

What drives crowdfunding participation? The influence of personal and social traits

Crowdfunding participation

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¿Qué determina la participación en proyectos de crowdfunding? La influencia de las características sociales y personales

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Abstract

Purpose – Crowdfunding has become a popular and achievable means of funding projects worldwide. The purpose of this study is to determine which personal and social traits can increase individuals' intention to participate in crowdfunding.

Design/methodology/approach – This study examines innovativeness, attitudes toward helping others and interpersonal connectivity as determinants of consumers' intention to participate in crowdfunding. Social identification with the crowdfunding community is proposed as a mediator in the model.

Findings – The results show that both social identification with the crowdfunding community and innovativeness have a positive effect on intention to participate. In addition, attitudes toward helping others and interpersonal connectivity indirectly affect intention to participate in crowdfunding through social identification with the crowdfunding community.

Research limitations/implications – This study analyzes a general audience of potential crowdfunders; therefore, the results identify just the indications for potential intentions to participate in crowdfunding activities.

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Practical implications – Companies or fund-seekers currently using or expecting to use crowdfunding have to develop strategies focused on promoting social identification with the crowdfunding community. More effort should be devoted for developing consumers' social relationships and ties within the crowdfunding community.

Originality/value – This study contributes to the literature by clarifying the characteristics that potential crowdfunders should have to be more prone to participate in these types of projects.

Keywords Innovativeness, Social identification, Crowdfunding, Attitudes toward helping others

Paper type Research paper

Resumen

Propósito de la investigación – El crowdfunding se ha convertido en un medio popular y factible de financiar proyectos en todo el mundo. El objetivo principal de este estudio es determinar qué características personales y sociales pueden aumentar la intención de los individuos de participar en el crowdfunding.

Metodología y diseño – Esta investigación examina la capacidad de innovación, las actitudes hacia ayudar a los demás y la conectividad interpersonal como determinantes de la intención de los consumidores de participar en el crowdfunding. La identificación social con la comunidad de crowdfunding se propone como un mediador en el modelo.

Recomendaciones – Los resultados muestran que tanto la identificación social con la comunidad de crowdfunding y la capacidad de innovación tienen un efecto positivo en la intención de participar en proyectos de crowdfunding. Además, las actitudes hacia ayudar a los demás y la conectividad interpersonal afectan indirectamente la intención de participar en el crowdfunding a través de la identificación social con la comunidad de crowdfunding.

Limitaciones de investigación – Esta investigación analiza una audiencia general de posibles "crowdfunders", por lo tanto, los resultados identificaron solo indicaciones de intenciones potenciales para participar en actividades de crowdfunding.

Implicaciones prácticas – Las empresas o emprendedores que actualmente usan o esperan usar el crowdfunding como método de financiación, deben desarrollar estrategias enfocadas en promover la identificación social con la comunidad de crowdfunding; así como fomentar el desarrollo de las relaciones y las relaciones sociales de los consumidores dentro de la comunidad de crowdfunding.

Originalidad – Esta investigación contribuye a la literatura explicando las características sociales y personales de los individuos que con más propensión participarían en este tipo de proyectos.

Palabras clave – Crowdfunding, Identificación social, Capacidad de innovación, Actitud hacia ayudar a los demás

Tipo de artículo – Trabajo de investigación

1. Introduction

Crowdfunding marks a new trend for small and micro businesses, and individual entrepreneurs, to find financial resources in an internet-dominated era (Zhao *et al.*, 2017). Crowdfunding involves an open call, essentially through the internet, for the provision of financial resources either in the form of donations or in exchange for some form of reward and/or voting rights, to support initiatives for specific purposes (Lambert and Schwenbacher, 2010). In addition, Mollick (2014) referred to crowdfunding as the efforts made by entrepreneurial individuals and groups – cultural, social and for-profit – to fund their ventures by drawing on small contributions from a relatively large number of individuals using the internet, and without standard financial intermediaries.

Since the first platforms emerged, online crowdfunding has become a new and valuable way to raise funds for new ventures (Lambert and Schwenbacher, 2010). Initially, crowdfunding was mainly used to fund artistic projects (Agrawal *et al.*, 2011); however, it has rapidly extended to other sectors, such as technology, knowledge-based start-ups and new product development (Hemer, 2011). Crowdfunded entrepreneurs have proven to be quite innovative. In recent years, the most important projects in electronics were funded by

crowdfunding, including novel 3-D printers, smartwatches, video game consoles and computer hardware (Jeffries, 2013). Among the largest crowdfunded projects to date are Pebble – the first smartwatch – which received donations of over \$10.2m from more than 65,000 supporters (Mollick and Kuppaswamy, 2014), and the video game “Star Citizen,” which attracted approximately \$72m from 750,000 ordinary fans (Belleflamme *et al.*, 2015).

