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# Crowdfunding success through social media: Going beyond entrepreneurial orientation in the context of small and medium-sized enterprises<sup>☆</sup>

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## ABSTRACT

This study examines how entrepreneurial orientation (EO) works through firm managers' perceived contribution of social media (CSM) and influences crowdfunding success in the context of pre-existing Small and Medium-sized Enterprises (SMEs). As a construct, EO has evolved over the last three decades. We build on recent conceptualizations where it is posited as a behavioral construct that motivates directed actions. We propose that EO fosters actions and routines that predict crowdfunding campaign success, and that this relationship is mediated by the perceived contribution of social media to a firm's campaign success. To test these assertions, we surveyed professionals from 322 firms who had conducted crowdfunding campaigns. We created and validated our own 7-item scale for crowdfunding success where we used pre-existing scales for EO and CSM to test our assertions. We found that the CSM mediates the relationship between EO and crowdfunding success (CFS). These findings contribute to the literature on strategic entrepreneurship, innovation, and media strategy.

*Crowdfunding has quickly moved from trendy buzzword to a mainstream fundraising model. In less than five years, Kickstarter has attracted more than five million contributors pledging close to \$1 billion, funding more than 55,000 individual projects...Numbers like these make crowdfunding an attractive option for first-time entrepreneurs and established businesses alike. But what, exactly, does it take to successfully fund a project?*

– Amadou Diallo, *Forbes* <http://www.forbes.com/sites/amadouiallo/2014/01/24/crowdfunding-secrets-7-tips-for-kickstarter-success/-232bc600627f>

## 1. Introduction

Crowdfunding is emerging as one of the more effective financing as well as marketing methods used by diverse entities to fund and market ideas and products by reaching out to investors at relatively small levels but on a large scale (Brown, Boon, & Pitt, 2017; Parhankangas, Mason and Landström 2019). Crowdfunding campaigns run for a specific amount of time on internet-based platforms such as Kickstarter.com and indiegogo.com and are considered successful based on whether their

funding goals have been met. Beaulieu, Sarker, and Sarker (2015) extensive review of the literature shows that “this may prove to be too simplistic of a view and does not consider the events after the campaign ends.” While some campaigns consider themselves successful simply by meeting a fundraising goal, those with further benchmarks consider the extent to which they could diffuse their novel ideas via social media. This study broadens the scope of crowdfunding success by developing a scale that incorporates questions about the awareness of products, additional funding, enhanced contributions, and savings in cost and time along with fundraising goals. For the most part, crowdfunding has been used by firms who depend on the success of crowdfunding initiatives. Not a lot of effort is expended in detecting the antecedents of crowdfunding from the perspective of small and medium-sized enterprises (SMEs), which may have existed prior to its crowdfunding initiatives—SMEs are organizations with less than a thousand employees and annual revenue of less than \$1 billion (Gartner, 2018). This paper is the first of its kind to examine the antecedents of crowdfunding success for SMEs.

As a rule, the average number of employees and crowdfunding amounts are higher than the typical averages on platforms like Kickstarter or Indiegogo. We did not sample nascent ventures whose

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existence relies on the success of a single crowdfunding campaign. Rather, we sampled pre-existing SMEs that used crowdfunding to launch new products/ideas. For these, the average number of employees and funds raised would be higher than most Kickstarter or Indiegogo averages, which include many small projects and businesses with less than ten employees.

Although crowdfunding projects by SMEs are entrepreneurial in nature, SMEs that are entrepreneurially oriented will be particularly positioned for crowdfunding success (Covin & Miller, 2014; Covin & Slevin, 1989). This is because EO's sub-dimensions of innovativeness, proactiveness, and risk taking behavior inherently reflect proclivity toward exploring and using novel applications such as social media for crowdfunding success. However, managers' perceived contribution of social media to a firm's campaign success plays an important role in SMEs' effectively deploying social media. On one hand, social media enables diffusion of innovations, the creation of buzz and viral marketing movements, and fundraising. On the other hand, social media has a dark side that facilitates misrepresentation and misinformation about both the product and firm that could spread around the world in real time and influence public perceptions negatively (Dwivedi et al., 2018). Researchers have yet to fully examine the influence of EO and social media on crowdfunding (Gathungu, Aiko, & Machuki, 2014; Parhankangas et al. 2019; Renko, Moss, & Lloyd, 2019).

This study begins by examining the role of entrepreneurial orientation on SMEs' crowdfunding campaigns. We investigate how innovativeness, proactiveness, and risk-taking influence leveraging social media as it permeates all of the business over time. After considering the role of social media in the modern economy and how entrepreneurs are increasingly turning to internet-based platforms for funding, we explore how firm managers' perception about the contribution of social media helps in crowdfunding campaign's success (Datta, Sahaym, & Brooks, 2019). In essence, we ask: *how the presence of EO in an SME shapes its managers' perception about the contribution of social media and how this perception helps in crowdfunding campaign's success?*

Building on the premise that even small firms can use social media to diffuse information about their campaigns and engage with customers (Aral, Dellarocas, & Godes, 2013), we believe that EO and managers' perception about the contribution of social media (CSM) may send positive signals to potential funders about a firm's products, business prospects, and the ability to reconfigure resources to shape the market. Specifically, we propose that EO may influence crowdfunding campaign success; and that this relationship is mediated by managers' perceived contribution of social media. To our knowledge, ours is among the first studies to examine the relationship between EO, CSM, and CFS.

As such, we go beyond the literature that has generally associated crowdfunding with pre-organizational entrepreneurs, those seeking funding for specific innovations who have yet to engage in firm formation. Although such studies have mostly focused on crowdfunding at the pre-firm level and have made important contributions, ours looks at SME crowdfunding, that is, crowdfunding specifically conducted by already existing small and medium-sized enterprises. Our context is particularly appropriate to examine the research question because SMEs, by definition, are relatively better-off both in terms of human as well as financial capital than the entrepreneurs in pre-organizational stage or even nascent ventures who generally seek funds for a specific idea (e.g., Mayer-Haug, Read, Brinckmann, Dew, & Grichnik, 2013). Further, SMEs, by design, are more advanced in the organizational life cycle having had opportunities to develop entrepreneurial orientation over time as compared to early stage entities. In general, SMEs are relatively more diversified in terms of product-markets as well. In view of the above, we build on the premise that entrepreneurially oriented SMEs will be inclined to leverage social media platforms and achieve crowdfunding success through them. In addition to enhancing our knowledge of these phenomena, we respond to scholarly calls to

examine these relationships. Covin and Miller (2014, p. 12) have called for examining the role of EO from the context of young firms<sup>2</sup> (startup or otherwise), asking scholars to look beyond “view[ing] EO as a phenomenon associated with corporate entrepreneurship.”

Our theoretical framework is based on a sample of 322 small and medium-sized firms (SMEs) that have experience with crowdfunding campaigns. We provided survey instruments to Qualtrics Panels (a division of Qualtrics, a web-based survey research company) designed to survey professionals at SMEs. While crowdfunding has traditionally been used as a generic term in the context of pre-organizational entrepreneurs, our context is SMEs that have existed prior to taking on crowdfunding initiatives. This research contributes to the literature by showing that EO may advance a firm's ability to succeed in crowdfunding campaigns. Our results add to the literature by demonstrating that although EO is important to crowdfunding success, its full effect on crowdfunding success is revealed through firm managers' perceptions regarding how social media contributes to crowdfunding campaigns. Our findings confirm that in a connected world, where boundaries between firms, users, and developers are shrinking and where firms must become more innovative, managers' perceptions about the contribution of social media in crowdfunding campaigns can make a substantial difference in a campaign's success. In addition, we identified some risks associated with crowdfunding campaigns from the standpoint of intellectual property and ownership of ideas (e.g., Da Cruz, 2018, Meoli, Munari, & Bort, 2019, Wells, 2013).

Next, we discuss theory and hypotheses development, present data and methods, discuss the results of our study, and conclude with a discussion of findings. Overall, we believe that our findings contribute to the literature on strategic entrepreneurship, media strategy, innovation, and public policy.

## 2. Theory and hypotheses development

### 2.1. Entrepreneurial orientation as an attribute of an organization

We build on Covin and Wales (2018) assertion that

*“There's broad agreement that EO is an attribute of organizations... We believe it is useful to conceive of EO as an attribute of an organization that exists to the degree to which that organization supports and exhibits a sustained pattern of entrepreneurial behavior reflecting incidents of the proactive new entry. Here, the phrase new entry is used in reference to product, service, technological, market, or business model innovation, with the proactive element indicating the timing of the innovation relative to conditions existing—or the state of external referents—when the new entry occurs. EO according to Miller/Covin and Slevin's conceptualization is reflected in the shared variance of risk taking, innovativeness, and proactiveness (more specifically, EO is reflected in the shared variance of the behavioral manifestations of these processes)” (pp. 2–3).*

Entrepreneurial orientation (EO) is a composite construct of a firm's processes, structures, and behaviors of firms that are characterized by innovativeness, proactiveness, and risk taking (Covin & Slevin, 1989; Stam & Elfring, 2008). Covin and Miller (2014) state that “firms that are most successful are able to continually renew their resources and capabilities while building on cumulative strengths” (p. 11).

