapted this theory for studying the enablers and inhibitors in crowdfunding using the two-factor perspective. Both enablers, which refer to elements that encourage crowdfunding users to accept products and services, and inhibitors which refer to factors that discourage users from taking products and services, are analyzed through identifying both internal and external motivational factors. One of the internal motivations that may work as enablers or inhibitors is the users' social identity. According to [33], social identity describes how a person senses themselves depending on the social group to which they belong. It is an essential source of an individual's pride and self-esteem [34]. Individual's identity influences why backers give money and fund other people's projects [35-37]. According to [38], fund-seekers who clearly present their identity has better chances to succeed. Alongside with this theory, fund-seekers' characteristics and personality can influence the backers' behavior. Therefore, considering the number of factors identified in the literature and the unique characteristics of projects in different crowdfunding platforms, it is required to pay attention to the motivational factors that impact the achievement of projects goal in different crowdfunding platforms. This study will only concentrate on identifying factors impacting the backer's behavioral intention to fund projects posted in the reward-based crowdfunding platform.

3 Methodology

This paper employs the three stages, suggested by [39], in conducting the systematic literature review.

3.1 Stage 1: Identifying the Review Strategy

This stage involves activities such as determining the research question (see paragraph 3 in Introduction), the data sources, the search string, and the inclusion and exclusion criteria. The data sources employed in this research were academic databases i.e. IEEE Xplore and ScienceDirect. The search consists of studies from 2012 up to 2019. In order to have a robust search, instead of narrowing down the search by using only the string "reward-based crowdfunding", we conducted the search by using the following search string on the title, keywords, and abstract for each paper in the selected academic databases {"crowdfunding"} AND ("reward-based" OR "Reward based") AND ("factor"

OR “factors”)). There were 323 articles returned as a result. Appendix A- Figure A1 illustrated the review strategy, including the inclusion and exclusion criteria.

3.2 Stage 2: Quality Assessment

Quality assessment is a measure to ascertain the suitability of each source with the research question. Figure 1 demonstrates the quality assessment criteria. Each criterion was then scored against each source, 1 for fitting entirely, 0.5 for partially fit, and 0 for not fitting. We then classified the total score of each source into three categories by adopting the heuristics principles suggested by [40] where we considered the sources that had a total score of more than 3.5. As a result, we found 25 sources that were suitable for this research.

3.3 Stage 3: Data Extraction and Synthesis

We applied thematic analysis for identifying the factors impacting the backers’ behavior in RBCF. By adopting principles proposed by [41], we performed the thematic analysis in the following steps: 1) understanding the concept of each collected source, 2) identifying the relevant themes, and 3) documenting the themes systematically. The themes were devised based on the literature review in Section 2. The thematic analysis was conducted systematically via Excel among the researchers.

4 Factors Derived from Systematic Literature Review

The results of the systematic literature review indicate that the number of research studies related to RBCF is limited to only 25 papers studying factors impacting backers’ behavior in RBCF. Identified factors were classified under nine main themes. These themes are Team Characteristics, Project Characteristics, Social Influence, User Generated Content, Risk, Distrust, Upfront Marketing, Environment Readiness, and Backers Motivation.

Team Characteristics refers to the characteristics of a group of individuals who together seek funds for a particular project. Team Characteristics are characterized by team reputation [13], experience [42, 43], response [13, 44], the award won by the team [42] and the number of team members [45]. According to [13], team members having a good reputation are more likely to raise funds and achieve the targeted goal. Team reputation enhanced by having any previous successful project as well as having good and permanent communications with potential backers and the public [13, 44]. [13] found that communicating the whole progress of the project in a written format and responding to queries from the public is proof of transparency; therefore, it attracts more funders. Additionally, awards won by the fund-seekers usually perceived by the public to be an indication that the project is credible and likely to be successful [42]. [45] found that teams consisting of five or more members are 9% more likely to hit their target. This is because businesses managed by a bigger team of individuals will have diverse skills, resources, and a wider contact network, which plays a significant role in business success. Therefore, Team Characteristics will have a direct impact on backers’ behavioral intention.

Factors related to **Project Characteristics** were found significant in various studies [13, 45-49]. Product/project type is one of the main project characteristics that play a

significant role in influencing backers' behavior in RBCF. Individuals tend to support and fund projects relevant to their interests, which they believed in its benefits. Innovative projects and environmentally friendly products each have their own characteristics, risks, and benefits that could determine backer's decision making to epically fund such a project or not as it also determines the type of rewards offered to backers. Moreover, the duration of the project impacts the success of the project in achieving the desired fund. [45] found that campaigns that last more than 30 days have an increased probability of collecting the requested funds by 4%. Additionally, geographical distance [13, 45, 50] whether the project is running locally or internationally in other countries, and investment goal [44] do impact backers' decision to fund such a project. Lower investment goals tend to attract more backers compared with high investment goals, which are hard to achieve.

