

# Crowdfunding Success: A Systematic Literature Review 2010-2017

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# Crowdfunding Success: A Systematic Literature Review 2010-2017

## Abstract

### - *Purpose*

The paper takes stock of accumulated knowledge on factors impacting the success of online crowdfunding (CF) campaigns while suggesting opportunities for future research development.

### - *Design/methodology/approach*

A Systematic Literature Review of 88 academic papers published between 2010-2017. Papers were collected from four academic databases and published in 65 different journals. The review addresses issues related to theory, methods, context, findings and gaps. Overall, the paper presents an analysis of 1718 associations between 111 aggregated independent variables (from 927 variables) with 6 main aggregated success indicators.

### - *Findings*

Most research involves quantitative analyses of public data collected from reward-CF platforms. More research is required in equity, lending, donation and other CF contexts. Existing studies are mostly anchored in theories of signaling, social capital, and elaboration likelihood. There is a need for wider conceptualization of success beyond financial indicators. And based on aggregated summaries of effects, the paper suggests a series of CF success models, while outlining an agenda for future research.

### - *Research limitations/implications*

Studied phenomenon is in its early days of existence in specific years 2010-2017, and hence biased by the circumstances of a new industry. Current review also only covers published journal articles in English.

- *Practical implications*

Findings of factors impacting campaign success can inform fundraisers in building campaigns, as well as platforms in adjusting systems and services towards responsibly enhancing campaign success. Moreover, identified gaps can inform on what has not been sufficiently documented and may be a source of competitive advantage.

- *Originality/value*

A comprehensive review of research on CF success factors at factor level, a coherent agenda for future research development, and a series of evidence-based models on most prevalent factors impacting CF success by CF model.

**Keywords:** Systematic Literature Review, Crowdfunding, Success, Performance, Reward, Equity, Peer-2-Peer Lending, Donation, Theory, Research

**Classification:** Literature Review

## **Introduction**

Internet-enabled crowdfunding (hereafter ‘CF’) is an emerging channel for entrepreneurial and project fundraising, which has been dramatically growing in both volumes and importance in recent years. In 2017, global alternative finance volumes are reported to have reached USD 371 billion (covering a wide-specter of CF models), growing 42% from 2016 volumes, 185% from 2015 volumes, and 1024% from 2014 volumes (Ziegler et al., 2019).

At its core, CF refers to the ability of “pooling often small amounts of capital from a potentially large pool of interested funders” (Short et al., 2017. p. 149 ) instead of large amounts from few sophisticated investors and backers (Belleflamme et al., 2014), all while using the internet, and often without standard financial intermediaries (Mollick, 2014). At a market level, CF is also seen as a way for reducing chronic funding gaps in early stage venturing, which worsened following recent financial crises (Moritz and Block, 2016). At the fundraiser level, in addition to actual funding raised, CF practice may provide other benefits including timely feedback to concepts under development (Gerber and Hui, 2013), demonstration of project legitimacy (Frydrych et al., 2014), market validation (Schwienbacher and Larralde, 2012), as well as access to and networking with critical stakeholders from prospective investors to business partners and media (Mollick and Kuppuswamy, 2014).

What started as sporadic independent online fundraising initiatives has been overtaken by the emergence and proliferation of CF platforms. A CF platform is “an internet application bringing together project owners and their potential backers, as well as facilitating exchanges between them, according to a variety of business models” (Shneor and Flåten, 2015. p. 188). At the most basic of levels, CF models are divided between investment (i.e. peer-to-peer lending, equity CF, revenue sharing, etc.) and non-investment models (i.e. reward- and donation-CF). Furthermore, while a

variety of models and their combinations does exist, these have often been conceptually aggregated around four core models, namely – peer-to-peer lending, equity, reward and donations (Mollick, 2014, Belleflamme et al., 2014).

Working definitions of these models used by the Cambridge University Centre for Alternative Finance in its annual bench-marking reports (e.g. Ziegler et al., 2019), suggest the following: *Peer-to-peer lending* is when individuals or institutional funders provide loans to borrowers with the expectation of repayment of the principle and a set interest within a certain timeframe. *Equity CF* covers transactions in which individuals or institutional funders buy an ownership stake in a company/ organization. *Reward CF* covers transactions where backers provide funding to individuals or organizations in exchange for non-monetary rewards, products or services. *Donation CF* is when backers provide funding based on philanthropic or civic motivations without expectation of monetary or material reward. Finally, variations and combinations of models exist, and sometime different models may be facilitated by the same platform under different conditions (Ibid.).

Despite impressive growth and increasing interest, academic research on CF is trailing behind and remains somewhat limited (Short et al., 2017), with much potential for further development (McKenny et al., 2017, Moritz and Block, 2016), and is even expected to become one of the most important research fields of entrepreneurial finance (Barbi and Bigelli, 2017). A recent literature review (Moritz and Block, 2016), examining CF research broadly, has identified seven main streams in early CF research, including studies on: motivations of fundraisers to use CF; the determinants of successful CF practice; legal frameworks and their fit with CF realities; motivations for fund providers; the roles of social networks in CF; the roles of signaling in CF; and CF intermediary classifications and strategies.

One of the streams that has received much interest and already established a substantial corpus of publications relates to studies of CF success. From a practical perspective, the importance of this research is in accumulating knowledge that can inform design of CF campaigns and practice by fundraisers, influence the development of platform systems and services, as well as inform about innovative approaches to relationship management and governance in internet-mediated environments with multiple stakeholders. Furthermore, from a theoretical perspective, this research helps us examine to what extent existing theories prove sufficient in explaining successful online CF practice, as well as identify opportunities to develop and refine theories to better capture dynamics in this new context.

The current study dives deeper and zooms into this specific stream of research with the objective of taking stock of the accumulated knowledge on factors impacting success while accounting for the theoretical and methodological foundations at the base of these investigations. Accordingly, we aim to answer three complimentary research questions- (1) what are the common trends and practices in early CF success research? (2) what are unaddressed gaps in early CF success research? And (3) what are most prevalent factors affecting CF success across studies?

In order to answer these questions, our review follows the Systematic Literature Review (SLR) approach (Tranfield et al., 2003) based on objective and replicable procedures to literature synthesis (Cooper, 1998). It covers carefully selected 88 academic articles on factors impacting CF success. The included articles were published between 2010 to 2017 in 65 different academic journals from a variety of disciplines. The review presents findings related to context, theory, methods, results and gaps. Furthermore, based on the findings, we suggest a set of evidence-based integrated models of CF success predictors.

The main contributions of this review are twofold. First, we create a series of evidence-based theoretical models based on the most prevalent factors impacting success under each CF-model regime, serving as an aggregate summary of key findings across relevant studies. Second, we identify research gaps unaddressed in the early CF success literature reviewed and suggest opportunities for future research with respect to each of the gaps identified.

In this paper we first present the SLR methodology and procedures followed for research identification, selection, data extraction and synthesis. Next, we present our findings in terms of the reviewed literature's contexts, methods, and theories used. This is followed by a presentation of findings about conceptualizations of success and the factors impacting them. Later, a synthesis effort is presented first in suggesting integrative models of the most dominant factors impacting CF success; and second in highlighting research gaps still in the early CF success literature. A list of concrete venues for future research is then provided. We conclude by highlighting key contributions, limitations, as well as relevant implications of our study for research and practice.

### **Method: Systematic Literature Review**

The current study uses a Systematic Literature Review (hereafter "SLR") approach as recommended by Tranfield et al. (2003).

#### *Identification of research*

Research identification was achieved in two rounds of search. In the first round we searched the Ebsco Host and Scopus databases. This search was constrained to articles including the keyword terms "Crowdfunding"/ "online peer lending" + "success" and "crowdfunding"/ "online peer lending" + "performance", articles were written in the English language, and were

either already published in peer-reviewed journals or were “In Press” at time of search. The initial search generated 71 articles via EBSCO and 93 via Scopus. These lists were merged, and duplicates were removed which resulted in a preliminary list of 104 articles. Once this list was compiled an additional search was done through the ISI Web of Science database, which helped identify an additional 7 relevant articles.

A second round of search was done after a preliminary scan of articles and their abstracts. This included a combination of a complimentary search via Google Scholar and a snowball process of retracing in-article references (Cooper, 1998), which resulted in identification of 26 additional articles. Most of these articles were not identified earlier as they did not clearly match the original search criteria, either by not using the term CF or terms related to success. This was especially evident in articles studying various questions in the contexts to peer-2-peer lending.

#### *Selection of studies and quality assessment*

Our search for relevant research only focused on peer-reviewed journal articles and excluded conference papers, book chapters and working papers. Out of the initially identified 137 papers, 49 were excluded from the analyses for the following reasons: (1) they covered the search terms in combinations that did not relate, or was not relevant, to understanding CF campaign success; (2) they examined CF in an offline rather than an online context; or (3) they represented advice or case snippets not backed by a concrete and rigorous scientific research process. Here, while the first two criteria related to relevance, the final selection related to quality consideration. At the end of the filtering process, a total of 88 selected articles served as the basis for our analysis.

#### *Data extraction and coding*



The selected papers were fully read and recorded in a database specifying the following elements in a systematic and factual manner: author, year, title, paper type, journal name, journal (ABS) ranking, research design, theory(s) used, hypothesis / research question, CF business model (i.e. reward, donation, equity, and lending), CF platform, location (i.e. country, international or unspecified), type of data (i.e. web-scraping, survey, qualitative interviews, etc.), unit of analysis (i.e. campaign, fundraiser, funder, platform, or concept being fundraised), dependent variables, independent variables, identified associations between dependent and independent variables (i.e. positive vs. negative effects, direct vs. indirect effects including moderation and mediation, and their significance), limitations and future research opportunities.