We propose that EO characteristics in the form of innovativeness, proactiveness, and risk taking may enable firms to reconfigure and enhance potential resources and capabilities, and influence crowdfunding campaigns' success. We argue that a firm's EO, which is behavioral in nature and defined by firm actions, may influence how managers perceive the potential contribution of social media in

<sup>2</sup> This paper looks at existing SMEs that have used crowdfunding to launch new products, i.e., a sample of firms that existed prior to waging crowdfunding initiatives.

campaign success and deploy it in order to achieve specific outcomes in crowdfunding success.

## 2.2. Crowdfunding campaign success

Traditionally, a crowdfunding campaign's success has been viewed through the lens of meeting a funding goal set by an entrepreneur at the beginning of the campaign. This is consistent with the design of crowdfunding platforms such as Kickstarter as well as the definitions that focus on fundraising. For example, a broader definition of crowdfunding suggests that “with crowdfunding, an entrepreneur raises external financing from a large audience (the ‘crowd’), in which each individual provides a very small amount, instead of soliciting a small group of sophisticated investors” (Belleflamme, Lambert, & Schwienbacher, 2014, p. 610). A narrower definition of crowdfunding posits that “crowdfunding refers to the efforts by entrepreneurial individuals and groups – cultural, social, and for-profit – to fund their ventures by drawing on relatively small contributions from a relatively large number of individuals using the internet, without standard financial intermediaries” (Mollick, 2014, p. 2).

Acknowledging that these definitions build a foundation for a deeper investigation of campaign success, we began with the premise that measures of success in crowdfunding are multidimensional, that is, they have more facets than just ‘funding goal criteria’ particularly when traditional firms engage in this pursuit (Anglin, Wolfe, Short, McKenny, & Pidduck, 2018). Crowdfunding initiatives contribute to sharing ideas with the crowd, increasing awareness of a product, attracting contributors to a project, and saving the campaign time and money (Da Cruz, 2018; Meoli et al., 2019; Wells, 2013; Mollick, 2014; Mollick & Kuppaswamy, 2014; Mollick & Robb, 2016).

In the context of SMEs, crowdfunding has been used for marketing, specifically to invite ideas at the conceptual stage of a new product, create virtual word of mouth marketing as well as buzz about new projects in the early stages of development. This is especially important for projects hoping to create an ecosystem of complementary products. Media attention may surround a good crowdfunding campaign, which can be beneficial to founders. Thus, the goals of crowdfunding are not limited to fundraising but may include increased awareness, attracting contributors, and saving time and money as opposed to seeking funds from alternate sources (Mollick, 2014).

Building on these concepts, we propose that crowdfunding campaign success refers to the degree with which a crowdfunding campaign has met the goals of the founder (e.g., entrepreneurs or firms such as SMEs, in our context) and those of the funder; meaning the scope of success is multidimensional. This is particularly relevant in our context of SMEs, which echoes a corporate viewpoint rather than traditional crowdfunding, which reflects pre-organizational entrepreneurship. To that end, this study is among the first to investigate the antecedents of crowdfunding success for firms that existed before a crowdfunding initiative.

While all types of crowdfunding, i.e., rewards-based crowdfunding, donation-based crowdfunding, equity crowdfunding, and debt crowdfunding, aim at raising funds and raising awareness, we focused on reward-based crowdfunding as it has the highest distribution in terms of goals and average contribution per backer (Beaulieu et al., 2015; Moritz & Block, 2015). Rewards-based crowdfunding overlaps with royalty-based crowdfunding, donation-based crowdfunding, and peer-to-peer crowdfunding and may provide generalizability for our findings. At the same time, we acknowledge that their applicability in terms of other types of crowdfunding such as equity-based or micro-finance remains an empirical question for future research to address.

## 2.3. Entrepreneurial orientation and crowdfunding campaign success

Entrepreneurial orientation has been defined as “the simultaneous exhibition of innovativeness, proactiveness, and risk taking” (Stam &

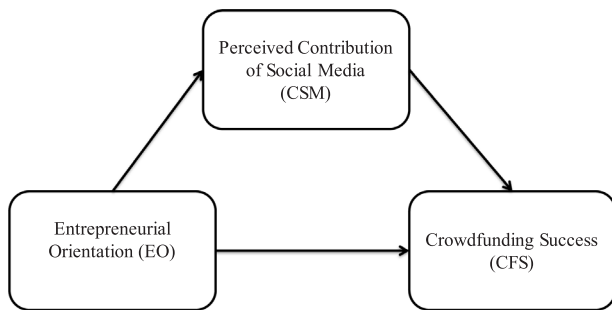
Elfring, 2008, p. 181) and “is reflected in the shared variance of...the behavioral manifestations of these processes (Covin & Wales, 2018).” As such, EO captures an organization's strategic entrepreneurship, managerial philosophies, and entrepreneurial behaviors.

Innovativeness is a cognitive form of creative problem solving, highlighting the ability to produce innovative products and processes (Chen, Chang, & Chang, 2015; Woodman, Sawyer, & Griffin, 1993). Within our context, firms use innovative crowdfunding campaigns in order to introduce new product lines and breakthroughs (Chen et al., 2015; Kirton, 1976). A firm is said to be proactive when it actively pursues emerging opportunities by monitoring trends and forecasting market demand (Chen et al., 2015; Dess & Lumpkin, 2005; Lumpkin & Dess, 1996). Such proactiveness is often a function of creative development, requiring a consistent focus and uninterrupted flow of ideas (Chen et al., 2015; Shalley 1995). Risk-taking ability is reflected in the strategic actions a firm may take in the face of uncertainty (Chen et al., 2015; Covin & Miller, 2014). Risk-taking encompasses a willingness to act audaciously, seizing on opportunities without the assurance of success. A firm's ability to develop campaigns that showcase innovative products, stay proactive, and take risks can help it “identify new opportunities with potentially large returns, target premium customers, and obtain first-mover advantages” (Engelen, Gupta, Strenger, & Brettel, 2012). EO enables firms to anticipate and act on future changes in the external environment, and the willingness to undertake investments with uncertain outcomes (Brouthers, Nakos, & Dimitratos, 2015). The three attributes of EO, namely innovativeness, proactiveness, and risk-taking are all at the firm level and as such, cannot exist prior to the existence of the firm.

We contend that a crowdfunding campaign for pre-existing SMEs designed to generate capital goes along with targeting premium customers and gaining a first- or early-mover advantage. A firm with a high degree of innovativeness, proactiveness, and risk taking (entrepreneurially oriented, henceforth) constantly scans for new business opportunities and keeps innovating while taking risks as it strives to develop creative campaigns to introduce its products (Datta, Mukherjee, & Jessup, 2015). Such an entrepreneurial bent does not end with creative campaigns or raising capital beyond traditional means. Innovativeness is also reflected in a flexible disposition, designed to engage in creativity and experimentation.

An entrepreneurially oriented firm will also leverage the crowd (customers, suppliers, informal investors/microlenders) for input into the development of an effective campaign and new products. Such ventures disseminate information about their projects and promote them to online communities, generating further support. When such a firm engages via crowdfunding, individuals can see, review, and even use products before they become available to the public. Early access allows funders to participate directly in the development of a product, not only designing effective campaigns but meeting project goals (Agrawal, Catalini, & Goldfarb, 2014). Early participation makes backers feel responsible for some of the success of a crowdfunding campaign (desire for patronage), as they strive to be part of a communal social initiative (desire for social participation), and seek monetary participation (desire for investment) (Fisk, Patrício, Ordanini, Miceli, Pizzetti, & Parasuraman, 2011; Mollick, 2014).

Building on research that has established empirical support for the notion that EO offers positive performance implications (Covin, Green, & Slevin, 2006; Lee, Lee, & Pennings, 2001; Wiklund & Shepherd, 2005), we propose that firms with innovative, proactive, and risk-taking abilities may have an advantage over other firms in terms of attracting microlenders to their projects. Specifically, firms that are entrepreneurially oriented will proactively identify marketing opportunities, tap into markets through innovative solutions, and build campaigns that have greater creativity and highlight a compelling value proposition for backers and customers (Cooper & Edgett, 2008; Lassen, Gertsen, & Riis, 2006; Wong, 2014). By building on work that posits EO as a firm-level behavioral construct (Brouthers et al., 2015; Kreiser,



**Fig 1.** Theoretical framework delineating the relationship among EO, SSM and CFS among Small Medium Enterprises (SMEs).

2011), we argue that EO will help develop effective crowdfunding campaigns around novel ideas that result in campaign success for pre-existing SMEs. (See Fig. 1, which depicts this theoretical model.)