According to Massolution (2015), the crowdfunding sector experienced significant growth, rising over \$34.4bn in 2015 to double its 2014 figure of \$16.2bn. In recent years, crowdfunding has also increased in importance in Spain. Crowdfunding projects collected €113m in 2016, representing growth of 116 per cent compared to the prior year (Universo crowdfunding, 2016). Further growth is expected in the present year, as more than €35m were collected in the first month of 2017 (Referente, 2017). However, many crowdfunding projects fail to collect the desired funds. In fact, Massolution (2015) established that only around 36 per cent of all funded projects raised money successfully on Kickstarter in 2015, whereas the Indiegogo platform has a 10 per cent of success rate. These figures indicate that individuals’ funding intention to contribute to crowdfunding projects is very low. Consequently, understanding which factors can increase consumers’ intention to participate becomes very important for companies and entrepreneurs who are considering crowdfunding as a means of funding their projects.

Despite the growing popularity of crowdfunding, scholarly understanding of the phenomenon is currently limited (Colombo *et al.*, 2015). The success rate of crowdfunding projects on most platforms is less than 50 per cent (Massolution, 2015). Consequently, managers interested in using crowdfunding need to involve more people in their projects to guarantee success. As any individual can be a potential crowdfunder (Macht and Weatherston, 2014), exploring consumers’ behavior as capital providers may be crucial for the success of these projects. Nonetheless, the current literature reflects the exploratory nature of the field, and provides insights into crowdfunding in general without going in depth about potential participants (Macht and Weatherston, 2015). A consumer behavior approach would therefore benefit the crowdfunding literature to extend its scope. Accordingly, we examine some factors that may determine consumers’ intention to participate in crowdfunding activities.

To contribute in this direction, we develop a theoretical model to explain consumers’ intention to participate in crowdfunding, drawing on the social identity theory (SIT) (Tajfel and Turner, 1979). Personal and social traits are proposed as determinants of the intention to participate in these projects. We include interpersonal connectivity between participants and attitudes toward helping others as social determinants of participation. These relationships will be mediated by social identification with the crowdfunding community. In addition, the individual’s level of innovativeness is proposed as a personal trait that can directly influence the intention to participate in crowdfunding projects.

This research contributes to both theory and practice. Theoretically, several drivers may explain consumers’ intention to participate in crowdfunding as a regular consumption activity. Previous studies in crowdfunding have analyzed the determinants of participation from the participants’ point of view. However, participants in crowdfunding are growing; thus, any consumer can be a potential participant. Therefore, it is important to understand which factors can influence participation in crowdfunding projects, not only for current participants but also for potential ones. Therefore, our results will provide a better understanding of potential consumers’ intentions and behaviors in this emerging context. From a managerial point of view, this knowledge could help entrepreneurs, companies and other interested parties in using crowdfunding as a way of sourcing capital, as they may learn which types of consumers are most prone to participate. At the end of the paper, we also offer some recommendations about how crowdfunding should be promoted among a general audience of consumers.

2. Theoretical background and hypotheses

2.1 Crowdfunding: the current scenario

Crowdfunding is an online collection of funds that helps organizations or individuals to bring their ideas to reality (Belleflamme *et al.*, 2014). The concept of crowdfunding evolved from crowdsourcing, which describes the process of outsourcing a task to a number of individuals – “the crowd” – by drawing on their assets, knowledge or expertise, and using them to obtain ideas, feedback or solutions to improve a new venture, a corporation or a project (Hemer, 2011).

The development of new technologies is one of the key reasons for the emergence of online crowdsourcing, as it empowers anyone to create content, communicate, cooperate and interact with a wide network of people to carry out certain corporate activities (Kleemann *et al.*, 2008). In the case of crowdfunding, the main objective is to obtain capital from the crowd, and the development of the internet has allowed the general public to participate in crowdfunding either as providers (crowdfunders) or recipients (fund-seekers) (Macht and Weatherston, 2014).

The rapid development of crowdfunding has attracted much research interest from academics (Macht and Weatherston, 2014; Xu *et al.*, 2016). Related literature is emerging quickly from multidisciplinary approaches, mostly from economics, management and entrepreneurship areas (Moritz and Block, 2014). Quantitative studies began to emerge after the growth of crowdfunding platforms as intermediaries, which provided data on crowdfunding project transactions (Mollick and Kuppaswamy, 2014).

Research on crowdfunding has shed some light on the determinants of these projects' success (Agrawal *et al.*, 2014; Greenberg and Mollick, 2014), and the motivations of entrepreneurs and crowdfunders (Allison *et al.*, 2015; Cholakova and Clarysse, 2015; Gerber *et al.*, 2012). We outline the main results obtained from these studies in the following paragraph.

Several factors have been associated with project success. The type of project (Agrawal *et al.*, 2011; Pitschner and Pitschner-Finn, 2014), the geographical proximity between participants (Agrawal *et al.*, 2011; Giudici *et al.*, 2013), the social capital of the project creator (Giudici *et al.*, 2013), the cultural proximity between fund-seekers and crowdfunders (Burtch, 2013) and the project duration (Cordova *et al.*, 2015) are among the main studied factors. In addition, the larger the crowd of crowdfunders, the higher the fund-seeker's probabilities of successfully funding the project (Belleflamme *et al.*, 2016). Furthermore, the size of the fund-seeker's social network can also increase the probability of success (Burtch *et al.*, 2013; Giudici *et al.*, 2013).