After all data was coded and entered, re-coding of variables took place for conceptual aggregation. First, variable labelling was refined by removing same labels. Here, 106 unique labels were aggregated into 6 CF success indicators, representing the dependent variables (Table 3 lists aggregated success indicators). Moreover, 927 unique labels of independent variables were aggregated into 111 independent variables, whose association with the dependent variables has been studied in the papers reviewed (Table 4 lists aggregated independent variables and effects).

Furthermore, all the aggregated independent variables identified were then classified by the unit of analysis they were relating to, overall assigning each to five different units of analysis – fundraiser (the entity raising funds), platform (the internet-platform on which the fundraising campaign is managed), campaign (the content and quality of information provided during the fundraising effort), concept (product, service or project for which funds are raised), and funder (the entity providing funds for the projects being CF). Finally, dependent variables related to each of the five units of analysis identified above, were further classified into three levels of analysis,

including - macro (i.e. country, culture, geography, etc.), mezzo (i.e. industry, sector, distribution channel, etc.) and micro (i.e. individuals, organizations, projects, etc.) levels of analyses.

## **Findings**

In the following section we present the findings of the literature review with respect to several domains of discussion – general findings, method-related, context-related, and theory-related findings, followed by dependent and independent variables. Under each sub-section we discuss both the state of things in reviewed articles, as well as identify gaps for future research.

### *General findings*

88 journal articles published between 2010 and 2017 were included in this SLR (complete list available for download at <https://www.crowdfunding-research.org/other>). The collected studies indicate that research interest has been exponentially growing especially from mid-2013 onwards, with 52 of the articles published between 2016-2017. A timeline that corresponds with the emergence of two prominent platforms – Prosper overseeing peer-to-peer lending (established in 2005), and Kickstarter overseeing reward CF (established in 2009). First studies in each category were published five years after their founding, and once the platforms accumulated significant volumes of activity and public attention. Overall, most research focused on reward-based CF (47 articles) followed by lending (19 articles), equity (8 articles) and donation-based (7 articles) CF.

CF research has attracted scholars from diverse disciplines as evident in the journals that published CF related research. These journals broadly fall into the disciplinary realms of entrepreneurship, management, information systems, economics, social sciences and communications. Out of 88 articles, 55 articles are published in 55 different journals in the afore-

mentioned broader disciplines. However, 33 articles have been published in 9 journals that have been relatively more accommodating to the publication of CF related research. From a disciplinary perspective, 19 out of these 33 articles were published in entrepreneurship related journals, 10 in e-commerce related journals, 2 in information systems related journals and 2 in economic psychology related journals. Furthermore, when it comes to publication levels, 12 of the 33 articles were published in ABS level 4 journals, 9 in ABS level 3 journals, 5 in ABS level 2 journals, 2 in ABS level 1 journals, and 5 in non-ABS ranked journals.

When considering all 65 journals with CF success publications in terms of journal ranking, 39 have ABS rankings, while 26 do not. The articles published in ranked journals include: 4 articles in ABS level 1 journals, 12 articles in ABS level 2 journals, 23 articles in ABS level 3 journals, 18 in ABS level 4 journals, and 5 articles have been published in ABS level 4\* journals. Hence, despite its relative novelty, CF research has been well received in highly ranked journals. Among these, three journals have been particularly receptive with eight publications in *Entrepreneurship Theory & Practice* (ABS level 4), four publications in *Journal of Business Venturing* (ABS level 4), and five publications in *Venture Capital* (ABS level 2).

#### *Method-related findings*

In terms of methods, a majority of 72 articles employed empirically based quantitative analyses, 12 used qualitative analyses, 1 study used a mixed-method approach, and 3 studies were conceptual in nature. Table 1 presents the distribution of papers by research method and CF model.

---- Insert table 1 here ----

Out of 72 quantitative studies, 58 have collected data directly from CF platforms. Some have supplemented these with web crawling algorithms (Calic and Mosakowski, 2016, Yuan et al., 2016), web traffic stats (Burtch et al., 2013), sentiment analyses (Courtney et al., 2017), interviews with creators and social media stats (Borst et al., 2017), Survey Data (Belleflamme et al., 2013), Text analysis (Cumming et al., 2017), and Coding (Cho and Kim, 2017, Chen et al., 2016). Interestingly, five studies have used experimental design, including the creation of a realistic mock of an online peer-to-peer lending site (Gonzalez and Loureiro, 2014), data collection during an actual CF experiment (Byrnes et al., 2014), different treatment of donors on a donation CF site along differing incentive schemes (Castillo et al., 2014), manipulation of project description content (Pietraszkiewicz et al., 2017), and selection of real campaigns meeting selected criteria for examination of reactions to pitches by students as prospective funders (Davis et al., 2017).

The overall quantitative orientation observed thus far, may be argued to be driven mostly by the availability of new data rather than by conceptual maturation and theory. This poses challenges when considering the relative newness of the digital manifestations of CF and the frequent inconsistency in results. Hence, it remains questionable whether existing theories are sufficient in properly capturing and explaining a variety of aspects related to CF, while suggesting that academic practice may have gone “too narrow too early” (Grant and Hrenyk, 2016, p. 45). In this context, it can be claimed that neither the industry studied, nor the observations covered represent maturity with respect to markets, players, concepts, and behavioral patterns. Under such conditions, a deeper understanding of the phenomenon may be called for through qualitative-oriented studies aiming towards theory-development and conceptual fine-tuning. Furthermore, such studies should build on data that goes beyond the publicly available data on platforms, and

capture individual perceptions, attitudes, beliefs and behaviors from primary data sources of actual fundraisers, funders, and platform operators.

### *Context-related findings*

When examining the geographical scope of data collected, a vast majority of studies (64) present a clearly defined geographical focus, while a minority of studies (14) do not provide clear information about its geographical scope. Overall, studies have covered data from 36 different platforms, while using data about CF campaigns from 11 clearly defined countries. The most popular platforms include US-based Kickstarter (33 studies) and Indiegogo (5 studies), as well as Chinese-based Demohour and Zhongchou (each with 3 studies) in reward CF research. In peer-to-peer lending research, popular platforms include US-based Prosper (7 studies) and Kiva (3 studies), as well as Chinese-based PPDai (3 studies). However, with the exception of Brazil-based Catarse (with 2 studies), there is no donation CF platform that was used in more than one study as context for research. Similarly, there is no equity CF platform that has served as research context in more than one study in the period covered in this review. Finally, in terms of geography, most studies covered data from the USA (48 studies), China (13 studies), Germany (6 studies), the UK (4 studies), and Korea (3 studies).

The above findings again highlight a strong bias to studies conducted in the USA and while using data from Kickstarter. This implies that our accumulated knowledge relates only to data collected from the largest CF platforms, while underrepresenting most platforms in operation, which are of much smaller scale and often have limited scope of international operations. Since, in 2017, there were more than 321 alternative finance service platforms from European countries (Ziegler et al., 2019), more than 782 platforms operating in China, more than 340 platforms

operating in other Asia Pacific states excluding China (Ziegler et al., 2018b), and more than 234 platforms operating across the Americas (Ziegler et al., 2018a), one can safely claim that existing research does not capture the majority of actors and geographical scope of the CF phenomenon.

### *Theory-related findings*

Overall, CF does not yet have an accepted theory of its own, while initial efforts in this direction have been made (e.g. Kshetri, 2015, Strausz, 2017). However, and more specifically, there is no unique theoretical framework dedicated to explaining or predicting CF success, and most related research has drawn upon multiple theories adopted from a variety of disciplines. Table 2 lists the theories and presents the frequencies of their use by CF model.

Theories here are listed within conceptual clusters based on the type of explanations they provide to human decision making and behavior. Accordingly, social theories address the influence of social phenomena and an individual's relations with his or her social environment on human behavior. Economic psychology addresses the influence of psychological characteristics and conditions on economic behavior. Motivation theories addresses motivations for human behavior in general (not necessarily economic). Communication and persuasion theories addresses message content, structure, communication formats and mediums' influence on human decision making. Organizational theories focus on organization level conditions and characteristics as influencing human behavior. And Institutional theories are those which address the roles of cognitive, normative, and regulatory frameworks that influence human and organizational behavior.

---- Insert table 2 here ----

Most CF success studies (74 publications) refer to concrete theories, while a minority (14 publications) do not provide such references. However, theoretical references are often eclectic and involving references to multiple theories, rather than building on single a theory. A total of 43 different theories are referred to across studies, which can be grouped into six theoretical domains – social, organizational, institutional, motivational, communicational, and (economic) psychological domains. These domains are suggested by the authors for reducing complexity and are based on the level of analysis each theory relates to, the types of phenomenon it seeks to explain, and the paradigmatic context in which it originally emerged from.

The most popular theories across studies are first those relating to economic psychology in general and to signaling (Leland and Pyle, 1977, Spence, 1978), discrimination biases (Becker, 1957, Phelps, 1972), trustworthiness (Bhattacharya et al., 1998) and expectation states theories (Correll and Ridgeway, 2003) in particular. Second, are theories relating to social aspects in general, and to social capital (Bourdieu, 1986, Coleman, 1988) and social networks (Granovetter, 1983) in particular. And, third, are theories related to communication and persuasion, and in particular the Elaboration Likelihood Model (Petty and Cacioppo, 1986).