**Hypothesis 1.** Entrepreneurial orientation is positively associated with SME crowdfunding campaigns' success.

#### 2.4. Entrepreneurial orientation and Managers' perceived contribution of social media

In the information and network economy, key stakeholders have access to a variety of social network and media platforms with which to hold two-way conversations with an organization. Entrepreneurially-oriented firms must be particularly innovative and proactive in establishing routines that make use of social media platforms based on manager perceptions in order to spread awareness of products and develop relationships with customers. Such routines not only facilitate reviews and feedback but also allow stakeholders to develop a community and share their experiences. A shared community around certain brands can grow customer bases regarding products, features, and support systems (DiStaso & McCorkindale, 2013; Li & Bernoff, 2011). Creativity and proactiveness drive firms to use social media platforms in order to leverage innovative ideas, learn about their competition and scan the external environment (Bughin, Byers, & Chui, 2011). For example, the innovativeness and proactiveness of the automotive industry have led car companies to use Twitter, Facebook, and other platforms to share upcoming designs and assess customer reaction. Directed actions based on managers' perceived contribution of social media involve creating 'buzz' about concepts such as smartwatches (Price, 2014), attracting buyers to a dealership through online marketing tools, getting feedback about proposed models, and communicating with customers about contemporary trends. Such proactiveness can raise awareness of competitors' moves and industry trends, and help companies take advantage of opportunities (Chen et al., 2015; Zhou & Shalley, 2003). Innovativeness and proactiveness may also help firms transcend geographic and time barriers, since social media platforms are generally global (Alfonso & Suzanne, 2008; Lewis, Kaufman, Gonzalez, Wimmer, & Christakis, 2008). Trade publications report that CEO tweets and dialogue with stakeholders can have a positive effect on public relations (Hwang, 2012).

At the same time, entrepreneurially-oriented firms bear certain risks associated with social media, including leaking proprietary information, privacy concerns, and the potential for stakeholder backlash (Li & Bernoff, 2011). Another risk is loss of control over conversations because global social media platforms are active 24/7 and conversations can take place regardless of a firm's presence on the platform—this could result in misrepresentation and misinformation that are difficult to control real-time (DiStaso & McCorkindale, 2013). Firms sometimes respond by developing policies designed to guide communication between internal and external stakeholders, and building trust through transparency. The rewards for such risk-taking include two-way

stakeholder engagement in an ethical manner that provides feedback and learning to the firm via social network-enabled dialogue (DiStaso & McCorkindale, 2013).

Ultimately, firms that are guided by EO, as reflected in their innovativeness, proactiveness, and risk-taking, are not only motivated to leverage the potential contribution of social media in an information age but will continue to reconfigure and renew routines and resources in order to shape markets over time. On one hand, EO will help them incorporate innovative ideas proposed by users as they continue to learn about the industry environment and future trends; on the other hand, it will help them assess market intelligence as well as create a buzz about their innovations through videos or posts that may go viral. Therefore, we propose:

**Hypothesis 2.** Entrepreneurial orientation is positively associated with firm managers' perceived contribution of social media in SME crowdfunding campaigns.

#### 2.5. Managers' perceived contribution of social media to campaign success

Social media is defined as consumer-generated media that covers a variety of new sources of online information, created and used by consumers to share information regarding topics of interest (Blackshaw & Nazzaro, 2004; Kohli, Suri, & Kapoor, 2015). Social media employs mobile and web-based technologies for sharing, creating, discussing, and modifying content. It has transformed the traditional marketing communication model, which was, for the most part, a one-way path from marketer to consumer, with feedback sometimes flowing in the opposite direction, and has created a major paradigm shift (DiStaso & McCorkindale, 2013).

We build on the premise that it is important for firm managers to recognize contributions of social media to the modern economy, as the use of social media has become pervasive in creating awareness about both firms and their products (Argenti & Barnes, 2009; DiStaso & McCorkindale, 2013). Facebook, Twitter, and YouTube dominate social media platforms,<sup>3</sup> and firms who acknowledge their contribution choose one or more to meet their objectives, including product introduction and raising funds to develop new products (Bughin et al., 2011). According to a 2018 Statista report, 2.77 billion people worldwide are predicted to be social media users. Of firms that are using social media for business purposes, the most common reasons include increased exposure, site traffic, and improved sales (Cement, 2019). Each of these is highly beneficial to businesses.

In the automobile sector, the perception of a potential contribution by social media can motivate companies to introduce concept cars, engage with prospective customers, and gain feedback that may improve future models. Crowdfunding sites like Kickstarter use social media as a vehicle to raise seed capital. Of the 50 most highly funded projects launched on Kickstarter through 2012, 45 have become ongoing ventures. Almost all highly-funded projects used social media to spread awareness with multiple advertisements and messages across different platforms.

In our context of pre-existing SMEs, a firm's actions to leverage social media include the adoption of one or more platforms to encourage the movement of people to fund popular ideas, creating a bandwagon effect and attracting potential customers via online tools or apps (DiStaso & McCorkindale, 2013; Li & Bernoff, 2011; Wright & Hinson, 2012). In this way, prospective and current customers become emotionally invested in the company by making small contributions (i.e., as microlenders). Realizing the role of social media and its potential contribution also requires routines to leverage customer

<sup>3</sup> Wright and Hinson's 2012 survey found that Facebook was accessed by 80 percent of public relations practitioners, followed by Twitter (73%), and YouTube (52%).

feedback and stakeholder responses. Firms seek opinions from customers and other stakeholders through open comments, rating, sharing, and voting. They may develop a social media policy for developers and customers in order to build a community and learn different methods to promote their products, thus raising capital (Culnan, McHugh, & Zubillaga, 2010; DiStaso & McCorkindale, 2013).

We build on the three attributes associated with the perceived contribution of social media in crowdfunding campaign success: (1) the adoption process, i.e., strategic selection of specific accounts such as Facebook, YouTube, and Twitter; (2) routines for integrating social media platforms with company websites to inform users of their activities; and (3) developing policy frameworks or codes of conduct for social media usage, designed to motivate developers to focus on social media applications (DiStaso & McCorkindale, 2013). The perceived contribution of social media to crowdfunding success involves the effective deployment of a dialogic loop that allows stakeholders to query the organization and the organization to respond to queries; and leveraging word of mouth online (eWOM) to spread brand-related information and get feedback including information about preferences, desires, and needs (Chu & Kim, 2011). This is consistent with the socially distributed public relations view (Smith, 2010), which suggests that social media effectively communicates a public message about an organization or cause and offers both benefits and risks. We believe that the perceived contribution of social media to crowdfunding success has implications for performance. In combination with EO, it may be associated with crowdfunding success, given that EO is a firm-level behavioral construct that results in certain actions (Brouthers et al., 2015; Kreiser, 2011).

Firm managers' perception of the ways in which social media can contribute to a campaign's success reflects a firm's ability to create relationships with key stakeholders (suppliers, customers, partners) who use these platforms to share, create, and modify content and buy products, as well as seek investments from potential customers (DiStaso & McCorkindale, 2013; Kietzmann, Hermkens, McCarthy, & Silvestre, 2011). The perceived contribution of social media to a crowdfunding campaign's success motivates managers to generate ideas based on interactive and dynamic exchanges between a network of users, including stakeholders and customers (Du, Yalcinkaya, & Bstieler, 2016; Mangold & Faulds, 2009; Mount & Martinez, 2014). For our purposes, social media is a means to facilitate sharing pictures and blueprints for upcoming campaigns and facilitate dynamic exchanges, helping to achieve a crowdfunding campaign's objectives for pre-existing SMEs.

Thus, social media can help a firm develop routines for effective exchanges via crowdfunding, resulting in vested communities that shape the market for a product through information, features, unique selling propositions, and even preorders. As the founder of Pebble, Eric Migicovsky noted,

Making a video that had a personal pitch and talked directly to your customers and viewers was important. We promoted our campaign through media and involved Engadget as our exclusive launch partner... We had a big effort to reach media because the real thing that makes a Kickstarter project explode is how you drive traffic to your Kickstarter page. So, we looked at every single blogger in the gadget space and charted how often they wrote about Kickstarter projects. We had a list of 60 to 70 bloggers we approached when the project went live. We also decided to choose an exclusive launch media partner, Engadget, to announce the campaign. We worked with them for two months before we launched on Kickstarter. Their article went live at 7 a.m. on launch day, it drove the traffic and it blew up from there. (Price, 2014)

At the global level, in 2010 crowdfunding helped companies and individuals raise \$89 million, \$1.47 billion in 2011, and \$2.66 billion in 2012 through the deployment of interactive social media (MacLellan, 2012). Firms whose managers recognized the contribution of social media to a crowdfunding campaign's success often work to developing a groundswell support, "a spontaneous movement of people using

online tools to connect, take charge of their own experience, and get what they need—information, support, ideas, products, and bargaining power—from each other" (Li & Bernoff, 2011, p. xi). Leveraging social media to generate novel ideas and products may result in greater effectiveness and better application of knowledge in problem solving, also known as creative performance (Chen et al., 2015; Oldham & Cummings, 1996; Zhou & George, 2001).