The motivations of both fund-seekers and crowdfunders have also drawn the attention of many researchers (Zhao *et al.*, 2017; Cordova *et al.*, 2015; Allison *et al.*, 2015; Cholakova and Clarysse, 2015; Gerber and Hui, 2013). Fund-seekers seem to have several motivations to start crowdfunding projects. According to Lambert and Schwiabacher (2010), people can start crowdfunding projects to raise money, attract public attention or obtain feedback on their products and services. Likewise, Gerber and Hui (2013) established that entrepreneurs implement crowdfunding projects to connect with others, gain approval for their work and for themselves and learn new skills. Regarding crowdfunders, Cholakova and Clarysse (2015) postulated that crowdfunding participation can be motivated by individuals' interest in receiving rewards. However, crowdfunders are not just financially motivated but may also be intrinsically motivated. In this vein, social reputation (Allison *et al.*, 2015) interest in helping others, and the desire to become part of a community (Gerber *et al.*, 2012) may act as determinants to participate in crowdfunding. In addition, Saxton and Wang (2013), recognized the desire to interact in social network sites as a key motive for participating in crowdfunding projects.

However, to the best of our knowledge, previous studies have not explored participation in crowdfunding projects as a general consumption activity with the aim of explaining the intention to participate for a general audience. Previous studies have analyzed this issue by considering only individuals who have already participated in crowdfunding projects. However, anyone can potentially be a crowdfunder, regardless of their previous participation. As we can see in the figures shown above, the money raised by crowdfunding projects has grown every year, and an increasing number of individuals participate in these projects. Therefore, the analysis of crowdfunding as a consumption activity allows us to identify the determinants of participation not only for current participants but also for potential participants. In this vein, [Pitschner and Pitschner-Finn \(2014\)](#) suggested that the crowdfunding discipline should consider more sociological and psychological concepts. Following this recommendation, and relying on the SIT ([Tajfel and Turner, 1979](#)), we develop a model in which personal and social traits are considered as determinants of participation in crowdfunding projects. Literature on individuals' motivations to participate in crowdfunding ([Zhao et al., 2017](#); [Allison et al., 2015](#); [Cholakova and Clarysse, 2015](#); [Gerber and Hui, 2013](#)) has been used to select the personal and social traits included into the proposed model.

2.2 Crowdfunding: a special type of community

According to recent research, fund-seekers and crowdfunders form a special type of community ([Colombo et al., 2015](#); [Gerber and Hui, 2013](#); [Josefy et al., 2017](#)). It is a community because it shares many similarities with other communities. It is composed of a group of individuals with common interests ([Kim et al., 2008](#)), who share a moral responsibility ([Muniz and O'Guinn, 2001](#)) and feel a connection to something ([Muniz and O'Guinn, 2001](#)), in this case the specific crowdfunding project. It is special because it revolves around the common interest of the project's success ([Josefy et al., 2017](#)). In fact, crowdfunders tend to feel responsible for the success of the project as it depends on their support ([Colombo et al., 2015](#)). Crowdfunders can therefore feel that they are part of a community of "special" or "privileged" consumers/investors ([Hui et al., 2014](#)).

As occurring in other communities, members of a crowdfunding project can identify with the community composed of the fund-seeker and the crowdfunders ([Gerber et al., 2012](#)). Traditionally, identification with the community has been encouraged through social interactions ([Muniz and O'Guinn, 2001](#)). The types of interactions that usually occur in crowdfunding communities vary. People exchange not only ideas, money and products but also feelings, sympathy and encouragement ([Zhao et al., 2017](#)). Individuals contribute to crowdfunding communities with ideas by testing early prototypes and by diffusing information ([Lehner, 2012](#)). These interactions in crowdfunding communities can lead not only to identification but also to the creation of social capital, which may enhance the intention to participate ([Gerber and Hui, 2013](#)) and contribute to the project's success ([Colombo et al., 2015](#)).

Most crowdfunding platforms stimulate these interactions by offering tools that allow fund-seekers and potential crowdfunders to share ideas with each other ([Yi and Gong, 2013](#)). Currently, according to Alexa Index, eight (Kickstarter, Gofundme, Angellist, Youcaring, Crowdrise, Justgiving, Kiva and Ulule) out of the top ten crowdfunding platforms include sections in which crowdfunders can interact with the project creator and other crowdfunders. These sections are specific for each project or crowdfunding community. Only a few exceptions (e.g. Indiegogo) do not allow these types of interactions within the platform. They instead encourage entrepreneurs to create a community around the project in social network sites. Thus, interactions in these few exceptions are transferred out of the

crowdfunding platforms to other social media sites. Although previous research has recommended fully integrating social network sites into the managerial process of crowdfunding (Saxton and Wang, 2013), restricting interactions within the crowdfunding platform could impede the potential identification of the crowdfunding community.