When examined by CF model, our findings about theoretical anchoring are unsurprising. First, the only theoretical domain widely used in studies focusing on both investment and non-investment CF models is economic psychology. However, when delving deeper it becomes apparent that while the use of signaling and information asymmetry reduction theories are common across CF models, theories of discrimination biases, trustworthiness and expectation states are uniquely associated with studies of investment CF models. Second, the use of theories from the social, motivational, communicational and institutional domains are more prominent in studies of non-investment CF models, than in studies of investment CF models. And, third, theories related

to the organizational theoretical domain have, thus far, been exclusively associated with studies in non-investment CF contexts.

The eclectic nature of theoretical anchoring in CF success research can be linked to the relative newness of the field and its positioning at the intersection of multiple disciplines, all contributing to conceptual plurality. However, it remains unclear whether sufficient exploratory research has been done for bringing us closer towards conceptual convergence, or whether the growing scope and maturity of the industry, as “a moving target”, still requires additional theoretical exploration. Later in this paper we present integrative models based on salient findings in research, which represent a step towards conceptual convergence. However, this does not mean that opportunities for further theoretical exploration should be ignored. Indeed, one can and should consider exploring new theoretical directions such as the role of psychological contracts in CF (Jardat and Pesqueux, 2016, Rousseau, 1989), the technology acceptance model (Venkatesh and Davis, 2000), and the theory of planned behavior (Ajzen, 1991) to name a few. Alternatively, one can also strengthen the limited body of research exploring issues related to institutional theory (Kshetri, 2015, Scott, 1987) and legitimacy seeking (Dowling and Pfeffer, 1975), or individual level motivations based on theories like the self-determination theory (Ryan and Deci, 2000).

#### *Dependent variables: Capturing success*

A total of 106 unique labels of dependent variables were identified in the reviewed articles, all capturing CF campaign success. Here, most articles have used a single dependent variable (60 articles) that often was a dichotomy indicating whether a goal/target sum has been reached or not. Others have used combinations of two (14 articles), three (10 articles), four (3 articles), and five (1 articles) dependent variables. These variables were grouped into five broader categories namely



- success (goal reached or not), amount raised, number of contributors, ratio of pledge to goal, speed of funding, and social media shares. The distribution of these is presented in Table 3.

---- Insert table 6 here ----

Interestingly, there seems to be no difference between variables used to capture success in both investment and non-investment CF models. This can be explained by the trend of using publicly available platform data about campaigns. However, while objective financial aspects of CF campaigns' success seem to be well covered in research, two important aspects have been largely overlooked, including – subjective evaluations, and non-financial success indicators.

First, in terms of subjective success evaluations, research can capture effects on satisfaction, sense of achievement, self-efficacy, self-esteem, and ego-booster among CF campaigners and campaign creators. Challenges faced by entrepreneurs in their stressful lifestyles, as well as the looming risks associated with potential failure take their psychological toll (Buttner, 1992, Wincent and Örtqvist, 2009). Here, a successful CF campaign experience can play an important role in balancing such mental states through positive feedback from the crowd; or alternatively, further deteriorate mental states following campaign failure and negative feedback from the crowd. Hence, improvement in satisfaction, sense of achievement, self-efficacy, self-esteem, and ego-booster could serve as subjective indicators of campaign success. Such aspects are closely linked to the important role played by intrinsic motivations for engagement in certain activities, which go beyond extrinsic rewards or avoidance of punishment (Ryan and Deci, 2000), as well as achieving a sense of mastery enshrined in self-efficacy (Bandura, 1977). It is even more surprising that such subjective outcomes have been overlooked in research, especially since most

campaigns do not involve large sums of money to begin with, and their psychological effects could be equally if not more pronounced than the financial outcomes.

In addition to acquiring financial resources, project creators are also concerned with proof of concept, initiating sales, enhancing brand awareness, collecting inputs for product development, market validation and legitimacy, all of which may be achieved with successful campaigns (Gerber and Hui, 2013, Mollick and Kuppuswamy, 2014, Frydrych et al., 2014) even when not involving substantial monetary gains. Again, despite the potential importance of these aspects as CF campaign success indicators they have been overlooked and present fruitful grounds for research.

Finally, despite the important role of social media spread in CF practice (Borst et al., 2017, Shneor and Flåten, 2015, Saxton and Wang, 2014), only a few studies have started capturing CF campaign success in terms of social media shares. Such sharing behavior can reflect a certain degree of promotional effectiveness. Nevertheless, studies are few and mostly relate to non-investment models (for example - Pietraszkiewicz et al., 2017, Wu et al., 2015). Accordingly, much room remains for further analyses of campaign success in terms of social media engagement, reach, spread and virality in both investment and non-investment CF models, especially as these may differ under differing regulations governing the publicity of offerings.

#### *Independent variables and their effects: What influences success*

A total of 927 unique labels of independent variables and controls (as controls in one study served as variables in others) have been identified and conceptually clustered into 111 aggregated independent variables. These were later classified by their unit of analysis either referring to the fundraiser, platform, campaign, concept (being promoted in campaign), or funder. In addition, all variables were further categorized by their level of analysis as either relating to macro (country,

culture, macro-economy, etc.), mezzo (sector/industry, online community, market segment, etc.) or micro (individual, organization, project, etc.) levels of analysis. Such categorization is instrumental in identifying literature gaps.

All aggregated independent variables were associated with a total of 1718 effects that were analyzed in the reviewed studies. 1178 of these effects were identified as significant effects. An ‘Effect’ in this paper is a statistically tested causal association either hypothesized (in case of independent variables) or non-hypothesized (in case of control variables) in quantitative studies; or a suggested causal association as captured in propositions outlined in qualitative studies.

Table 4 lists all effects by aggregated variable and CF model. For each aggregate independent variable, the table shows the number of significant effects recorded in the papers out of total tested effects across all relevant studies in each CF model. For example, in the context of reward CF, 20 out of 40 effects that were analyzed in literature with respect to the impact of the independent variable of ‘location’ on CF success, were significant.

---- Insert table 4 here ----

In this section of the review we will focus on identifying general trends and identified gaps with respect to independent variables. Later, we will list the most influential independent variables in a conceptual integration section. The latter section will summarize the existing accumulated knowledge into a set of theoretical frameworks explaining CF success by CF model.

In terms of independent variables, an absolute majority of variables relate to the micro level of analysis, and only a minority to macro and mezzo levels of analysis. This is consistent across all units of analysis. The only case where a significant portion of effects were associated with

macro and mezzo level variables relates to the fundraiser unit of analysis, incorporating a third of all variables and effects studied. Nevertheless, even in these studies, most of macro and mezzo level factors serve as country and sector controls rather than reflecting a theoretically anchored choice of locations and sectors. Accordingly, deeper understanding of the role of macro and mezzo level factors in driving or inhibiting campaign success remains a substantial research gap requiring further exploration both conceptually and empirically. This gap also corresponds with the relative small number of studies drawing on macro-level theories such as institutional (e.g. Scott, 1987) and cultural theories (e.g. Hofstede et al., 2010). Here, studies examining how various aspects of institutional, socio-cultural, macro-economic and industrial environment characteristics influence successful CF practice are still needed. Moreover, these should cover multiple perspectives that go beyond the location of the fundraiser, and should account for aspects of funder location, campaign design, and platform practices that can fill the knowledge gap with valuable insights.

The micro level variables account for 85% of all studied effects in CF success research. At the fundraiser level, 427 effects, accounting for 64% of all effects studied, mostly capture issues related to fundraiser credibility and reputation, social network and social capital, CF experience and gender/sex. However, psychological aspects involving personality, motivations and cognition are absent. These are more subjective aspects of the fundraiser's character that are not publicly available, and require dedicated primary data collection efforts building on related theories such as personality dimensions (e.g. John and Srivastava, 1999), motivations (e.g. Ryan and Deci, 2000) and cognitive antecedents of intentionality and behavior (e.g. Ajzen, 1991). Other directions for further study may include roles played by human capital (Becker, 1993), economic/financial literacy (Jappelli, 2010), and growth willingness (Davidsson, 1989) to name a few.

At the campaign level, 932 micro level effects, accounting for 99% of all effects studied, mostly capture issues related to availability and characteristics of campaign content and media elements, types of message cues used, duration of campaign, concreteness and precision of information provided, as well as the campaign financial goals. Here, while significant research has already covered important micro level variables some aspects remain understudied. First, there is more room for assessing the impact of quality while using quality evaluations of campaign content and media elements, rather than just indicators about their availability or length. Second, opportunities also exist for examining the effectiveness of internationally adapted campaign content in general, and the use of multiple languages, in attracting international support for campaigns. This line of research can follow earlier studies showing the importance of cultural adaptability for consumer engagement in e-commerce (Singh and Baack, 2004).

At the concept level, 76 micro level effects, accounting for all effects studied, mostly capture purpose of fundraising efforts and the creativity and innovation levels of the concepts being crowdfunded. Here, much remains to be studied. First, research expanding on the first analyses of roles of concept quality (e.g. Calic and Mosakowski, 2016) and attractiveness (e.g. Lukkarinen et al., 2016) should be expanded with more detailed review of criteria for capturing them. Second, comparative analyses of effects of concrete product and service characteristics, such as - digitization extent, service-intensity, location-specificity, and customizability, are all still absent in research despite their importance to all stakeholders involved.