Social Influence is the most common factor that impacts backers' behavior in RBCF [7, 13, 44, 45, 48, 50-52]. Social capital is defined as the impact of social norms and moral attitudes of the individuals surrounding social networks and communities [42, 47]. High social capital facilitates cooperation among members of social networks and hence, supporting each other in forming trust in such projects, which is associated with the campaign performance and the making of funding decisions [47]. In particular, the findings indicate that social capital effects are stronger in big cities whilst it matters less in wealthier U.S. counties. In addition, [7, 53, 54] found that the number of projects posted on the platform helps to attract many users and encourages users to participate in the platform and fund projects. Additionally, the use of social media [54, 55] comments provided by the crowd [42], information sharing [56, 57], and the number of backers [52] are important factors that impacts backer's behavior. Hence, what other individuals says and do have impacts on backers' behavior to fund a project.

In the light of **User Generated Content**, webpage visual design [46], the use of visuals [42, 51] and videos [44, 51] to present products/project details, providing quality information, regular updates [44, 45], the language used to present the campaign [45, 58], leveling rhetoric [59], and the appearance of spelling mistakes [44] are all found impacting backers' behavior. [45, 60] found that the length of the project description, such as using more than 500 words, increases the likelihood of campaign success by 13%. Moreover, having a written record of the whole progress of the project and regular updates can be proof of transparency, which enhances individuals' trust in the project leading to attracting more backers [45]. Additionally, precision and rhetoric are needed when describing and articulating the project context and the level and kind of rhetoric should also be adjusted to suite the contexts [59].

Backers Motivation, Risk, Distrust, Upfront Marketing, and Environment Readiness were found significant in a number of studies [13, 44, 45, 47, 53-55, 61]. [54] indicate that upfront marketing is crucial as it indirectly affects the funding duration. Market awareness increases the chances to collect the required amount of funds [53]. Furthermore, backer's motivation, which is explained by whether they are angelic backers, reward hunters, avid fans, or tasteful hermits, is considered an essential factor [13]. The kind of motivation behind a user's participation usually not only impacts the user's behavior but also it impacts other backer's decision to participate in funding such a project [13]. Moreover, [55] studied the impact of environment readiness in terms of

court and legal services, technology availability, intellectual property rights, and patents, and encouraging entrepreneurship culture on backers' behavior. The study proved that all environment readiness factors have an impact on backers' behavior. As for risks and distrust, these two factors are in alignment with each other, where if the perceived risk of such a project is high, users will have a distrust of the project [14]. As mentioned earlier, several factors will form users' trust in the project, such as factors related to project characteristics, user generated content, and team characteristics.

5 Joining of Factors and the Development of RBCF Behavioral Model

Based on the results of the systematic literature review, a conceptual model is developed heuristically (see Figure 1). The model suggests nine explanatory constructs (Team Characteristics, Upfront Marketing, Environment Readiness, User Generated Content, Backers' Motivation, Risk, Distrust, Social Influence **and** Project Characteristics) that impact backers' behavioral intention. The model also recommends that inter-relationship between Risk and Distrust.

6 Discussions and Conclusion

RBCF has changed the way people seek for funding, and it yields financial benefits for fund-seekers such as micro-businesses for actualizing an idea or growing the business. This paper reviewed 25 studies that were conducted between 2012 up to 2019 and based on themes derived from the systematic literature review a conceptual model of factors impacting backers' behavior in RBCF was developed. Thematic analysis was used to identify factors, understand its concept and classify them under relevant themes. The classification of factors using this method offers rich opportunity to get clearer understanding of factors impacting backers' behavior. Hence, impose theoretical and empirical contribution.

From the theoretical perspective, this paper produces a conceptual model of factors impacting backers' behavior in RBCF through a systematic literature review (SLR). The factors in the conceptual model were derived from the themes based on the SLR results. Hence, the theoretical foundation of this model is solid. Moreover, this conceptual model addresses the theoretical gap where there is a lack of cohesive view of backers' behavioral intention in RBCF. This conceptual model is a novel artifact for answering the research question. This research also establishes the relationship between the factors in the conceptual model. Furthermore, each factor in the conceptual model sheds light on future research opportunities. For example, scholars could expand each factor by designing the measurement or identifying the new connection between factors based on their research context.