In summary, the crowdfunding phenomenon maintains the essence of the community concept based on common interest and social connections (Colombo *et al.*, 2015; Kim *et al.*, 2008). Given its social nature, the success of crowdfunding strongly depends on the ability to build groups of people who share beliefs and are willing to support the projects (Wojciechowski, 2009). Crowdfunders need to feel that they are part of a community, and these feelings are important to enhance social identification with the community and to increase the probability of project success. Thus, it is key to analyze social identification with the crowdfunding community as a driver of consumers' participation in crowdfunding.

2.3 Explaining social identification with the crowdfunding community through social identity theory

SIT (Tajfel and Turner, 1979) is a social psychological theory of intergroup relation processes (Hogg *et al.*, 1995). SIT addresses the structure and function of the socially constructed self (called social identity) (Fowler and Kam, 2007). As participating in crowdfunding communities involves forms of social behavior (Belleflamme *et al.*, 2014), we assume that SIT may be useful for exploring this phenomenon.

Social identities have important self-evaluative consequences, and groups and their members are strongly motivated to adopt behavioral strategies for achieving or maintaining in-group/out-group comparisons that favor the in-group [39]. Moreover, social identification may create the desire to improve the welfare of certain groups (Fowler and Kam, 2007). As participation should increase the welfare of a crowdfunding community, social identification should be considered an important factor for explaining participation in crowdfunding projects.

In simple terms, SIT argues that individuals are more willing to cooperate in a group if they feel part of it, which means that they identify with it (Tajfel, 1982; Muller *et al.*, 2014). This theory was proposed to explore the balance between individuals' characteristics and the social context with regard to influencing an individual's behavior (Tajfel and Turner, 1979). In addition, Muller *et al.* (Muller *et al.*, 2014) applied some perspectives from SIT to analyze attributes-in-common that can influence collaboration in a crowdfunding project. Consequently, we assume that social identification with the crowdfunding community should be included as a social driver that plays a significant role in determining consumers' intention to participate.

2.4 Interpersonal connectivity and social identification with the crowdfunding community

The interest in maintaining interpersonal connectivity has been recognized as a motive for participation in online groups (Dholakia *et al.*, 2004). Maintaining interpersonal connectivity refers to the social benefits derived from establishing and maintaining contact with other people, such as social support, friendship and intimacy (Bhattacharya *et al.*, 1995). As crowdfunding platforms depend on active and engaged participation of both fund-seekers and crowdfunders (Muniz and O'Guinn, 2001), the inclusion of the interpersonal connectivity concept seems to be appropriate for this study. Maintaining interpersonal connectivity emphasizes the social benefits that consumers can obtain from participating in any type of online community or group (Bhattacharya *et al.*, 1995), which can also include crowdfunding communities (Belleflamme *et al.*, 2014).

When consumers identify with a group, they agree with the group's norms, traditions, rituals and objectives (Bhattacharya *et al.*, 1995). Consequently, social identification can be enhanced via interaction between group members (Muniz and O'Guinn, 2001), and may be more likely for individuals who are more prone to interact with each other. As crowdfunding creates social interactions that motivate the crowd to feel connected to individuals with similar interests and ideals (Gerber *et al.*, 2012), we assume that the desire to maintain interpersonal connectivity will increase the individual's likelihood of identifying with the crowdfunding community. In addition, interactions between participants in crowdfunding communities enable crowdfunders to enjoy a sense of belonging to the communities (Xu *et al.*, 2016), which in turn may enhance identification. Consequently, we propose the following hypothesis:

- H1. Interpersonal connectivity has a positive effect on social identification with the crowdfunding community.

2.5 Attitudes toward helping others and social identification with the crowdfunding community

Previous studies on donation-based crowdfunding have relied on extensive literature involving donation and helping behavior (Meer, 2014). Some crowdfunding platforms (e.g. Kiva) are explicitly designed with philanthropic intentions, and do not allow lenders to charge any interest. In fact, many crowdfunders do not receive any reward for their capital, and their participation can be seen as a donation (Belleflamme *et al.*, 2010). Regardless of obtaining a reward or not, the success of social funding strongly depends on the ability to build an *ad hoc* or persistent group of people who share their beliefs and are willing to support the project (Terry *et al.*, 1999).

Attitudes toward helping others can be defined as global and relatively enduring evaluations with regard to helping or assisting other people (Webb *et al.*, 2000), which covers a wide range of altruistic and donation behaviors that implicate values and personal norms (Piliavin and Charng, 1990). As attitudes toward helping others has been found to be a determinant of donation behavior (Piliavin and Charng, 1990), we propose that it should enhance identification with the crowdfunding community.

Previous research may be used to support the relationship between attitudes toward helping others and social identification with the crowdfunding community. First, the desire to improve the welfare of certain groups in society can motivate individuals to establish social identification with others (Anthony, 2005). Second, Gerber and Hui (2013) established that crowdfunders who provide monetary, informational or social support to fund-seekers can feel they are a part of a special community, which is an outcome that satisfies the human need for belonging. In addition, SIT posits that people define their self-concepts by their connections with social groups, and these connections enhance their social identification (Tajfel and Turner, 1979). Therefore, we suggest that people with higher attitudes toward helping others will be more likely to identify with the crowdfunding community as the project's success depends on people's contribution. Consequently, we propose the following hypothesis:

- H2. Attitudes toward helping others have a positive effect on social identification with the crowdfunding community.