At the platform level, only 24 effects relating to micro-level variables were analyzed. At the funder level, only such 7 effects were studied. Both represent a significant gap in the literature. But this is not unique to micro-level variables. Indeed, when examining independent variables by unit of analysis, we find that campaign level indicators are the most prominently used, accounting

for 55% of all effects studied, followed up by effects related to fundraiser variables with 39% of all effects studied. The remaining variables jointly account for just 6% of all effects studied, where 4% relate to concept, 1.5% to platform, and only 0.5% to funders. This again is likely the result of reliance on publicly available platform data, where campaign and fundraiser information are more readily available, while funder details are protected by privacy laws. Moreover, since most studies involve single platforms, indicators at platform levels have been rare and mostly related to policy (e.g. Cumming et al., 2017), policy changes (e.g. Wessel et al., 2017) and specific platform brands (e.g. Josefy et al., 2017). Finally, information about concept-related variables often require human evaluation rather than public data scraping, with a few available examples including evaluations of - creativity (e.g. Davis et al., 2017), innovativeness (e.g. Chan and Parhankangas, 2017), quality (e.g. Calic and Mosakowski, 2016) and scalability (e.g. Lukkarinen et al., 2016). Such evaluations require greater research efforts and, hence, only a small share of effects relating to this unit of analysis have been identified in the current review.

Such obvious gaps present opportunities for studies that focus on variables at these specific levels of analyses. First, better understanding of funders' role in campaign success requires primary data collection from actual and prospective CF backers and investors for uncovering insights about the psychology of funding behavior, capturing firsthand the influence of personality (John and Srivastava, 1999), motivational (Ryan and Deci, 2000) and cognitive aspects (Ajzen, 1991) on CF success. Second, better understanding of the role of concept related variables is of prime interest, as various CF models may be better fitting for different types of concepts that require funding. Here, much needed insights can be harvested with respect to aspects of innovation adoption (Venkatesh and Davis, 2000), product and service characteristics (Vijayasarathy, 2002), as well as prosumption (Humphreys and Grayson, 2008) opportunities in digital markets. And third, more

studies comparing dynamics across different platforms are needed, especially with respect to cross-country comparison of platforms operating same models where few examples of such studies exist (e.g. Cho and Kim, 2017, Zheng et al., 2014). Moreover, comparative studies are needed for intra-platform comparisons such as in same platforms operating different models of CF, or inter-platform comparisons between niche and general platforms, local and global platforms, etc.

In this section, we have thus far focused on identifying the gaps in research. In the next section, we focus specifically on the accumulated knowledge achieved. This will be done by summarizing the independent variables for which multiple empirical evidence is available. Such effort will conclude with aggregated models based on the most prevalent and repeated findings.

### **Conceptual Integration**

Despite the many research gaps and ample opportunities for further research, much has also been learned in the period covered in this review. To summarize these findings, we present a set of suggested causal models incorporating the most pervasive and repeated effects documented in CF success research. For systematic and consistent summary, we have used some rules of thumb to guide variable inclusions and exclusions. Here, we only include independent variables that have shown persistent significant effects in the same direction and with respect to similar measurements (note that most of our aggregated independent variables include multiple measurements). These effects needed to be documented in at least 5 separate effects across studies in reward and lending models, and in at least 3 separate effects across studies in donation and equity. These thresholds were set since there were far fewer studies in donation and equity contexts in comparison to reward and lending contexts. Finally, effects were counted only in studies clearly stating the type of CF model analyzed (and hence exclude evidence from combined datasets of different CF models).

Below we present each variable and the number of effects associated with it. Here, for brevity we will use the following abbreviations: significant positive effect = ‘P’, significant negative effect = ‘N’, and non-significant effects = ‘NS’.

### *Reward crowdfunding success – integrative model*

Among all CF models in general, and the non-investment models in particular, reward CF has been the most popular context for CF success research. Twenty-one independent variables have been found to be consistently associated with success in reward CF. These include variables relating to the fundraiser, the campaign and the concept being crowdfunded.

First, in terms of variables related to the fundraisers, earlier studies show: (a) a positive association between fundraisers from the technology sector and success (5-P, 1-NS), as well as the non-profit sector and success (5-P, 1-NS); (b) positive association between female campaign creators and success (5-P, 3-NS, 1-N); (c) positive association between historical backing behavior of others’ campaigns by current campaign creator and its success (9-P, 1-NS), suggesting that reciprocity effect exist within CF communities; (d) positive association between fundraiser’s previous experience in successful CF and the fundraiser’s current campaign success (10-P, 2-NS, 1-N), suggesting that learning and experience-based legitimacy effects impact success; and (e) positive association between number of fundraiser’s social media contacts and success (12-P, 1-NS), suggesting the effect of social capital. In addition, and with respect to the concept being crowdfunded (f) positive association was identified between concept levels of creativity and innovativeness and campaign success (6-P, 1-N).

However, most effects were identified with respect to variables relating to the campaign itself. These include aspects of campaign content, crowd engagement, and temporal aspects of



funding development. First, content-wise, studies show: (g) positive association between the use of concrete and precise language in campaign texts and success (8-P, 2-NS, 2-N); (h) positive association between length of campaign text and success; (i) positive association between number of updates provided by campaigner and success (25-P, 10-NS, 1-N). All previous three effects suggest that signals helping with reduction of perceived uncertainty contribute to success. Furthermore, (j) positive association between video inclusion and success (12-P, 3-NS, 1-N) suggests that reduction of cognitive effort used in processing campaign information enhances funding. Both (k) positive association between perceived quality of campaign elements and success (8-P, 1-NS, 1-N) and (l) positive association between perceived level of preparedness and success (5-P), suggest that signals of fundraiser commitment enhance campaign success. There is also a (m) weak positive association between use of prosocial cues and success (7-P, 5-NS, 1-N), suggesting an effect of altruistic orientation. Finally, (n) a positive association between number of rewards offered and success (18-P, 6-NS, 1-N), suggests that customization and variety are rewarded by prospective funders.

Second, with respect to crowd engagement with the campaign, studies show: (o) positive association between external endorsements and success (9-P, 4-NS); (p) positive association between number of crowd comments and Q&A interactions with success (39-P, 2-NS); (q) positive association between social media shares by crowd and success (26-P, 4-NS), with all three effects suggesting that signals of trustworthiness and public interest enhance success. However, (r) a negative association between fake social media buzz and success (1-NS, 5-N), suggests that tricking crowd with fake social media postings is detected and punished for by prospective backers.

And, third, with respect to temporal aspects of campaign funding, studies show: (s) positive association between backing level status at time of view by prospective backer and success (15-P,

1-NS); and (t) positive association between funding activity at early stages of campaign and its success (7-P). Both findings suggest a herding effect, where a critical mass can lead to escalating funding towards the end of a campaign duration period.

---- Insert figure 1 here ----

Here, it is noteworthy that in addition to the effects presented above, there are two effects that have been substantially inconsistent across studies. These include the effects of target sum, for which 27-P, 7-NS, and 19-N effects have been recorded, and campaign duration for which 25-P, 9-NS, and N-17 effects have been recorded. These may suggest an overlooked moderating variable that needs to be clearly identified, or non-linear relationships that need to be tested.

#### *Donation crowdfunding success – integrative model*

Since research in the area of donation CF success has only seen few publications, only seven persistent variables were identified in the studies. These include: (a) positive association between target sum and success (5-P, 2-N), suggesting that non-profit orientation alleviates concerns with profiting from human hardships, and higher sums are associated with greater public good achieved; (b) positive association between the inclusion of a video in the campaign and success (4-P), suggesting that reduction of cognitive effort used in processing campaign information is effective at facilitating donations; (c) positive association between evoking sense of proximity and relevance and success (3-P), suggesting that donors react more positively to campaigns closer to them geographically or ideologically; positive association of education sector affiliation and success (3-P), which may either be a US-context specific effect or a general

preference for education as a basic right; (e) positive association between female campaign creators and success (3-P, 1-NS); (f) positive association between network size and success (4-P, 2-NS), suggesting a positive role for social capital; and (g) negative association between recency of campaign and success (3-N), indicating that later campaigns, published on more mature platforms, face greater competition with other campaigns vying for donor support.

---- Insert figure 2 here ----

Finally, in the donation CF context, only the entrepreneurial orientation of the concept being funded showed persistent non-significant effect (3 non-significant effects recorded).

#### *Equity crowdfunding success – integrative model*

Due to the limited number of research publications in the area of equity CF success, only four persistent variable effects were identified. These include: (a) positive association between number of board and management team members and success (4-P, 1-NS), suggesting positive impact of access to human capital in the venturing process; (b) positive association between early funding activity on campaign and success (5-P), suggesting that early interest and investment pledges serve as positive signal for later investors triggering a herding effect; (c) positive association between price of shares and success (3-P, 1-NS), suggesting that higher price shares serve as quality signals for investors; and (d) negative association between share of equity offered and success (5-N, 1-NS), suggesting that entrepreneurs' reluctance to give large ownership shares in their business signals commitment and self-belief that are deemed attractive by investors.

---- Insert figure 3 here ----

Interestingly, in the equity CF context, several variables were having persistent non-significant effects. These include – Firm age (1-P, 6-NS), UK Tax incentives (4-NS), target sum (2-P, 6-NS, 2-N), investment time horizon (1-P, 7-NS, 2-N), parcel size (4-NS), and availability of disclaimer statement (1-N, 3-NS). These, when viewed together with the variables having significant effects, indicate the match between higher risk investments and the required higher risk tolerance of early investors in equity CF.