From the empirical perspective, the findings of this paper are beneficial for fund-seekers and platform owners. By understanding factors impacting the backer's behavior, fund-seekers could design their crowdfunding campaign taking into consideration these factors as they do impacts backers' decision making. Therefore, this approach is

increasing the chances for the fund-seekers to launch a successful campaign by attracting more backers and hence secure the desired fund. Successful campaigns will encourage more fund-seekers to use RBCF as an alternative source to raise funds. The benefits mentioned above will bring in more backers and fund-seekers to a platform which enables platform owner to grow the platform business. For the platform owner such as Kickstarter, these factors could be developed into the platform in order to attract more fund-seekers and backers. A trustworthy platform will also attract backers such as venture capitalists or angel investors to the platform. More importantly, this study enables platform owners to understand the users (fund-seekers and backers) needs, and hence achieving the aim of alternative finance.

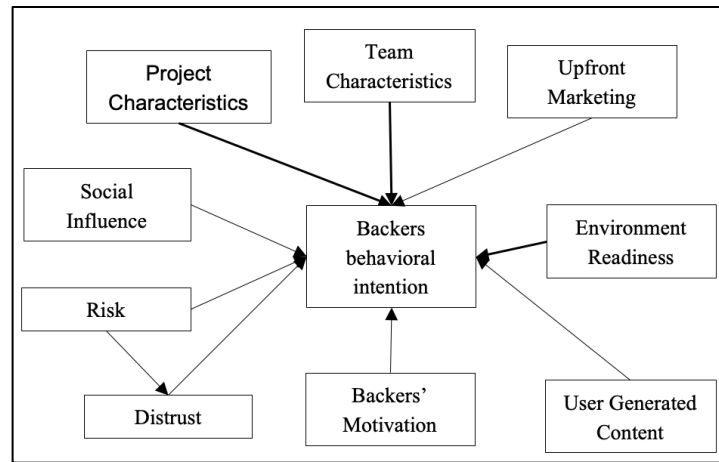


Fig. 1. Factors Impacting Backers' Behavior in RBCF

6.1 Limitations and Directions for Future Research

There are two limitations identified in this research. The first limitation relates to the holistic conjugation of the behavioral theories and the themes derived from the SLR results. The papers that we have reviewed mentioned the underlying theories, which eventually contribute to the development of the conceptual model. However, the association of the behavioral theories to the conceptual model remains at a high level. Hence, these behavioral theories could be optimized further in developing the measurement indicators of each factor in the model. For instance, theories such as the two-factor theory and status quo bias theory could be adopted in detailing the backers' motivation of the conceptual model. Theories such as social identity theory could be applied for complimenting the narration for the social influence factor in the conceptual model. The measurement of each factor could be developed in future research, where a comprehensive questionnaire will be designed and the results will be analyzed by SPSS. The second limitation refers to the model validation. This research is currently at the conceptual stage. Therefore, this model requires thorough quantitative testing in the future in order to evaluate the relationship between factors. Future research could focus on designing a method to quantitatively validate the model.

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Appendix A: Review Strategy- Inclusion and Exclusion Criteria

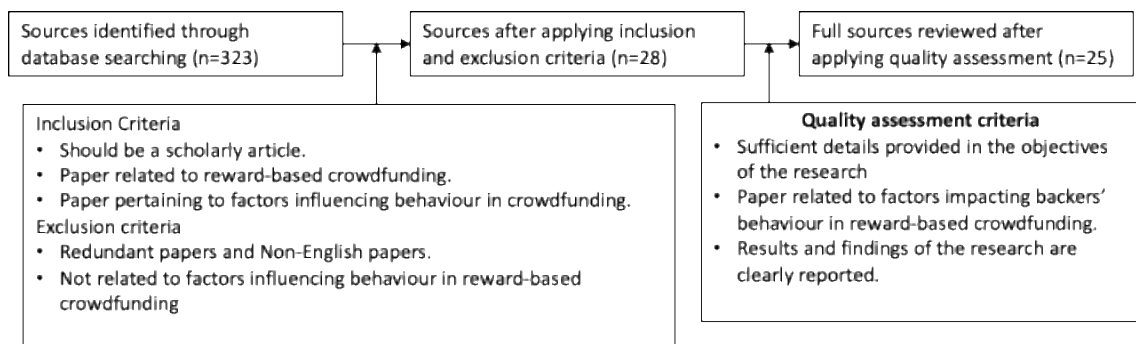


Fig. A1. Review Strategy