2.6 The mediating role of social identification with the crowdfunding community

Social identification with the crowdfunding community is needed for a project's success. Zheng *et al.* (2014) indicated that receiving social benefits (i.e. sharing ideas, making friends) is an

important motivation behind individuals' interactions on crowdfunding platforms. Based on SIT (Tajfel, 1982), individuals will be more willing to cooperate in a group they feel they are part of, which means that they identify with the group. According to this theory, each shared identity facet can strengthen the likelihood of collaboration or investment (Dholakia *et al.*, 2004). Likewise, Brewer (2001) established a direct link between identification with a social group and in-group favoritism, which implies that individuals who identify more with a crowdfunding community will be more likely to participate in the associated project.

Social identity theorists have admitted that identification with the group is sufficient to produce cooperation (Tajfel, 1982; Herzenstein *et al.*, 2008). While the directionality of social influence is not immediately obvious in this setting, it is likely that individuals' contribution decision in a crowdfunding context can be highly dependent on the behavior of other contributors (Burtch, 2013). In crowdfunding, the funding success is closely related to social influence, intra-group communication and the engendering processes of consumer (Herzenstein *et al.*, 2008).

Literature in organizational identification (Scott and Lane, 2000) has established that identification may trigger people to become psychologically attached to an organization, which motivates them to commit to the achievement of its goals, expend more voluntary effort on its behalf and cooperate with organizational members. Moreover, Bhattacharya *et al.* (1995) established a relationship between identification and greater economic support in the context of educational and cultural institutions. Embedded ties facilitate the production of diverse collective goods, including informal economic exchange (Dimaggio and Louch, 1998). Similarly, Dholakia *et al.* (2004) established that a stronger social identity leads to stronger desires to participate in online groups. As social identity is a dynamic construct that mediates the relationship between participation in online groups and its determinants (Fowler and Kam, 2007; Rogers and Shoemaker, 1971), we propose the following hypothesis:

- H3. Social identification with the crowdfunding community mediates the relationships between (a) interpersonal connectivity and (b) attitudes toward helping others and the intention to participate in crowdfunding.

2.7 Individual's level of innovativeness and the intention to participate in crowdfunding

Innovativeness can be defined as the degree to which an individual adopts new ideas relatively earlier than the average member of his/her social system (Rogers and Shoemaker, 1971). We are interested in this definition, as it refers to the level of innovativeness that is observable in behavior. Given that crowdfunding is a relatively new phenomenon, the approach to innovativeness used in this study is closely related to the new product adoption process. Consumer innovativeness can be seen as a force that leads to innovative behavior (Roehrich, 2004), and has been often cited in research on the diffusion of innovations. Given the innovative character of crowdfunding (Ordanini *et al.*, 2011; Manning *et al.*, 1995), we assume that the individual's level of innovativeness will directly influence participation in this activity.

The level of innovativeness is positively related to early stages of the adoption process (i.e. novelty seeking and new product awareness) (Manning *et al.*, 1995). Furthermore, this construct represents consumers' motivation to obtain information regarding new products (Roehrich, 2004) from commonly available sources, which include mass media, direct product exposure or various forms of commercial marketing communications (Manning *et al.*, 1995). In addition, consumers' innovativeness has been revealed as a key construct to improve e-banking adoption both directly, and via its effective role in reducing risk perception of using the internet as a channel in the financial service context (Aldás-Manzano *et al.*, 2009). As crowdfunding is highly related to the financial context, and is also developed

online, we assume that the level of innovativeness should determine the intention to participate in crowdfunding. Thus, we propose the following hypothesis:

- H4.* The individual's level of innovativeness has a positive effect on his/her intention to participate in crowdfunding.

The proposed model is shown in [Figure 1](#).

3. Methodology

Data for research analysis were gathered through an online panel. Given that any individual can be a potential crowdfunder ([Macht and Weatherston, 2014](#)), we analyzed a general audience of consumers for this research. As scales were previously translated into Spanish, a pretest administered to over 20 individuals of the target audience was developed first. Individuals were asked to identify items that were confusing or difficult to complete. After this pretest and the necessary adjustments, 244 individuals aged over 18 years completed the final online survey. As crowdfunding is a relatively new phenomenon and respondents had no previous experience in this activity, we provided a brief explanation on what crowdfunding is at the beginning of the questionnaire.