#### *Lending crowdfunding success – integrative model*

Among the investment CF models, peer-to-peer lending has been the most popular context for CF success research. Here, nine independent variables have been found to be consistently associated with success, including both fundraiser and campaign level variables. First, in terms of variables related to the fundraisers, earlier studies show: (a) positive association of credit scores and success (6-P), suggesting lower risks for prospective investors; (b) negative association between debt to income ratio and success (7-N), suggesting signals of higher risk for prospective investors; (c) Female gender of borrower and success (8-P, 4-NS, 2-N); and (d) previous successful loan raising and success in later loan raising (5-P, 1-NS), suggesting signals of trustworthiness based on previous crowd evaluations.

Second, in terms of variables related to the campaign itself, earlier studies show: (e) when excluding funding speed - there is a negative association between target sum and success (3-P, 3-NS, 8-N), suggesting that higher sums signal greater risk for investors; (f) negative association between investment time horizon on success (1-P, 4-NS, 6-N) suggesting that longer loan periods

may signal greater risk and uncertainty to prospective investors; (g) positive association between interest rate levels and success (14-P), where higher interest rates signal greater profitability or compensation for risk taken by investors. When including funding speed with other success outcomes, there is a (h) positive association between campaign duration and success (4-P, 1-N); and (i) positive association between levels of on-site crowd interactions with borrowers (via comments and Q&A) and success (5-P, 1-NS), which may both signal borrower commitment, transparency and availability that may enhance their perceived trustworthiness overall.

---- Insert figure 4 here ----

Here, it is worth noting that most studies of success in the context of peer-to-peer lending relate to consumer lending and prosocial lending rather than to business and property lending. The latter still present understudied arenas that may show different findings from those harvested in the consumer and prosocial lending contexts, due to their greater proximity to a pure investment product in loans that are not linked to individuals, but to businesses and organizations.

### **Summary, Limitations and Future Research**

The study presented the state of CF success research while taking stock of the accumulated knowledge on factors impacting success. It followed the SLR approach (Tranfield et al., 2003) while covering 88 articles on factors impacting CF success. The review presented findings related to context, theory, methods, findings and gaps, and concluded with integrated frameworks of CF success predictors for each main CF model separately.

Throughout the review, gaps in the literature are identified and concrete opportunities for future research development and refinement are outlined. Overall, our study contributes to the budding field of CF research in general, and CF success in particular, by providing: a comprehensive review of research on CF success factors at factor level, the creation of new evidence-based theoretical models that include the most prevalent variables predicting CF success, as well as a concrete agenda for future research development.

However, the study has some limitations that should be acknowledged. First, the study only covers published research in peer reviewed academic journals, while excluding other sources such as book chapters, conference presentations and working papers. Findings in such sources may represent newer research and findings that have not completed journal review cycles but have important insights and findings filling some of our identified gaps.

Second, we only incorporate English language publications, and exclude publications in other languages. This may bias our findings to certain contexts where English-language academic publication is more common, while underrepresenting insights published in other languages. More specifically, the publications in Chinese, Spanish and French may shed further light on contexts thus far less explored in English publications.

And, third, the review covers papers that capture the early years of the CF industry and the early users of its services. Hence, it is likely that as the industry matures, and as the bulk of users shift towards early majority adopters, findings may change, and new variables may become influential or identified variables may have different effects than those observed in earlier stages. Moreover, it is possible that some of the opportunities for research identified in this review have been addressed in post-2017 publications. Accordingly, future reviews should capture additional sources, cover publications in more languages, and provide insights from post-2017 publications.

### *Implications for future research*

The implications for research are many and are outlined in detail throughout the text. Here, we summarize ten key opportunities, some with implications that may apply across models while others with more model-specific implications.

In terms of *data sources and contexts*, we identify three main opportunities. First, it is recommended to shift data collection from public data published on platforms at the campaign level to primary data collected directly from fundraisers, funders, and platform managers. This will allow to capture more subjective, psychological, cognitive and emotive insights from stakeholders, while using multiple item measurements. This will strengthen our understanding of the largely absent dimension of human evaluation of campaign features and conditions, beyond their technical availability and characteristics.

Second, collecting data from national platforms is encouraged for better representing the majority of actors in the market, instead of data from the few outlier global platforms that have been the main research focus thus far. Such efforts would help us to understand the most common players in the market, and hence come up with findings that are even more relevant for stakeholders at the local level. Furthermore, by analyzing dynamics on smaller national level platforms, we may be able to identify context specific factors that may not be uncovered when studying global platforms, where selection bias may reduce relevance to a certain type of users.

Third, more research is required into the particularities of niche platforms serving concrete segments and communities (e.g. platforms dedicated to music, sports, research, real estate, etc.) versus general interest platforms that have been in focus. Such efforts will help to identify sector-specific factors and dynamics that may influence success in certain sectors and not in others, and

whose effects may currently be underestimated due to popular tendency to analyze aggregated databases covering multiple sectors.

Next, in terms of *methodological gaps*, three research opportunities are identified. First, there is a need for more qualitative analyses for CF-specific theory development. Thus far, research has mostly relied on existing theories, while ignoring the possibility of identifying new theoretical concepts and relations in the unique context of CF.

Second, and alternatively, new theory-testing studies should incorporate relevant theories that have been underutilized despite their explanatory merit. For example, the use of institutional theory (Dowling and Pfeffer, 1975, Kshetri, 2015, Scott, 1987), may shed light on issues related to legitimacy seeking, which are relevant for the acceptance of new models of fundraising and financial persuasion within existing sets of institutions; or the use of psychological contract theory (Rousseau, 1989, Jardat and Pesqueux, 2016) which may explain the dynamics of expectation setting, reactions to them, as well as to the extent to which they are met under the uncertainties characterizing CF practice.

Third, there is a need for more theoretically anchored comparative studies examining differences and commonalities in factors impacting success across sectors, countries, cultures, CF models, and market segments. Such studies will improve the extent of generalizability of findings emerging in studies conducted in different contexts, while allowing us to further develop theories by adding potential moderating effects of context level factors.

Another domain for future research relates to *conceptual aspects*, with two such opportunities highlighted. First, research should widen the understanding of success beyond financial performance, while capturing subjective psychological outcomes, as well as outcomes relating to achieving proof-of-concept, sales initiation, brand awareness, collection of inputs for



product development, market validation, legitimacy, etc. Much of the literature mentions such outcomes but fails to capture them empirically. Hence, dedicated research can provide proof or disproof for such claims. These insights, in turn, can better inform about the actual non-financial benefits and costs of CF engagement to prospective fundraisers and funders, as well as influence their decisions about engaging in CF. Second, greater inclusion of non-micro level concepts is needed in analyses, while compensating for relative absence of insights as to the effects of macro (country, culture, economy, etc.) and mezzo (sector/industry, customer segment, CF community, etc.) level concepts. Indeed, macro and mezzo level variables have been shown to affect human behavior in many other contexts, suggesting that their absence in most CF research to be more superficial than theory driven. This may result from the relative ease of accessing micro-level data from online platforms, rather than using multiple data sources that capture other relevant factors.

Finally, opportunities for future research also exist with respect to the *different CF models* themselves. First, it is suggested that more research analyzing drivers and inhibitors of success in equity, lending, and donations CF models is needed. In particular, the prominence of reward CF in research does not correspond with the prominence of lending models in practice, accounting for the absolutely majority of volumes. Such refocusing will better reflect the reality of actual CF use patterns. In addition, studies should also venture into other CF models such as patronship, profit-and revenue-sharing, community shares/cooperatives, and invoice trading. Such models, while representing different funding logic, context, potential incentives, and motivations, remain relatively unresearched and may contribute to improving the understanding of diversity in CF. Second, studies in the context of peer-to-peer lending, need to incorporate more research into its business and property lending variants, going beyond consumer and prosocial lending that have dominated research thus far. Such efforts will be helpful in understanding the critical aspects of

entrepreneurial finance associated with business lending, which is driven and used for different purposes than consumer lending. Accordingly, much room also exists for comparing patterns of effects across different types of lending models.

### *Implications for practice*

Finally, in terms of implications for practice our findings may help inform campaign design by fundraisers, CF platforms' services, as well as evidence-based CF education. Here, the summary of factors impacting campaign success can inform fundraisers in building their campaigns by identifying elements they should employ and in which they should invest, as well as which elements of campaigning they should avoid. The same findings can help platforms in adjusting systems towards responsibly enhancing campaign success, while directing R&D and customer service investments towards aspects known to enhance CF success. Moreover, the identification of gaps can inform platforms about areas where knowledge is short, and innovative new solutions and tools may present competitive advantage in the future. Finally, the evidence collected can serve educators in a variety of disciplines (e.g. entrepreneurship, finance, marketing, arts management, technology commercialization, etc.) when teaching and training participants in how to finance, develop and promote their projects.