We propose that social media can contribute to a campaign's success and that managers' deployment of social media will facilitate information exchange regarding the crowdfunding campaigns for new products. Such an exchange of information between design teams and stakeholders, including potential customers, may bring diverse ideas from multiple sources and lay the groundwork for monetizing the project. It can also generate trust between entrepreneurs and potential backers. We argue that firm managers' perception of social media's potential contribution and leveraging of social media may contribute to the overall success of crowdfunding campaigns. In essence,

**Hypothesis 3.** A firm manager's perceived contribution of social media in crowdfunding campaigns is positively associated with the success of SME crowdfunding campaigns.

## 2.6. Mediation effects of firm Managers' perceived contribution of social media

We further propose that firm managers' perception of social media's potential contribution (CSM) mediates the relationship between EO and CFS. We posit CSM as a mediator because firm innovativeness, proactiveness, and risk-taking behaviors are more effectively expressed and leveraged through social media for substantial outcomes. When CSM is not sufficiently developed, entrepreneurial orientation may not always lead to success in crowdfunding campaigns because EO's effect depends on how managers perceive and deploy social media. Deployment of social media involves diffusion and exchange of information with potential lenders, socially distributed public relations, eWOM, feedback-based learning, generation of innovative ideas, customer relationship management, and signaling, among others.

Managers who recognize the potential contributions of social media work to develop groundswell support and leverage social media to generate novel ideas—this results in greater effectiveness and creative performance. When firms are endowed with EO, i.e., they are innovative, proactive, and risk takers, they will manipulate resources and routines associated with social media by taking actions that lead to crowdfunding success over time (Winter, 2003; Zahra et al., 2006). In essence, the manifestation of EO happens through firm managers' perceptions of social media's potential contributions and leveraging of social media. In the relative absence of mechanisms associated with CSM, the benefits of entrepreneurial orientation may not fully accrue because managers either fail to use it or use it for symbolic purposes only without considering its effective use, despite social media's growing importance in an information age.

We propose that although EO is important for crowdfunding success, the manifestation of its full effects on crowdfunding success is revealed through firm managers' perceptions and leveraging of social media. CSM thus mediates the relationship between EO and CFS because the manifestation of EO on campaign success happens through CSM. However, we acknowledge that CSM may not be the only mediator for a direct relationship between EO and CFS—although other potential mediators may exist, they fall beyond the research scope of this study.<sup>4</sup>

**Hypothesis 4.** Firm managers' perceived contribution of social media in crowdfunding campaigns mediates the relationship between

<sup>4</sup> We thank an anonymous reviewer for highlighting this point.

entrepreneurial orientation and SME crowdfunding campaign success.

### 3. Data and methods

#### 3.1. Data collection

To examine our research model, we surveyed professionals from small and medium-sized firms (SMEs) who had conducted crowdfunding campaigns. We were specifically looking for pre-existing SMEs (not startups) that used crowdfunding to launch products or ideas, not firms whose existence depended on the success of a single campaign. To make sure that surveys were completed by the proper sources, we used Qualtrics Panels (a division of Qualtrics, a web-based survey research company) to collect the data. We discussed the research design with their Market Research Services Team and provided survey instruments to Qualtrics for the panels. The survey included a statement about the study and an assurance of confidentiality. We specified that the sample needed to be working professionals at SMEs who were directly involved with at least one crowdfunding campaign. Qualtrics used their connections and marketing services to identify respondents who fit our criteria. By being involved with a professional crowdfunding campaign, this sample provides insight into this topic. The survey was pre-tested by Qualtrics, revised by us, and administered online by Qualtrics Panels. A sample of 1044 responses to the online survey was ultimately gathered.

We used Gartner, (2018) definition of small and medium-sized enterprises based on a number of employees and revenue. Small businesses are usually defined as organizations with fewer than 100 employees; midsize enterprises are those with 100–999 employees. The second attribute defining the SME market was annual revenue. Small businesses are usually defined as organizations with less than \$50 million in annual revenue, whereas midsized enterprises make more than \$50 million but less than \$1 billion in annual revenue (Gartner, 2018). By combining the two attributes, we determined that a firm would qualify as an SME if it had less than a thousand employees and annual revenue of less than \$1 billion.

As the data were collected via the survey, we employed rigorous data cleansing to verify their legitimacy. Individual responses were removed based on the following criteria: more than a thousand employees in a business (outside the parameters of SME; we found 216 such cases), goal amount of the crowdfunding campaign ( $> \$10,000,000$ ) (high values usually require funding from angel investors or venture capitalists; 22 such cases were identified), an unrealistic number of Facebook/YouTube/Twitter followers ( $> 10,000,000$ ) (107 such cases), or an inaccurate combination of job department and job title (e.g., Accounting and Chemical Engineer). Inappropriate crowdfunding project scope (“New Idea” or “N/A”) was also a criterion for exclusion since without this detail, we would not know if a campaign was applicable to the study, such as one raising funds for personal housing (we found 331 such cases). Responses with more than 25% of its values missing, or more than 90% repeated values (e.g., answering Strongly Disagree to almost all questions) were removed from the data set (a total of 48 such cases were found). Criteria were used to filter out insufficient responses (Huang, Curran, Keeney, Poposki, & DeShon, 2012). Lack of effort is a serious concern when it comes to the quality and validity of survey data and should be addressed when encountered. With the data received from Qualtrics Panels, we were able to check IP addresses and time stamps for each response—this insured that surveys were submitted at different times and from different computers. Such a stringent purge reduced the sample for analysis from 1044 initial responses to a final sample of  $N = 322$ . Table 1 offers descriptive statistics about the sample used for analysis.

As a rule, the average number of employees and crowdfunding amounts are higher than the typical averages on platforms like Kickstarter or Indiegogo. We did not sample nascent ventures whose

**Table 1**  
Sample statistics.

Gender	46% Male, 54% Female
Age	$M = 39$ , $SD = 11.88$ , Range 20–74
Employees in Organization	$M = 200$ , $SD = 255.55$ , Range 1–1500
Crowdfunding Amount	$M = \$188420$ , $SD = \$901800$ , Range \$1,000 - \$10,000,000

existence relies on the success of a single crowdfunding campaign. Rather, we sampled pre-existing SMEs that used crowdfunding to launch new products/ideas. For these, the average number of employees and funds raised would be higher than most Kickstarter or Indiegogo averages, which include many small projects and businesses with less than ten employees.

#### 3.2. Measures

For EO and CSM, we adopted previously validated measures for the survey. We created our own 7-item instrument for CFS. Before employing Qualtrics, we pilot-tested the survey with 54 entrepreneurship students to identify potential issues with wording, grammar, or readability. No issues were reported in the pilot sample.

##### 3.2.1. Dependent and Independent Variables

Entrepreneurial Orientation (EO) was measured using preexisting items (Covin & Slevin, 1989; Lee & Sukoco, 2007) which were modeled as a second-order factor comprising constructs of Risk Taking, Innovativeness, and Proactiveness. Our measure and scale are faithful to EO conceptualizations by Covin and colleagues.

Firm managers’ perceived contribution of social media to crowdfunding campaigns (CSM) was measured by 8 items adapted from DiStaso and McCorkindale (2013). These items were worded to capture a respondent firm’s ability to use social media in crowdfunding campaigns and the role that social media played in the success of crowdfunding campaigns.

Finally, crowdfunding campaign success (CFS) was measured as a first-order construct comprising 7 questions. After an extensive review of the literature, we were unable to find any scale suitable to measure CFS, and so we created an instrument to measure this important construct. The items are based on assertions and findings from previous crowdfunding research (Bruton, Khavul, Siegel, & Wright, 2015; Burtch, Ghose, & Wattal, 2013; Buttice, Colombo, & Wright, 2017; Chan & Parhankangas, 2017; Kuppuswamy & Bayus, 2015; Mollick, 2014; Mollick & Kuppuswamy, 2014), which highlight key ideas related to crowdfunding success. These include meeting a fundraising goal, increasing awareness about a product or service, generating additional funds or contributors beyond what a traditional campaign would raise, and savings in costs and time. This 7-item instrument was tested during the pilot study and showed acceptable levels of validity, loading, and significance. As a result, these were retained in the main study.

To validate the instrument during the main study, a series of tests inspired by MacKenzie, Podsakoff, and Podsakoff (2011) was conducted. Model fit was shown to have a Standardized Root Mean-square Residual<sup>5</sup> (SRMR) value of 0.066. Second, the average variance explained (AVE) of CFS is 0.71, which is greater than the 0.5 cutoff value (Fornell & Larcker, 1981; MacKenzie et al., 2011). The reliability of the instrument was also examined. Crowdfunding success showed a Cronbach’s alpha value of 0.93 and composite reliability value of 0.94. When individual indicators were examined, validity and reliability were shown to have a squared value of the standardized loading on CFS of greater than 0.5 (Fornell & Larcker, 1981). Finally, the analysis did not show any problematic indicators that needed to be removed from

<sup>5</sup> An absolute measure of fit is defined as the standardized difference between the observed correlation and the predicted correlation.

the model. Given these results, our developed instrument was deemed acceptable for use in the study.