Research measures were adapted from previous literature. To measure intention to participate in crowdfunding, we adapted the scale developed by [Jarvenpaa et al. \(2006\)](#) of intention to participate in online commerce activities, which we found highly suitable for the crowdfunding context. Attitude toward helping others was developed and validated by [Webb et al. \(2000\)](#). This measure was developed for the context of monetary donation behaviors, which gave us some concerns about potential social desirability bias. According to [Crowne and Marlowe \(1960\)](#), social desirability refers to the need for social approval and the belief that it can be attained by means of culturally acceptable and appropriate behaviors. To mitigate this bias, we followed [Fisher \(1993\)](#), who recommended using indirect questioning to reduce the distortion of "private" opinions revealed to the researcher by asking respondents to "report on the nature of the external world" rather than about themselves. Even when this approach is not an ideal procedure to avoid completely bias, we used an indirect method of questioning and wrote the items as general statements. For instance, one of the items regarding attitudes toward helping others was worded as follows: *People should be more charitable toward others in society.*

Interpersonal connectivity was assessed by adapting a measure from [Dholakia et al.'s](#) study ([2004](#)), which analyzes consumers' antecedents to participate in online communities. To measure social identification with the crowdfunding community, we adapted the scale of community identification ([Algesheimer et al., 2005](#)), developed as part of a comprehensive model to explain individuals' intentions and behavior within brand communities. Given that we applied the questionnaire to a general audience of consumers, the following sentence was added just before the social identification scale: *"Given the chance, I would participate in*

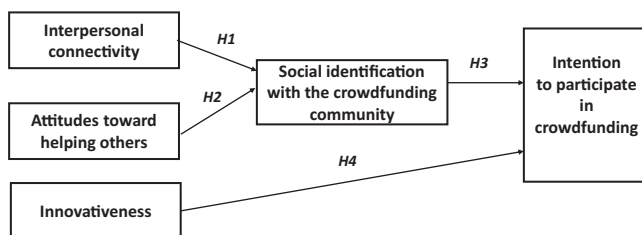


Figure 1.
Proposed model

crowdfunding projects because [...]” A similar procedure was followed for interpersonal connectivity. In this case, the initial sentence was “*I would participate in crowdfunding projects to. . .*” Consequently, these concepts were measured as “social motivations” that assessed the extent to which interpersonal connectivity and social identification are drivers of participation in crowdfunding. Regarding the individual’s level of innovativeness, we used Innovativeness’ Factor of Seeking developed by [Craig and Ginter \(1975\)](#), which is a multi-item scale designed to measure the level of consumers’ novelty seeking.

4. Results

4.1 Sample characteristics

The sample demographic characteristics are as follows: 50 per cent were male and 50 per cent were female. Given that gender can influence crowdfunding behavior ([Greenberg and Mollick, 2014](#)), this distribution seems adequate for studying this phenomenon from a consumer perspective. Respondents ranged in age from 18 to 64 years, with a mean age of 39 years (median = 38, standard deviation = 14.05). Furthermore, 50 per cent of the sample had a college degree and 42 per cent were high school graduates.

4.2 Scale validation

We assessed the validity of the scales by performing confirmatory factor analysis. The model was found to have acceptable fit indices ($\chi^2(77) = 122.282, p < 0.01; \chi^2/df = 1.59; GFI = 0.935; NFI = 0.946; IFI = 0.979; CFI = 0.979; RMSEA = 0.049$). The χ^2 ratio to degrees-of-freedom is lower than the suggested value of 3 ([McIver and Carmines, 1981](#)); NFI, IFI and CFI are higher than 0.9 ([Bentler and Bonett, 1980](#)), and RMSEA is lower than 0.08 ([Browne and Cudeck, 1993](#)). As [Table I](#) shows, each item has a significant factor loading ($p < 0.01$) for the theorized constructs. All values are over 0.60 ([Bagozzi and Yi, 1988](#)). These results assure the convergent validity of the measures used. Cronbach’s alpha coefficients are all greater than 0.70 [78]. The composite reliability is above the standard of 0.60 as suggested by [Bagozzi and Yi \(1988\)](#).

In addition, we tested the average variance extracted (AVE) for each factor. The test showed that the 0.50 minimum suggested by [Fornell and Larcker \(1981\)](#) exceeded by intention to participate in crowdfunding, social identification, interpersonal connectivity and attitudes toward helping others. However, the AVE for the innovativeness scale is below (albeit close to) 0.5. In addition, as Cronbach’s alpha coefficient and composite reliability are over the recommended values for this construct, we consider the innovativeness construct not to suffer from reliability problems. Additionally, we assessed discriminant validity using two approaches. First, we compared the AVE for each of our constructs with the squared correlation between construct pairs ([Fornell and Larcker, 1981](#)). [Table II](#) shows that the AVE exceeds the squared correlations for all measures. Second, the confidence interval was calculated at plus or minus two standard errors around the correlation between the factors, and whether this interval includes 1.0 was determined ([Anderson and Gerbing, 1988](#)). None of the confidence intervals include 1.0 in the analysis. These two tests provide evidence for the discriminant validity of our measures.