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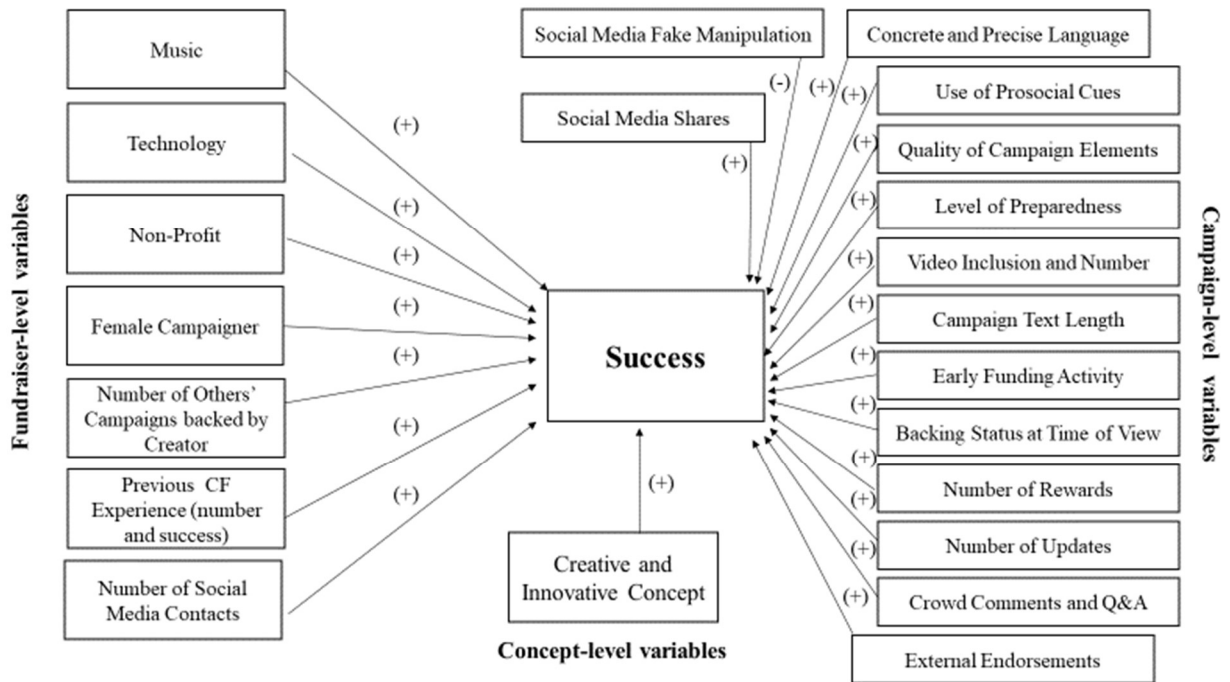
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**Figure 1: Reward Crowdfunding Success**



**Figure 2: Donation Crowdfunding Success**

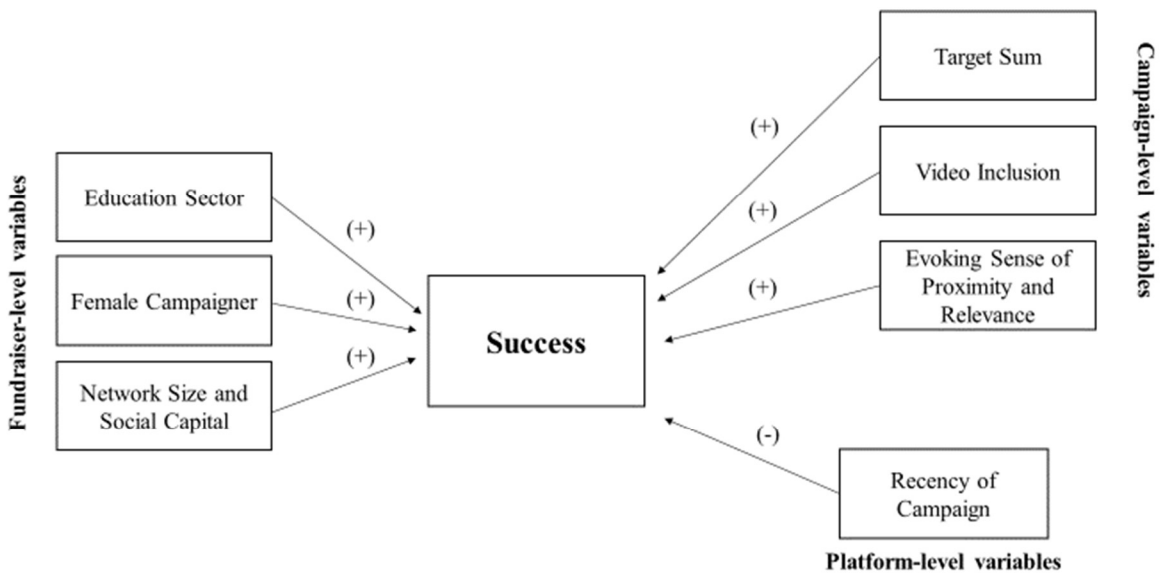




Figure 3: Equity Crowdfunding Success

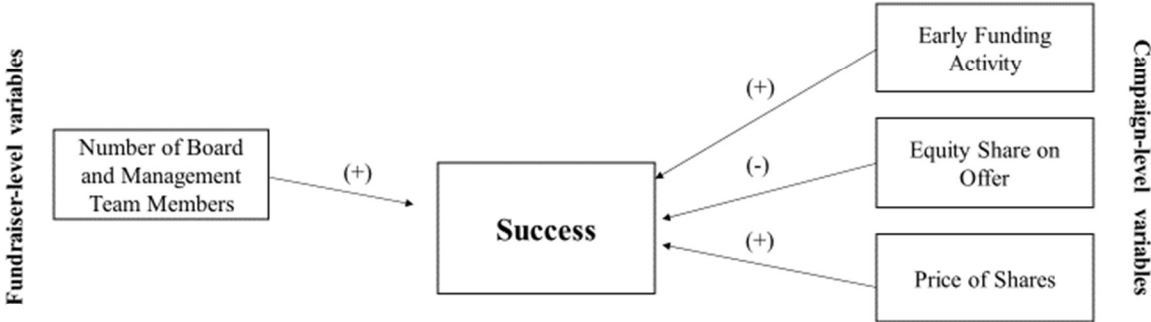
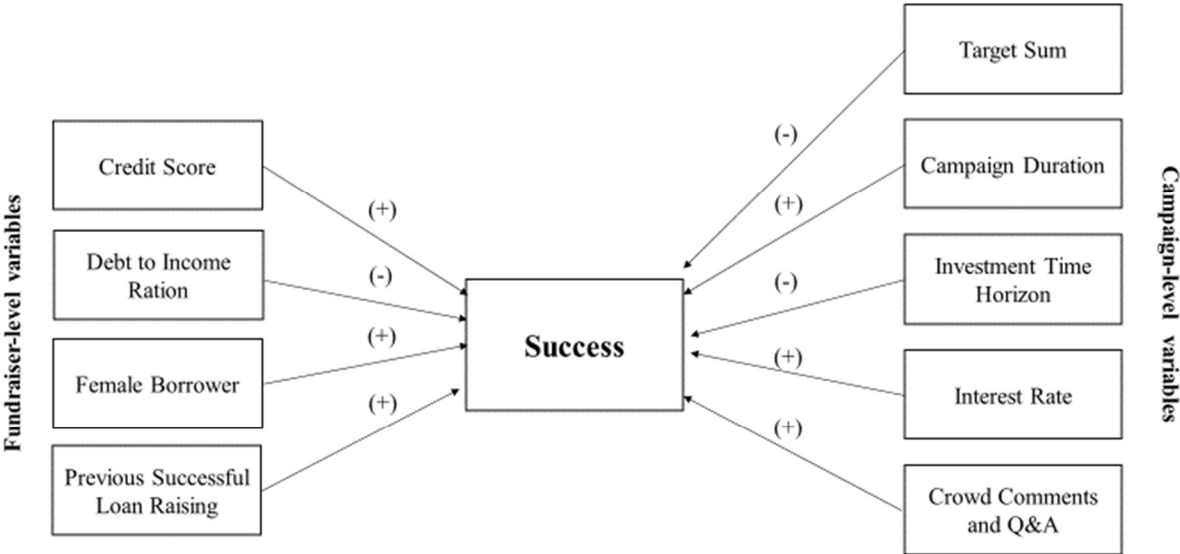


Figure 4: Lending Crowdfunding Success



**Table 1: Distribution of publications by research method and crowdfunding model**

	<b>Qualitative</b>	<b>Quantitative</b>	<b>Conceptual</b>	<b>Mixed</b>
Reward	7	39	1	0
Donation	1	5	0	1
Reward / Donation*	0	4	0	0
Lending	0	18	1	0
Equity	3	5	0	0
Mix**	1	1	1	0
<b>Total</b>	<b>12</b>	<b>72</b>	<b>3</b>	<b>1</b>
			<b>Grand Total</b>	<b>88</b>

\*Reward/Donation = studies not specifying specific crowdfunding model beyond naming a platform that accommodates both reward and donation crowdfunding campaigns.

\*\*Mix = studies including a mix of observations from multiple platforms accommodating both investment and non-investment crowdfunding models.