### 3.2.2. Control variables

We controlled for the number of employees in a company, for having a company Facebook page, YouTube channel, and/or Twitter account, and for the age, ethnicity, and gender of respondents. These were tracked in order to reduce any issues of company size, access to social media, and other potential demographic bias, as suggested by Mollick (2014). We included crowdfunding project characteristics as control variables, including desired crowdfunding amount and how long the campaign was conducted (Mollick, 2014).

## 4. Results

We tested our hypotheses using partial least squares modeling (PLS-SEM) through SmartPLS 3.0 (Ringle, Wende, & Becker, 2014). PLS was selected to use in testing models intended to uncover relationships and to predict a better fit for the existing models (Hair, Hult, Ringle, & Sarstedt, 2013; Hair, Ringle, & Sarstedt, 2013). Hair and colleagues (Hair, Ringle, & Sarstedt, 2011) also recommend that if the goal is predicting key target constructs or identifying key 'driver' constructs, select PLS-SEM. PLS is appropriate to our context as it does not require normalizing data, and can be applied to situations where normality cannot be assumed—such was the case with multiple items in our dataset.

To conduct an analysis with PLS, both bootstrapping analysis, and the PLS algorithm must be administered. A bootstrapping analysis of 5000 samples was used to identify the significance of items and path loadings (Hair et al., 2013). The PLS algorithm computes the path weights for relationships and assesses such statistical properties as discriminant validity and average variance explained (AVE). In our model, none of the items was insignificant or had a loading of less than 0.5. As such, all the indicators were included in the analysis.

The model demonstrated an acceptable discriminant validity with all square root of AVEs larger than correlations with other constructs, known as the Fornell-Larcker criterion (Fornell & Larcker, 1981). No item had a cross-loading larger than its primary loading (Hair et al., 2013), and the heterotrait-monotrait (HTMT) ratios were below the 0.85 threshold (Henseler, Ringle, & Sarstedt, 2015). For PLS, common method bias (CMB) was detected through a full collinearity assessment approach (Kock, 2015). Common method bias does not seem to be a concern with the data, as Harman's single factor test found three distinct factors with eigenvalues above 1, and the variance inflation factors (VIFs) are all well below 3.3 (Kock, 2015). Table 2 provides information about the items and Table 3 provides the reliability, correlations, and VIFs of constructs.

After verifying the validity of the measurement model, the hypotheses were tested. In addition to the constructs of interest, control variables were included in the analysis. These include age, race, and gender of respondent, crowdfunding amount to raise, and campaign length of time. Each control variable was non-significant in the model. Fig. 1 shows the results of the path model. Table 4 provides the results along with the Sobel-Goodman mediation testing which follows four steps to determine if mediation occurs: (1) test the path from the independent variable (IV) to the dependent variable (DV); (2) test the path from the IV to the mediator; (3) test the path from the mediator to the DV; and finally (4) test all paths together. If the significance and/or strength of the Step 1 path (IV to DV) changes as a result of including the mediator, mediation has occurred. Table 4 presents the result of the proposed model. We reported R2 and change in R2 for an overall variance for each of the models. Lastly, to assess model fit, Akaike's information criterion was calculated (see Fig. 2).

Three models were run in order to test the hypotheses. Model 1 was comprised of control variables only, model 2 shows the control variables' relations without the mediation. In model 3, we added the

mediation in addition to everything from model 2. Model 3, which contained the control variables, independent variables and mediation effect, explained the maximum variance accounted for ( $R^2$  of 0.52;  $p = .00$ ) and the lowest AIC (Model 3 =  $-247.34$ ; Model 2 =  $-218.69$ ; Model 1 =  $-36.25$ ). The improvement in the model in terms of fit was maximized when mediation was added (R2 improvement from model 2 to model 3 is 0.02;  $p < .05$ ), with the AIC improving from  $-218.69$  to  $-247.34$ . Thus, Model 3 represents the best fit to explain the results. Control variables had no significant impact, as shown in Table 4.

Hypothesis 1 posited that EO would positively affect CFS. The data support this hypothesis ( $\beta = 0.12$ ,  $p = .03$ ) in that a greater degree of entrepreneurial orientation is associated with greater success for crowdfunding campaigns.

Hypothesis 2 posited that EO would positively affect firm managers' perception of social media's potential contribution to crowdfunding campaigns (CSM). The data support this hypothesis ( $\beta = 0.40$ ,  $p = .00$ ) in that greater entrepreneurial orientation is associated with a more favorable perception of the potential contribution of social media in crowdfunding campaigns.

Hypothesis 3 posited that CSM would positively affect CFS. The data support this hypothesis ( $\beta = 0.60$ ,  $p = .00$ ) in that a favorable perception of the potential contribution of social media in crowdfunding campaigns is associated with greater success seen in crowdfunding campaigns. This positive relationship supports our position that firms' perception of the potential contribution of social media facilitates information exchange about new products between design teams and stakeholders, including potential customers, and that the firm may benefit from innovative ideas derived from diverse sources and lay the groundwork for monetizing a concept.

Hypothesis 4 posited that CSM would mediate the relationship between EO and CFS. As shown in Table 4, the Sobel-Goodman mediation tests support this hypothesis. In isolation, EO has a significant relationship with CFS ( $\beta = 0.38$ ,  $p = .00$ ). EO also has a significant relationship with CSM ( $\beta = 0.40$ ,  $p < .001$ ). CSM has a significant relationship with CFS ( $\beta = 0.64$ ,  $p < .001$ ). Finally, by including the direct effect and mediation in the same model, the direct effect of EO on CFS is non-significant ( $\beta = 0.11$ ,  $p > .05$ ). These results show mediation of the relationship between EO and CFS by CSM. The indirect effect of EO to CFS through CSM is significant ( $\beta = 0.23$ ,  $p < .001$ ). This significant indirect effect coupled with a non-significant direct effect lends support for mediation. Lastly, when mediation is included, R2 is 0.52 ( $p = .00$ ), decreased to 0.49 (still  $p = .00$ ) absent the mediation. The increase of R2 when the mediation is added is 0.03 and is significant at  $p = .04$ .

## 5. Discussion

### 5.1. Discussion of findings

A key finding of our study is that managerial perceptions of potential contributions of social media mediate the relationship between entrepreneurial orientation and crowdfunding success since firm innovativeness, proactiveness, and risk-taking behaviors are more effectively leveraged through social media in the modern era. Such mediation confirms our assertion that CSM enables information diffusion, knowledge exchange, feedback-based learning, generation of innovative ideas, customer relationship management and signaling; and that the relationship between EO and CFS more completely manifests through CSM.

First, the positive result between EO and CFS shows that a firm's ability to remain proactive and innovative and its propensity to take risks positively affect its ability to taste success in its crowdfunding campaigns. Second, the support for the relationship between EO and CSM confirms our assertion that in an information age a firm having EO is well positioned to benefit from the managerial perceptions about

**Table 2**  
Items for construct measures and construct validity.

Scale Item	Mean	SD	Loading
<b>Entrepreneurial Orientation (EO)</b> (adopted from Covin & Slevin, 1989; and Lee & Sukoco, 2007)			
Our firm gives the freedom for individuals or teams to develop new ideas new ideas engaging in bold, wide ranging ideas	6	1	0.685
In general, the top managers of our firm have a strong tendency to be ahead of others by adopting bold, aggressive posture for exploiting opportunities as in introducing novel products and ideas	5.67	1.07	0.669
Our firm encourages and stimulates technological, product/service-market, and/or administrative innovation	5.81	1.17	0.711
Our firm stimulates creativity and experimentation	6.06	0.95	0.691
Our firm's innovative initiatives are hard for competitors to successfully imitate.	5.55	1.2	0.792
In dealing with competitors, our firm typically initiates actions which competitors respond to.	5.59	1.23	0.709
In dealing with competitors, our firm is quite often the first business to introduce new products/services, administrative techniques, or operating technologies, etc.	5.56	1.26	0.761
<b>Perceived Contribution of Social Media (CSM)</b> (adopted from DiStaso & McCorkindale, 2013)			
Concerning your company's new crowdfunding campaign:			
I believe that the use of social media increased the overall success of the campaign	5.82	1.33	0.847
I believe that the use of social media increased awareness of the campaign	5.97	1.08	0.765
I believe that the use of social media generated additional profits from the campaign	5.79	1.29	0.846
I believe that the use of social media increased the number of contributors to the campaign	5.89	1.25	0.872
I believe that the use of social media was the deciding factor for causing the campaign to be successful	5.53	1.48	0.813
I believe that social media saved the company time and/or money compared to the equivalent tasks without social media	5.69	1.35	0.834
If in a similar situation in the future, I would recommend using a social media campaign again	6.05	1.13	0.743
Social media plays an important role in the company's overall IT strategy	5.83	1.25	0.739
<b>Crowdfunding Campaign's Success (CFS)</b> (Authors-developed scale)			
I believe that our crowdfunding campaign has been successful in terms of meeting fundraising goals	5.54	1.51	0.893
I believe that the crowdfunding campaign increased awareness about the project issue/product	5.81	1.04	0.766
I believe that the crowdfunding campaign helped generate additional revenues above and beyond the crowdfunding goals	5.39	1.52	0.831
I believe that the use of a crowdfunding campaign increased the number of contributors to the project	5.64	1.34	0.847
I believe that the use of a crowdfunding campaign was the deciding factor for meeting the project's fundraising goals	5.43	1.36	0.855
I believe that the crowdfunding campaign saved the company time and/or money compared to seeking funds from alternate sources	5.53	1.55	0.864
If in a similar situation in the future, I would recommend using a crowdfunding campaign again	5.86	1.34	0.818