4.3 Structural equation model

The research model was tested using a structural equation modeling (SEM) approach. As can be observed in [Table III](#), the results show that all parameters are significant. The structural model fit to the data is acceptable ($\chi^2(79) = 128.829, p < 0.01; \chi^2/df = 1.63; GFI = 0.932; NFI = 0.943; IFI = 0.977; CFI = 0.977; RMSEA = 0.051$; social identification $R^2 = 0.245$; intention to participate $R^2 = 0.209$). Interpersonal connectivity and attitudes toward helping

	Standardized loadings	<i>t</i> -value	α -Cronbach	CR	AVE	Crowdfunding participation
<i>Intention to participate in crowdfunding</i>						173
Given the chance, I intend to participate in crowdfunding projects	0.862***	16.543	0.911	0.911	0.774	
Given the chance, I predict that I would participate in a crowdfunding project in the future	0.882***	16.997				
It is very likely that I will participate in a crowdfunding project in the near future	0.895***	17.404				
<i>Social identification with crowdfunding community</i>						
I feel much attached to a crowdfunding community	0.921***	18.071	0.865	0.872	0.699	
I share the same objectives with others crowdfunding community members	0.896***	17.175				
I see myself as a part of the crowdfunding project community	0.668***	11.413				
<i>Innovativeness</i>						
I like to experiment with new ways of doing things	0.748***	11.519	0.735	0.734	0.481	
I like to fool around with new ideas even if they turn out to waste of time	0.699***	10.689				
I like to try new and different things	0.628***	9.478				
<i>Interpersonal connectivity</i>						
To have something to do with others	0.967***	16.055	0.853	0.864	0.762	
To stay in touch with others	0.768***	12.452				
<i>Attitudes toward helping others</i>						
People should be willing to help others who are less fortunate	0.772***	13.406	0.888	0.881	0.650	
Helping troubled people with their problems is very important to me	0.795***	13.548				
People should be more charitable toward others in society	0.790***	13.844				

Notes: *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$

Table I.
Measurements of convergent validity and reliability

others have a significant effect on social identification with the crowdfunding community ($\beta = 0.342$; $p < 0.01$; $\beta = 0.398$; $p < 0.01$), which supports *H1* and *H2*. In addition, the effect of innovativeness on the intention to participate in crowdfunding is positive and significant ($\beta = 0.361$; $p < 0.01$), providing empirical evidence to support *H4*. Finally, social identification has a positive and significant effect on the intention to participate in crowdfunding ($\beta = 0.483$; $p < 0.01$).

Additional analyses were developed by calculating the indirect effects. The indirect effects were calculated using SEM. Significance levels were based on bias-corrected bootstrap confidence intervals proposed by Preacher and Hayes (2004). Previous studies have recommended bootstrapping over Baron and Kenny's (1986) test, because the former has a higher level of power and reasonable control over the Type 1 error rates (Hayes, 2013). As can be seen in Table IV, the results show that interpersonal connectivity has an indirect

Table II.
Measurement of
discriminant validity

	Intention to participate in crowdfunding	Social identification with crowdfunding community	Innovativeness	Interpersonal connectivity	Attitudes toward helping others
Intention to participate in crowdfunding	0.774	0.259	0.281	0.229	0.118
Social identification with crowdfunding community	(0.403-0.615)	0.699	0.161	0.243	0.301
Innovativeness	(0.408-0.652)	(0.265-0.537)	0.481	0.220	0.153
Interpersonal connectivity	(0.365-0.593)	(0.381-0.605)	(0.339-0.599)	0.762	
Attitudes toward helping others	(0.216-0.472)	(0.450-0.658)	(0.251-0.531)	(0.302-0.546)	0.650

Note: Matrix shows AVE (diagonal), squared correlation (below the diagonal) and confidence intervals (above diagonal)

Table III.
Results

Hypotheses	Path	Coefficient	Result
<i>H1</i>	Interpersonal connectivity → social identification	0.342***	Supported
<i>H2</i>	Attitudes toward helping others → social identification	0.398***	Supported
<i>H3</i>	Social identification – brand connection → intention to participate	0.483***	Supported
<i>H4</i>	Innovativeness → intention to participate	0.361***	Supported

Notes: *** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$

Table IV.
Indirect effects

Indirect effects through	Social Identification with crowdfunding community	Standardized coefficient	Bias corrected bootstrapped confidence interval
Interpersonal connectivity → intention to participate in crowdfunding		0.221**	(0.030, 0.175)
Attitudes toward helping others → intention to participate in crowdfunding		0.264**	(0.058, 0.230)

effect on intention to participate through social identification with the crowdfunding community ($\beta = 0.221$, [0.030, 0.175]). Similarly, attitudes toward helping others have an indirect effect on the intention to participate in crowdfunding through social identification ($\beta = 0.264$, [0.058, 0.230]). Therefore, *H3a* and *H3b* are both supported.

5. Discussion

This study analyzes consumers' drivers of participation in crowdfunding. Given that crowdfunding is a special type of community, the mediating role of social identification with the crowdfunding community was also examined. Instead of using a financial or managerial perspective, we approached this phenomenon through a consumer behavior perspective. Drawing on SIT (Tajfel and Turner, 1979), we examined the role of social identification with the crowdfunding community on the intention to participate in crowdfunding. We also

incorporated two social traits (i.e. attitudes toward helping others and interpersonal connectivity), as well as a personal trait (individual's level of innovativeness) into the model.