**Table 2: Theories in Crowdfunding Success Research by Crowdfunding Model**

Theory and key references	Reward	R / D	Donation	Lending	Equity	Mix	Total
<b><u>Social</u></b>							
* <b>Social Capital</b> (Bourdieu, 1986; Coleman, 1988; Nahapiat & Ghoshal, 1998; Portes, 1998; Hazleton & Kennan, 2000; Putnam, 2000; Adler & Kwon, 2002; etc.)	8		1	2	1	1	13
* <b>Social Network</b> (Granovetter, 1983; Marsden & Campbell, 1984; Hoan & Antoncic, 2003; Greve & Salaff, 2003; etc.)	3		1	1			5
* <b>Social Influence</b> (Cialdini & Trost 1998; Cialdini & Goldstein, 2004)	1						1
* <b>Social Identity</b> (Tajfel, 1974; Tajfel & Turner, 1979; Sindic & Condor, 2014)	1						1
* <b>Social Proximity/ Homophily</b> (Flippen et al. 1996; Dovidio et al. 1997; McPherson et al., 2001; etc.) and <b>Shared Social Values</b> (Meglino et al. 1989; Haslam et al. 1996; Stangor et al., 2001; etc.)	2			1			3
<b><u>Economic Psychology</u></b>							
* <b>Signalling and Information Asymmetry Reduction</b> (Akerlof, 1970; Spence, 1973; Leland & Pyle, 1977; Ross, 1977; Baum & Silverman, 2004; Michael, 2009; Connely et al., 2011; Mavlanova et al., 2012; etc.)	6	1	1	4	5		17
* <b>Discrimination Biases - Statistical Discrimination</b> (Phelps, 1972; Arrow, 1973; Bertrand et al., 2005) and <b>Taste-based Discrimination</b> (Becker, 1957; Dovidio et al., 1997; Small & Loewenstein, 2003; Small et al. 2007; etc.)				5			5
* <b>Deservingness</b> (Sargent, 2012; Katz, 2013; etc.)			1				1
* <b>Expectation States Theory</b> (Correll & Ridgeway, 2003; etc.), <b>Appearance Expectation Bias</b> (Hassim & Trope, 2000; etc.) and <b>Beauty Premium Theory</b> (Snyder & Rothbart, 1971; Eagley et al. 1991; etc.)				3			3
* <b>Competitive Arousal</b> (Malhorta, 2010; etc.)				1			1
* <b>Affective Events Theory</b> (Weiss & Cropanzano, 1996; Pirola-Merlo et al., 2002; Dickert et al. 2011; etc.)	1			1			1
* <b>Trustworthiness</b> (Bhattacharya et al., 1998; Swan et al., 1999; McKnight et al., 2002; Engell et al., 2007; etc.)				3			3
* <b>Rational Choice Theory</b> (Vriend, 1996; Blume and Easley, 2008; Sen, 2008; etc.)		1					1
* <b>Contract Failure Theory</b> (Chillemi and Gui, 1991; Glaeser and Shleifer, 2001; etc.)		2					2
* <b>Price of Giving</b> (Weisbrod and Dominguez, 1986; etc.)			1				1
* <b>Herding</b> (Welch, 1992; Graham, 1999; Duan et al. 2009; Bikhchandani & Sharma, 2011; etc.)	1			1			2
* <b>Reinforcement and Substitution Models</b> (Shang and Croson 2009; etc.)			1				1
* <b>Reciprocity</b> (Fehr & Gächter, 2000; Faraj & Johnson, 2011; etc.)	2		2				4
* <b>Warm Glow Effect / Impure Altruism</b> (Andreoni 1989; 1990; etc.)			1				1

* <i>Evolutionary Game</i> (Friedman, 1991; 1998; etc.)				1	1
<b><u>Motivation:</u></b>					
* <i>Self-Benefit vs. Other Benefit</i> (White & Peloza, 2009; Feiler & Grant, 2012; etc.) and <i>Prosocial Behaviour</i> (Penner et al. 2005; etc.)	4			2	6
* <i>Cognitive Evaluation Theory</i> (Deci & Ryan, 1985; 1991; etc.) and <i>Self Determination Theory</i> (Deci & Ryan, 2002, 2012; Ryan & Deci, 2000; etc.)				1	1
* <i>Expectancy Theory</i> (Vroom, 1964; Van Eerde & Thierry, 1996; etc.),	1				1
* <i>Goal Proximity / Goal Gradient Hypthesis</i> (Heilizer, 1977; Kivetz et al. 2006; Ting, 2011; etc.)	1				1
<b><u>Communication and Persuasion</u></b>					
* <i>ELM - Elaboration Likelihood Model / Persuasion Theory</i> (Petty & Cacioppo, 1986; Eckert & Goldsby, 1997; etc.)	4			2	1
* <i>Unimodel Theory of Persuasion</i> (Kruglanski et al. 2006; Chen et al. 2009; etc.)	1				1
* <i>HSM - Heuristics Systems Model</i> (Chaiken, 1980; Zhang et al. 2014; etc.)				1	1
* <i>Language Expectation Theory</i> (Burgoon et al., 2002; Burgoon and Miller, 1985; etc.)	1				1
* <i>Theory of Communication</i> (Schulz von Thun, 2000; etc.)	1				1
* <i>Rational vs. Emotional Framing</i> (Zhang & Gelb, 1996; Chandri et al. 2001; etc.)	1				1
* <i>Guilt Appeal</i> (Hibbert et al., 2007; Basil et al., 2008; etc.)	1				1
* <i>Nostalgia Appeal</i> (Zhou et al., 2012; Merchant et al., 2013; etc.)	1				1
* <i>Rhetoric Appeal</i> (Connor & Gladkov, 2004; etc.)	1				1
* <i>Emotional Contagion Theory</i> (Hatfield et al., 1994; Pugh, 2001; Barsade, 2002; etc.)	1				1
* <i>Uncertainty Reduction Theory</i> (Berger & Calabrese, 1975)				2	2
<b><u>Organizational</u></b>					
* <i>Organizational Legitimacy</i> (Dowling & Pfeffer, 1975; Singh et al. 1986; Lounsbury & Glynn, 2001; Deephouse & Suchman, 2008; etc.)	3				3
* <i>Creativity</i> (Hennessey & Amabile, 2010; etc.)	1				1
* <i>Incremental and Radical Innovativeness</i> (Madjar et al., 2011; Rubera & Kirca, 2012; etc.)	1				1
* <i>Sustainability Orientation</i> (Shepherd & Patzelt, 2011; etc.)	1	1			2
* <i>Liability of Newness</i> (Stinchcombe, 1965; etc.)				1	1
* <i>Geographical Distance</i> (Sorenson & Stuart, 2001; Stuart & Sorenson, 2003; etc.)	2		1		3
<b><u>Institutional:</u></b>					
* <i>Institutional Theory</i> (Scott 1991; Scott et al., 2000; etc.)					1
* <i>Cultural Dimensions</i> (Hofstede, 1980; 1991; 2001; etc.)	1	1		1	3
<b><u>Unspecified</u></b> or referring to findings in earlier crowdfunding research	9	1	1	3	14

**Table 3: Dependent variables by crowdfunding model**

Category	Reward	Donation	R/D*	Lending	Equity	Mix**	Total
Success	29	3	3	13	5	1	<b>54</b>
Amount raised	17	3	4	4	3	1	<b>32</b>
Number of contributors	9	1	3	3	4	0	<b>20</b>
Ratio of pledge to goal	4	2	3	1	1	2	<b>13</b>
Speed of funding	2	0	1	4	1	0	<b>8</b>
Social media shares	4	0	0	1	0	0	<b>5</b>
<b>Total</b>	<b>65</b>	<b>9</b>	<b>14</b>	<b>26</b>	<b>14</b>	<b>4</b>	<b>132</b>

\*Reward/Donation = studies not specifying specific crowdfunding model beyond naming a platform that accommodates both reward and donation crowdfunding campaigns.

\*\*Mix = studies including a mix of observations from multiple platforms accommodating both investment and non-investment crowdfunding models.

**Table 4: Independent variables and effects by crowdfunding model**

Aggregate Independent Variables	# of Significant Associations out of Total Associations Studied								
	Non-Investment Models				Investment Models			Mix	Total
	Reward	Donation	R/D	Total	Lending	Equity	Total		
<b>FUNDRAISER</b>									
<i>Macro</i>									
Location (country, region and city)	20/40	1/1	4/7	25/48		0/2	0/2		25/50
Location potential indicators	0/2	1/5	1/1	2/8	2/5		2/5		4/13
Geographic distance from funder	1/1			1/1					1/1
Cultural dimensions		6/6	13/26	19/32	5/10		5/10		24/42
<b>Total</b>	<b>21/43</b>	<b>8/12</b>	<b>18/34</b>	<b>47/89</b>	<b>7/15</b>	<b>0/2</b>	<b>7/17</b>		<b>54/106</b>
<i>Mezzo</i>									
Environmental sector			0/5	0/5					0/5
Culture and creative sector	18/39			18/39					18/39
Education sector		3/3		3/3					3/3
Technology sector	5/6			5/6					5/6
Food sector	4/6			4/6					4/6
Financial sector	1/4			1/4					1/4
Non-profit sector	8/11		5/6	13/17				4/5	17/22
Other sectors or non-specified	21/36			21/36					21/36
Energy sector uncertainty indicators			3/12	3/12					3/12
<b>Total</b>	<b>57/102</b>	<b>3/3</b>	<b>8/23</b>	<b>68/128</b>				<b>4/5</b>	<b>72/133</b>
<i>Micro</i>									
IPR ownership						0/4	0/4		0/4
Credibility and reputation	5/5			5/5	66/95		66/95		71/100
Occupation					6/12		6/12		6/12
Human capital	1/2			1/2		7/17	7/17		8/19
Firm age						1/7	1/7	0/2	1/9
Campaigner age					11/16		11/16		11/16
Professional experience	5/8			5/8					5/8
Experience - funding campaigns	9/10	0/2		9/12	1/1		1/1		10/13
Experience - running campaigns	19/25	2/5		21/30	12/14		12/14		33/44