**Table 3**  
Construct Reliability and Correlations.

	CR	1	2	3
1. Crowdfunding campaign's success (CFS)	0.944	<b>0.84</b>		
2. Entrepreneurial Orientation (EO)	0.881	0.376 (0.415) [1.174]	<b>0.738</b>	
3. Perceived Contribution of Social Media (CSM)	0.938	0.671 (0.715) [1.174]	0.385 (0.435) [1.0]	<b>0.809</b>

Square Root of AVE bold in diagonal, HTMT in (parentheses), VIF in [brackets].

social media and may use it to incorporate users' innovative ideas, learn about industry environment and future trends, and spread awareness about products. Such an SME could also learn about any potential competition, and scan the external environment. Third, support of a positive relationship between CSM and CFS confirms our position that firms' perception of the potential contribution of social media can facilitate information exchange about new products between design teams and stakeholders, including potential customers, and that the firm will benefit from innovative ideas derived from diverse sources and lay the groundwork for monetizing a concept. Fourth, the mediation among EO, CSM, and CFS shows that CSM is a mechanism through which EO more fully affects the CFS.

5.2. Theoretical implications of findings

Crowdfunding is a general term usually associated with pre-organizational entrepreneurs who have yet to found a firm. As mentioned in the introduction, not much of the literature has focused on uncovering the predictors of crowdfunding success from the standpoint of SMEs, firms that existed prior to crowdfunding initiatives. Our definition and measurement acknowledge that the success measures and goals of crowdfunding are more multidimensional and inclusive than just reaching a funding goal, particularly when traditional firms engage in

this pursuit (Anglin et al., 2018; Brown et al., 2017; Datta et al., 2019; Mollick & Robb, 2016). Factors beyond funding goals include sharing ideas with the crowd, increasing awareness of a product, attracting contributors to a project, and saving time and money.

This is the first paper of its kind to investigate antecedents to crowdfunding campaign success for SMEs. Anecdotal evidence and widespread popularity show that crowdfunding projects on social media platforms are entrepreneurial in nature. Yet, despite the measurable success of crowdfunding as a viable source of raising entrepreneurial capital, extant academic work has yet to uncover the role of entrepreneurial orientation in crowdfunding success, especially from the standpoint of pre-existing SMEs. On platforms like Kickstarter.com, prospective investors are generally reached through social media channels like Facebook, YouTube, Instagram, Twitter, and so forth. Deciphering how a venture's innovativeness, proactiveness, and risk-taking behaviors take the form of behavioral manifestations of entrepreneurial orientation can influence the perception of their potential contribution to crowdfunding campaigns. Building on the underpinning that pre-existing SMEs with EO will have a positive perception for potential contribution for social media, we posited that these firms send positive signals to potential funders about a venture's products, business prospects, and ability to reconfigure resources to shape the market (Brouthers et al., 2015; Kreiser, 2011).

This paper offers a guide for deeper investigations and enhances the research on entrepreneurial orientation and perceptions about social media by linking them to crowdfunding success. In addition, we created and validated a 7-item scale to measure *crowdfunding campaigns' success* in future studies.

Positing EO as a firm-level behavioral construct that results in certain actions (Brouthers et al., 2015; Kreiser, 2011), we argue that a firm's innovativeness, proactiveness, and risk taking motivate actions that shape managers' perceptions regarding the contribution of social media in crowdfunding campaigns. Our work makes a contextual contribution to the capabilities view, using the relationship among crowdfunding, managerial perception of the potential contribution of social media in crowdfunding, and entrepreneurial orientation as a



**Table 4**  
Hypotheses Testing Results (includes Sobel Goodman Mediation Test).

Variables (Predictors) <sup>a</sup>	Variables (Outcome)	Model 1	Model 2	Model 3
		Beta, p value	Beta, p value	Beta, p value
<b>Control</b>				
No. of Employees	CFS	0.05, p = .10	0.04, p = .11	0.04, p = .11
FB page	CFS	-0.08, p = .32	-0.03, p = .58	-0.03, p = .58
Twitter Page	CFS	-0.04, p = .60	0.0, p = .98	0.0, p = .96
Youtube Channel	CFS	-0.06, p = .13	-0.02, p = .13	-0.02, p = .13
Age	CFS	-0.06, p = .11	-0.01, p = .89	-0.01, p = .88
Gender	CFS	-0.05, p = .41	-0.08, p = .24	-0.08, p = .24
Ethnicity	CFS	-0.07, p = .14	-0.11, p = .07	-0.11, p = .07
<b>Relations without mediation</b>			<b>Beta, p value</b>	
H1: EO (IV) → CFS	CFS		0.12, p = .03	
H3: CSM (IV) → CFS	CFS		0.60, p = .00	
<b>Relations with mediation (Sobel-Goodman)</b>				<b>Beta, p value</b>
Step 1: EO (IV)	CFS			0.38, p = .00
H2: Step 2: EO (IV)	RSM			0.40, p = .00
Step 3: RSM (mediator)	CFS			0.64, p = .00
Step 4: Full model. EO (IV)	CFS			0.11, p = .07
Step 4: Full model. EO (IV)	CSM			0.39, p = .00
Step 4: Full model. CSM	CFS			0.60, p = .00
<b>R2, Adj R2, AIC</b>		<b>CFS</b>	<b>CFS</b>	<b>CSM</b>
R2		0.15, p = .025	0.49, p = .00	0.15, p = .025
Adjusted R2		0.13, p = .02	0.48, p = .00	0.15, p = .025
AIC		-36.25	-218.69	-247.34
R2 Improvement from the Previous Model			0.34, p = .00	0.03, p = .04
Adjusted R2 Improvement from the Previous Model			0.35, p = .00	0.03, p = .04
AIC Improvement from the Previous Model			182.44	28.65

n = 322.

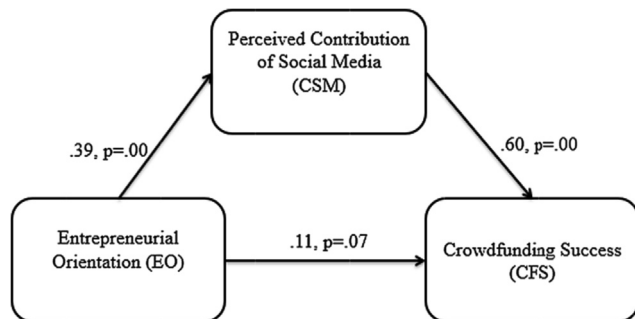


Fig 2. Structural model.

reference point.

The hypotheses and supporting evidence in this study provide a logical foundation for the conditions under which these relationships hold true. For instance, building on the theoretical premise where EO is conceptualized as a set of directed behaviors toward certain outcomes, support for the first hypothesis confirms that EO can help to develop effective crowdfunding campaigns around creative and novel ideas resulting in campaign success.

Our results confirm that innovativeness and proactiveness drive firms to recognize the contribution of and deploy social media platforms in order to leverage innovative ideas, learn about the competition, and scan the external environment. They increase cognizance of future trends, competitors' moves, and industry trends, and help companies take advantage of opportunities. In addition, innovativeness and proactiveness can help firms transcend geographic and time barriers, since social media platforms are generally global. The transparency of social media creates trust among investors, prospective customers, and the firm, which not only balances out risks but also conquers those associated with leaking proprietary information. The rewards for risk-taking include ethical two-way stakeholder engagement, which provides feedback and learning via social network-enabled dialogue. This also confirms that firms that are guided by EO, reflected in their

innovativeness, proactiveness, and risk-taking behaviors, and not only motivated to leverage social media but to deploy social media for substantial outcomes. We believe that in the context of pre-existing SMEs, innovativeness, and proactiveness may help firms incorporate innovative ideas proposed by users. As they continue to learn about the industry environment and future trends, risk taking helps firms not only assess market intelligence but also create a buzz about their innovations through videos or posts that may go viral.

Similarly, we found that a firm's perceptions of the potential contribution of social media has a positive outcome on crowdfunding success which facilitates information exchange regarding the campaigns for new products. Such an exchange of information between design teams and stakeholders, including potential customers, could bring diverse ideas from multiple sources and lay the groundwork for monetizing a project.