Team/Staff size	3/4	1/3	3/7	7/14	3/4	3/6	6/10		13/24
Team openness					2/3		2/3		2/3
Ethnic diversity in team	3/3			3/3	1/4		1/4		4/7
Gender / Sex	6/14	3/4		9/18	10/14	1/2	11/16		20/34
Civil status					3/4		3/4		3/4
Perceived neediness					1/1		1/1		1/1
Perceived physical attractiveness					5/9		5/9		5/9
Self-participation in campaign					9/12		9/12		9/12
Social Media presence	1/1		1/4	2/5		0/1	0/1	0/1	2/7
Network size and Social Capital	28/47	4/6	2/4	34/57	11/16	2/2	13/18	1/1	48/76
Campaigner Social Media engagements	8/24			8/24	1/1		1/1		9/25
<b>Total</b>	<b>88/143</b>	<b>10/20</b>	<b>6/15</b>	<b>104/178</b>	<b>142/206</b>	<b>14/39</b>	<b>156/245</b>	<b>1/4</b>	<b>261/427</b>
<b>TOTAL</b>	<b>176/288</b>	<b>21/35</b>	<b>22/72</b>	<b>219/395</b>	<b>149/221</b>	<b>14/41</b>	<b>163/262</b>	<b>5/9</b>	<b>387/666</b>
<b>PLATFORM</b>									
<i>Macro</i>									
<b>Total</b>									<b>0</b>
<i>Mezzo</i>									
Crowdfunding industry associations								1/1	1/1
<b>Total</b>								<b>1/1</b>	<b>1/1</b>
<i>Micro</i>									
Brand indicators		2/3		2/3		2/2	2/2		4/5
Crowdfunding model			1/2	1/2				1/2	2/4
Flexibility and openness	2/2		4/4	6/6					6/6
Reputation	1/1			1/1					1/1
Following	0/1			0/1					0/1
Success rates						1/1	1/1		1/1
Platform age at campaign launch	0/2			0/2					0/2
Recency of campaign		3/3		3/3					3/3
<b>Total</b>	<b>3/6</b>	<b>5/6</b>	<b>5/6</b>	<b>13/18</b>		<b>3/3</b>	<b>3/3</b>	<b>1/2</b>	<b>17/23</b>
<b>TOTAL</b>	<b>3/6</b>	<b>5/6</b>	<b>5/6</b>	<b>13/18</b>		<b>3/3</b>	<b>3/3</b>	<b>2/3</b>	<b>18/24</b>
<b>CAMPAIGN</b>									
<i>Macro</i>									

Tax incentives					0/4	0/4		0/4
Regulation							2/2	2/2
Political regime							1/1	1/1
<b>Total</b>					<b>0/4</b>	<b>0/4</b>	<b>3/3</b>	<b>3/7</b>
<i>Mezzo</i>								
Competition intensity on platform	3/4		3/4					3/4
<b>Total</b>	<b>3/4</b>		<b>3/4</b>					<b>3/4</b>
<i>Micro</i>								
English Language		1/1		1/1				1/1
Writing style	1/6		4/4	5/10	4/9		4/9	9/19
Concreteness and precision	10/12			10/12	2/4		2/4	12/16
Displayed entrepreneurial passion	3/3		3/4	6/7				6/7
Prosocial cues	8/13		0/1	8/14	1/1		1/1	9/15
Environmental cues	2/2			2/2				2/2
Miscellaneous context cues	1/1			1/1	9/10	2/2	11/12	12/13
Uniqueness cues	1/2		4/4	5/6				5/6
Rational cues			1/3	1/3	2/2		2/2	3/5
Emotional cues	4/5		8/16	12/21	3/7		3/7	15/28
Perceived campaign elements' quality	9/10		0/4	9/14	1/1		1/1	10/15
Preparedness	5/5			5/5				5/5
Links in campaign	3/5			3/5				3/5
Video indicators	20/25	4/4	12/15	36/44		2/2	2/2	38/46
Number of videos	9/12	1/1		10/13				10/13
Video with subtitles			2/5	2/5				2/5
Image indicators	5/5		0/1	5/6	2/2		2/2	7/8
Number of images	12/16	1/1	5/5	18/22				18/22
Text length and features	27/38	2/3	18/21	47/62	6/7		6/7	53/69
Quantitative content	1/2		4/4	5/6	2/2		2/2	7/8
Currency indicators	2/2			2/2				2/2
Target amount for funding	46/53	7/7	12/14	65/74	16/19	4/10	20/29	86/104
Pledge min and max values	8/12			8/12		4/4	4/4	12/16
Campaign duration	42/51	3/6	15/17	60/74	5/5	2/4	7/9	67/83
Early funding dynamics	7/7	2/2		9/9		5/5	5/5	14/14



Funding dynamics	16/17	1/2		17/19	6/6		6/6		23/25
Offline promotions						1/1	1/1		1/1
Media coverage of campaign	2/2		0/2	2/4		1/1	1/1		3/5
Social Media promotions			3/3	3/3		1/2	1/2		4/5
Number of backers	20/22	1/1	5/5	26/28		1/1	1/1		27/29
Perks and benefit schemes	1/1	1/1	3/4	5/6	6/7	1/1	7/8		12/14
Number of rewards	19/25	1/1	1/2	21/28					21/28
Reward delivery time	1/1			1/1					1/1
Reward quality	2/2			2/2					2/2
Reward type - public acknowledgement	5/9			5/9					5/9
Reward type - material rewards	3/8			3/8					3/8
Reward type - community belonging	3/4			3/4					3/4
Reward type - hedonic value	1/1			1/1					1/1
Investment indicators - returns					15/15	5/13	20/28		20/28
Investment indicators - time horizon					11/15	3/10	14/25		14/25
Investment indicators - valuations						8/19	8/19		8/19
Updates by campaigner	33/43	1/1	8/8	42/52		1/1	1/1		43/53
Page crowd comments and Q&A	39/41	2/2	1/2	42/45	5/6		5/6		47/51
Social Media engagement by crowd	26/30	1/1	2/2	29/33					29/33
Social Media manipulation by campaigner	6/7			6/7					6/7
Achieved visibility	2/2	1/2	2/2	5/6					5/6
External endorsements	9/13		5/6	14/19	1/1	3/10	4/11		18/30
Credibility cues	2/2			2/2	3/7	5/6	8/13		10/15
Campaign uncertainty indicators	1/1			1/1	2/2	5/10	7/12		8/13
<b>Total</b>	<b>411/511</b>	<b>30/36</b>	<b>118/154</b>	<b>559/701</b>	<b>102/128</b>	<b>54/102</b>	<b>156/230</b>	<b>1/1</b>	<b>716/932</b>
<b>TOTAL</b>	<b>414/515</b>	<b>30/36</b>	<b>118/154</b>	<b>562/705</b>	<b>102/128</b>	<b>54/106</b>	<b>156/234</b>	<b>4/4</b>	<b>722/943</b>
<b>CONCEPT</b>									
<i>Macro</i>									
<b>Total</b>									<b>0</b>
<i>Mezzo</i>									
<b>Total</b>									<b>0</b>
<i>Micro</i>									
Purpose - social finance			5/5	5/5					5/5

Purpose - personal finance					8/24				8/24
Purpose - business finance		1/4	5/5	6/9	3/5		3/5	2/2	11/16
Creativity & Innovativeness	7/7		1/2	8/9					8/9
Complexity	0/2			0/2					0/2
Project maturity	2/2			2/2					2/2
Quality	2/2			2/2					2/2
Target market	1/1			1/1		2/3	2/3		3/4
Scalability						1/3	1/3		1/3
Perceived attractiveness	1/1			1/1		1/5	1/5		2/6
Perceived relatability		3/3		3/3					3/3
<b>Total</b>	<b>13/15</b>	<b>4/7</b>	<b>11/12</b>	<b>28/34</b>	<b>11/29</b>	<b>4/11</b>	<b>15/40</b>	<b>2/2</b>	<b>45/76</b>
<b>TOTAL</b>	<b>13/15</b>	<b>4/7</b>	<b>11/12</b>	<b>28/34</b>	<b>11/29</b>	<b>4/11</b>	<b>15/40</b>	<b>2/2</b>	<b>45/76</b>
<b>FUNDER</b>									
<i>Macro</i>									
Social trust								1/1	1/1
<b>Total</b>								<b>1/1</b>	<b>1/1</b>
<i>Mezzo</i>									
Online trust								1/1	1/1
<b>Total</b>								<b>1/1</b>	<b>1/1</b>
<i>Micro</i>									
Gender	1/3			1/3					1/3
Same gender as creator					0/1		0/1		0/1
Subjective evaluation admission					1/1		1/1		1/1
Involvement in project beyond \$								1/1	1/1
Low effort					1/1		1/1		1/1
<b>Total</b>	<b>1/3</b>			<b>1/3</b>	<b>2/3</b>		<b>2/3</b>	<b>1/1</b>	<b>4/7</b>
<b>TOTAL</b>	<b>1/3</b>			<b>1/3</b>	<b>2/3</b>		<b>2/3</b>	<b>3/3</b>	<b>6/9</b>
<b>GRAND TOTAL</b>	<b>607/827</b>	<b>60/84</b>	<b>156/244</b>	<b>823/1155</b>	<b>264/381</b>	<b>75/161</b>	<b>339/542</b>	<b>16/21</b>	<b>1178/1718</b>