Lastly, the mediation between EO, CSM, and CFS also substantiates the notion that a positive perception of social media's contributions may enable socially distributed public relations, diffusion and exchange of information with potential lenders, Electronic Word of Mouth (eWOM), feedback-based learning, generation of innovative ideas, customer relationship management, and signaling, among others. These mechanisms facilitate crowdfunding success, and when not sufficiently forged, the benefits of entrepreneurial orientation may not accrue. In other words, in order to deliver on a crowdfunding campaign's success, EO works through the positive effects of innovativeness, proactiveness, and risk-taking which depend on a positive perception of social media contributions. However, when firms are endowed with EO, meaning they are innovative, proactive, and risk takers, they may deploy resources and routines associated with the leveraging of social media. Such mechanisms disseminate information about products and are shared among crowdfunding campaigns.

When managers' perceptions of a potential contribution of social media are not sufficiently developed, entrepreneurial orientation may not lead to the same success in crowdfunding campaigns because firm innovativeness, proactiveness, and risk-taking are arguably more effectively expressed and leveraged through social media for substantial

outcomes, particularly in an information age.

Given that “strategic entrepreneurship occurs when individuals or organizations simultaneously act entrepreneurially (i.e., seek to identify and exploit *opportunities*) and strategically (i.e., seek to establish and maintain a *competitive advantage*)” (Wright and Hitt, 2017, p. 200), this study contributes to the strategic entrepreneurship literature by showing that SMEs having EO gain a competitive advantage in terms of crowdfunding success through exploiting and leveraging opportunities presented by social media. Our premise is that EO’s relationship will manifest itself through social media for small and medium-sized enterprises as innovativeness, proactiveness, and risk taking, driving them to leverage attributes of social media, which in turn deliver crowdfunding success.

### 5.3. Managerial and policy implications

Crowdfunding is an innovative response to challenges in obtaining funding through venture capital, angel investors, or other conventional modes of acquiring capital. We believe that none of the characteristics of innovativeness, proactiveness, and risk-taking can succeed unless employees are encouraged and rewarded to creatively solve a problem, engage in communication with customers, proactively predict and understand future demands. An entrepreneurially oriented firm constantly scans for new business opportunities and keeps innovating proactively while taking risks as it strives to introduce new ideas to the market; it involves the crowd to take a proactive stance, mainly by investing in ideas. Thus, entrepreneurial orientation does not end with the introduction of new ideas or products. Rather, a firm that is truly entrepreneurial will seek innovative ways to raise capital in order to bring ideas and products into the marketplace. Firms must create a reward system for managers who believe in the potential contributions of social media and engage backers by means of crowdfunding.

Access to social media is quite different from a managerial perception of the potential contribution of social media in crowdfunding campaigns. Positive perceptions motivate managers to seek out opinions through comments, rating, sharing, and voting, among other avenues. They must develop a social media policy for both developers and customers, build a community, and learn new methods to promote their products (Culnan et al., 2010; DiStaso & McCorkindale, 2013). We suggest that dedicated teams of developers and communication managers can be used to leverage social platforms. This is particularly important as data created on social media may grow exponentially and balloon to an unmanageable size in terms of content and context. Thus, managers should invest in information technologies to manage the volume of such data for analysis pertinent to firm competitiveness.

In addition, firms should encourage and reward their employees to devise ways of communicating with users through social media. These could range from watching and recording customer reaction when a prospective product is introduced to creating virtual mockups by recombining or refining existing products and services, and incorporating customer feedback into new products and services before they are released (Joshi, Chi, Datta, & Han, 2010). This will help firms connect with customers during crowdfunding campaigns.

This study provides practical implications for certain aspects of the JOBS (Jumpstart Our Business Startups) Act in terms of safeguarding intellectual property rights and rents. Our findings regarding close links between entrepreneurial orientation, managerial perception of the potential contribution of social media in crowdfunding campaigns, and crowdfunding success suggest that SMEs must apply their innovativeness, proactiveness, and risk taking to leverage social media and run campaigns with confidence so that backers view them favorably and are disposed to make their campaigns a success.

### 5.4. Limitations and future study

As with most research, the results of this study should be interpreted

with consideration of several limitations. First, we used a survey to conduct our research. Like all methods of data collection, it is difficult to judge the difference between perception and reality when using surveys. Future studies may look at firms whose data are available from secondary sources (e.g., VentureXpert/Private Equity via the ThomsonONE database). Though only a limited number of questions can be examined using such databases, data from such sources may be more objective, and free of certain biases. In addition, some characteristics of firms that might have been used for differentiation were not collected. Future research should consider the potential differences between firms of different age, industry, specific size, and previous growth rates.

Second, relevance may be limited to a respondent’s perception of crowdfunding, what it means to manage perceived contributions of social media to a campaign’s success, and the informational value of crowdfunding (Da Cruz, 2018). Future research could be aimed at a more nuanced understanding of CFS from the standpoint of the type of product for which funding is sought and nature of information that would be most appropriate to share: whether it is a new version of an existing product, or a completely novel product (Hurmelinna-Laukkanen, Sainio, & Jauhiainen, 2008), which can show a different relationship between CSM and EO. Third, by no means are we claiming that EO and CSM are exhaustive in explaining CFS. There are other contributing factors that future studies may investigate. Given that industries differ in terms of velocity and frequency of change, R&D, intellectual property protection, and environmental factors (Datta et al., 2015; Eisenhardt and Bourgeois 1988), researchers may examine how the effect of EO and CSM on CFS varies across industries.

This study may open gates for certain indirect risks associated with crowdfunding used for patented technology (Meoli et al., 2019; Wells, 2013). If a patentable technology is publicly revealed in such a way that someone else can use the new technology, a one-year countdown may begin under the U.S. Patent Act for the filing of a patent claim. If the project creator wants to follow a rising trend and file a patent in countries other than the United States, there is no one-year bar. Most countries require absolute originality. Public disclosure in the United States means that patent protection is no longer available in most other countries (Wells, 2013). To further complicate matters, under the America Invents Act, whoever files the patent first will have priority. The nature of social media may force an entrepreneur to divulge new technology before obtaining complete possession of a patent filed by a different inventor. The inventor will therefore have all rights to its commercialization, which may mislead potential funders regarding who possesses the rights and privileges to the technology. Thus, policymakers may contemplate forbidding an entrepreneur from publicizing an idea before all rights are established.

Another risk faced by those who use crowdfunding is the proprietorship of ideas submitted by the public (Meoli et al., 2019; Wells, 2013). Most crowdfunding websites permit the public to comment on projects, which in many cases may include recommendations that are later incorporated into the project. For example, a commenter might propose new features for a device, leading to product enhancement. Can the project creator use these ideas without acknowledgement or reward for the contributor? On some crowdfunding websites, including Indiegogo, terms of use precisely clarify that project creators own all privileges to submitted comments. However, Kickstarter does not define ownership, thereby leaving the parties to negotiate or contest an answer if a project becomes highly successful. Social media allows a lot of engagement with the public, which may lead to lawsuits over the ownership of ideas. Policymakers should make policy to avoid such confusion.

We surveyed SMEs that used crowdfunding to launch new product/ideas. Hence, the generalizability of the study may be restricted to ventures that rely on crowdfunding, i.e., relatively young firms (but not startups) who use social media aggressively. For older firms, a tension may exist between earning rents from existing products and taking risks

by introducing new ones (Datta & Jessup, 2013). Thus, researchers may wish to look at how mature firms use social media when considering crowdfunding.

Finally, further research is needed regarding what type of products bode well for crowdfunding success, which is often a function of prospective customers understanding the value of a new product. Thus, whether a product or an idea is valuable depends on who is evaluating it. A perception of value may differ when judged by an angel investor or a venture capitalist as opposed to a customer. Future research may wish to examine the innovations that come out of crowdfunding campaigns versus a more traditional source of capital raising.

### 5.5. Conclusion

Crowdfunding as a phenomenon is mainly studied in the context of pre-organizational entrepreneurs, that is, entrepreneurs seeking the funding of specific innovations who have yet to form firms. We looked at antecedents of crowdfunding initiatives (especially crowdfunding campaign success, CFS) for SMEs. Using a sample of 322 SMEs, we found that both entrepreneurial orientation and the manager's perceived contribution of social media played a crucial role in determining CFS. We concluded that although EO is associated with CFS, its full effect is generally revealed through a firm's CSM in crowdfunding campaigns. In a connected world where the boundaries between firms, users, and developers are shrinking and where firms need to become more innovative, firm managers' perceptions of the contribution of social media to crowdfunding campaigns can make a substantial difference in a campaign's success.

### References

- Agrawal, A., Catalini, C., & Goldfarb, A. (2014). Some simple economics of crowdfunding. *Innovation Policy and the Economy*, 14(1), 63–97.
- Anglin, A. H., Wolfe, M. T., Short, J. C., McKenny, A. F., & Pidduck, R. J. (2018). Narcissistic rhetoric and crowdfunding performance: A social role theory perspective. *Journal of Business Venturing*, 33(6), 780–812.
- Aral, S., Dellarocas, C., & Godes, D. (2013). Introduction to the special issue—social media and business transformation: a framework for research. *Information Systems Research*, 24(1), 3–13.
- Argenti, P., & Barnes, C. M. (2009). *Digital strategies for powerful corporate communications*. New York: NY, McGraw Hill.
- Beaulieu, T., Sarker, S., & Sarker, S. (2015). A conceptual framework for understanding crowdfunding. *Communications of the Association for Information Systems*, 37(1), 1–31.
- Belleflamme, P., Lambert, T., & Schwienbacher, A. (2014). Crowdfunding: Tapping the right crowd. *Journal of Business Venturing*, 29(5), 585–609.
- Blackshaw, P., and M. Nazzaro. (2004). Consumer-generated media (CGM) 101: Word-of-mouth in the age of the Web fortified consumer. Retrieved September 6, 2019 from [http://www.nielsen-online.com/downloads/us/buzz/nbzm\\_wp\\_CGM101.pdf](http://www.nielsen-online.com/downloads/us/buzz/nbzm_wp_CGM101.pdf).
- Brouthers, K. D., Nakos, G., & Dimitratos, P. (2015). SME entrepreneurial orientation, international performance, and the moderating role of strategic alliances. *Entrepreneurship Theory and Practice*, 39(5), 1161–1187.
- Brown, T. E., Boon, E., & Pitt, L. F. (2017). Seeking funding in order to sell: Crowdfunding as a marketing tool. *Business Horizons*, 60(2), 189–195.
- Bughin, J., Byers, A. H., & Chui, M. (2011). How social technologies are extending the organization. *McKinsey Quarterly*.
- Cement, J. (2019). Number of social network users worldwide from 2010 to 2021 (in billions). Retrieved June 1, 2019.
- Chen, M.-H., Chang, Y.-Y., & Chang, Y.-C. (2015). Entrepreneurial orientation, social networks, and creative performance: Middle managers as corporate entrepreneurs. *Creativity and Innovation Management*, 24(3), 493–507.
- Chu, S.-C., & Kim, Y. (2011). Determinants of consumer engagement in electronic word-of-mouth (eWOM) in social networking sites. *International Journal of Advertising*, 30(1), 47–75.
- Covin, J. G., & Miller, D. (2014). International entrepreneurial orientation: Conceptual considerations, research themes, measurement issues, and future research directions. *Entrepreneurship Theory and Practice*, 38(1), 11–44.
- Covin, J. G., & Slevin, D. P. (1989). Strategic management of small firms in hostile and benign environments. *Strategic Management Journal*, 10(1), 75–87.
- Covin, J. G., & Wales, W. J. (2018). Crafting high-impact entrepreneurial orientation research: Some suggested guidelines. *Entrepreneurship Theory and Practice*, 1–16.
- Culnan, M. J., McHugh, P. J., & Zubillaga, J. I. (2010). How large US companies can use Twitter and other social media to gain business value. *MIS Quarterly Executive*, 9(4), 243–259.
- Da Cruz, J. V. (2018). Beyond financing: Crowdfunding as an informational mechanism. *Journal of Business Venturing*, 33(3), 371–393.
- Datta, A., & Jessup, L. M. (2013). Looking beyond the focal industry and existing technologies for radical innovations. *Technovation*, 33(10–11), 355–367.
- Datta, A., Mukherjee, D., & Jessup, L. (2015). Understanding commercialization of technological innovation: Taking stock and moving forward. *R&D Management*, 44(3), 215–249.
- Datta, A., Sahaym, A., & Brooks, S. (2019). Unpacking the antecedents of crowdfunding Campaign's success: The effects of social media and innovation orientation. *Journal of Small Business Management*. <https://doi.org/10.1111/jsbm.12498>.
- DiStaso, M. W., & McCorkindale, T. (2013). A benchmark analysis of the strategic use of social media for fortune's most admired U.S. companies on facebook, twitter and youtube. *Public Relations Journal*, 7(1), 1–33.
- Dwivedi, Y. K., Kelly, G., Janssen, M., Rana, N. P., Slade, E. L., & Clement, M. (2018). Social media: The good, the bad, and the ugly. *Information Systems Frontiers*, 20(3), 419–423.
- Engelen, A., Gupta, V., Strenger, L., & Brettel, M. (2012). Entrepreneurial orientation, firm performance, and the moderating role of transformational leadership behaviors. *Journal of Management*.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39–50.
- Gartner (2018). Small and Midsize Business (SMB). Retrieved May 30, 2018, from <https://www.gartner.com/it-glossary/smb-small-and-midsize-businesses>.
- Gathungu, J. M., Aiko, D. M., & Machuki, V. N. (2014). Entrepreneurial orientation, networking, external environment, and firm performance: A critical literature review. *European Scientific Journal*, 10(7).
- Hair, J. F., Jr, Hult, G. T. M., Ringle, C., & Sarstedt, M. (2013). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Thousand Oaks: Sage Publications.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, 19(2), 139–152.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2013). Editorial-partial least squares structural equation modeling: Rigorous applications, better results and higher acceptance. *Long Range Planning*, 46(1–2), 1–12.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135.
- Huang, J. L., Curran, P. G., Keeney, J., Poposki, E. M., & DeShon, R. P. (2012). Detecting and deterring insufficient effort responding to surveys. *Journal of Business and Psychology*, 27(1), 99–114.
- Hwang, S. (2012). The strategic use of Twitter to manage personal public relations. *Public Relations Review*, 38(1), 159–161.
- Kock, N. (2015). Common method bias in PLS-SEM: A full collinearity assessment approach. *International Journal of e-Collaboration (IJeC)*, 11(4), 1–10.
- Kohli, C., Suri, R., & Kapoor, A. (2015). Will social media kill branding? *Business Horizons*, 58(1), 35–44.
- Lee, L. T.-S., & Sukoco, B. M. (2007). The effects of entrepreneurial orientation and knowledge management capability on organizational effectiveness in Taiwan: The moderating role of social capital. *International Journal of Management*, 24(3), 549.
- Li, C., & Bernoff, J. (2011). *Groundswell: Winning in a world transformed by social technologies*. Cambridge, MA: Harvard Business Press.
- MacKenzie, S. B., Podsakoff, P. M., & Podsakoff, N. P. (2011). Construct measurement and validation procedures in MIS and behavioral research: Integrating new and existing techniques. *MIS Quarterly*, 35(2), 293–334.
- Mayer-Haug, K., Read, S., Brinckmann, J., Dew, N., & Grichnik, D. (2013). Entrepreneurial talent and venture performance: A meta-analytic investigation of SMEs. *Research Policy*, 42(6–7), 1251–1273.
- Meoli, A., Munari, F., & Bort, J. (2019). The patent paradox in crowdfunding: An empirical analysis of Kickstarter data. *Industrial and Corporate Change*, 2019, 1–21.
- Mollick, E. (2014). The dynamics of crowdfunding: An exploratory study. *Journal of Business Venturing*, 29(1), 1–16.
- Moritz, A., & Block, J. H. (2015). *Crowdfunding: A Literature Review and Research Directions*. *Crowdfunding in Europe*. FGF Studies in Small Business and Entrepreneurship. Brüntje D. and G. O., Springer.
- Parhankangas, A., Mason, C., & Landström, H. (Eds.). (2019). *Handbook of Research on Crowdfunding*. United Kingdom Edward Elgar Publishing: Cheltenham.
- Price, M. (2014). Here's How the Pebble Smartwatch Became the Most Funded Project in Kickstarter History. Retrieved September 6, 2019, from [https://www.huffingtonpost.com/michaelprice/heres-how-the-pebble-smar\\_b\\_5798406.html](https://www.huffingtonpost.com/michaelprice/heres-how-the-pebble-smar_b_5798406.html).
- Renko, M., Moss, T. W., & Lloyd, A. (2019). 9. Crowdfunding by non-profit and social ventures. *Handbook of research on crowdfunding* (pp. 249). .
- Ringle, C., Wende, S., & Becker, J. (2014). *Smartpls 3.1.5*. Hamburg, Germany: University of Hamburg.
- Smith, B. G. (2010). Socially distributing public relations: Twitter, Haiti, and interactivity in social media. *Public Relations Review*, 36(4), 329–335.
- Stam, W., & Elfring, T. (2008). Entrepreneurial orientation and new venture performance: The moderating role of intra- and extraindustry social capital. *Academy of Management Journal*, 51(1), 97–111.
- Wells, N. (2013). The risks of crowdfunding: Most have the best intentions when it comes to crowdfunding an ambitious project, but intellectual property issues, ownership rights and perk obligations present potential hurdles to making a dream become reality. *Risk Management*, 60(2), 26–29.
- Zhou, J., & Shalley, C. E. (2003). *Research on Employee Creativity: A Critical Review and Directions for Future Research*. *Research in Personnel and Human Resource Management*. J. Martocchio. Oxford: Elsevier165–217.

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