This research makes several contributions. First, we have developed a theoretical model in which both social and personal traits explain individuals' intention to participate in crowdfunding. Second, we have demonstrated that the intention to participate in crowdfunding is mediated by social identification with the crowdfunding community. The two social traits, attitudes toward helping others and interpersonal connectivity, have an indirect effect on the intention to participate in crowdfunding through social identification with the crowdfunding community. The personal trait, the individual's level of innovativeness, also plays a key role in the proposed model, confirming that crowdfunders could be motivated by the desire to be amongst the pioneers using this novel consumption activity (Ordanini *et al.*, 2011). Finally, instead of using an experienced sample of crowdfunders, we have collected data from a general audience of consumers, confirming empirically the suggestion of Macht and Weatherston (2014), that any individual can be a potential crowdfunder. Therefore, our results suggest that the topic should be further explored from a consumer perspective.

Regarding the social traits, interpersonal connectivity was proposed as a social trait that determines intention to participate in crowdfunding through social identification. Since maintaining interpersonal connectivity is related to the social benefits derived from establishing and maintaining contact with other people (Dholakia *et al.*, 2004), participation can be stimulated by obtaining these social benefits. Our results support the work of Herzenstein *et al.* (Herzenstein *et al.*, 2008), who stated that the funding success in P2P (peer-to-peer) lending communities is closely related to social influence and intra-group communication. Explicitly, we found that interpersonal connectivity is a significant predictor of social identification with the crowdfunding community, which in turn enhances participation in this activity.

Attitudes toward helping others were also proposed as a social trait that influences the intention to participate in crowdfunding through social identification. This driver was revealed as a key determinant of donation behavior (Webb *et al.*, 2000). Consistent with previous research, we found that attitudes toward helping others influence the intention to participate in crowdfunding through social identification with the crowdfunding community. Consequently, consumers' desire to help others enables their identification with the crowdfunding community, which in turn increases the intention to participate in crowdfunding. This result may be explained with reference to Fowler and Kam (2007), whose study recognized that the desire to improve the welfare of certain groups in society can lead individuals to establish social identification with others. Likewise, SIT (Tajfel and Turner, 1979) postulates that individuals define their self-concepts by their connections with social groups, and these connections can improve social identification. Applying this theory to crowdfunding, individuals may help to define their attitudes toward helping others by their involvement with a crowdfunding community, and connections within this community can enhance their social identification.

Our results suggest that building a social community with which individuals can identify seems to be a critical ingredient for a crowdfunding project's success. A special community is created around the project composed of the fund-seeker and the crowdfunders (Colombo *et al.*, 2015; Hui *et al.*, 2014). The importance of the social identification concept in crowdfunding was initially highlighted by Belleflamme *et al.* (2014), who defined participation in crowdfunding platforms as a truly social activity from which community benefits are derived. The results obtained in this study related to social identification also support those of Wojciechowski (2009), who confirmed that success in crowdfunding

projects strongly depends on the ability to build groups of people with shared beliefs. It also confirms the study of Bhattacharya *et al.* (Bhattacharya *et al.*, 1995), that found a relationship between social identification and organizational financial support and commitment. Moreover, our results confirm previous findings highlighting the role of social identification in cooperation between community members (Scott and Lane, 2000), and as antecedents of economic transactions (Dimaggio and Louch, 1998).

Finally, the personal trait we selected, the individual's level of innovativeness, seems to be a key determinant to the intention to participate in crowdfunding. This result supports previous studies that have related innovativeness to the perception of risk in an online context. In particular, Roehrich (Roehrich, 2004) established that consumers' innovativeness is an antecedent of innovative behavior. Similarly, Aldás-Manzano *et al.* (2009) observed that innovativeness is a driver to improve e-banking adoption by reducing consumer risk perception of using the internet channel.

5.1 Managerial implications

For potential fund-seekers, crowdfunding represents a valuable tool for developing their own projects without the necessity of relying on traditional investment. In terms of overall funding volume, crowdfunding should still be considered a niche phenomenon. However, it is rapidly expanding in many countries and is seen by many as a viable option for funding innovative projects that would not be carried out otherwise (Belleflamme *et al.*, 2016). However, crowdfunding may be used for other purposes than just funding. It can be also used for obtaining feedback, for market testing and validation, as a promotional device, as a means to support user-based innovation, or to gain knowledge of consumers' preferences (Belleflamme and Lambert, 2014). Consequently, companies and fund-seekers may consider this means of funding and market testing in their future projects. General consumers should be further considered for creating and stimulating crowdfunding projects. In addition to the opportunity of funding, crowdfunding may allow consumers to directly buy or preorder the new products developed, and to obtain early-bird-consumer prices or privileged access to new products. Following our results, two social traits (interpersonal connectivity and attitudes toward helping others) and a personal trait (level of innovativeness) should be considered for identifying consumers who may be interested in participating in crowdfunding. For instance, through their behavior on crowdfunding platforms or on social network sites, companies or entrepreneurs interested in using crowdfunding could identify individuals with characteristics that enhance participation.

Crowdfunding platforms usually show who has supported each project, how many projects they have supported, and characteristics of these projects. In addition, fund-seekers usually create a community on social network sites to interact with their supporters. Thus, fund-seekers could obtain information about individuals who participate in other crowdfunding communities on social network sites. They could see which individuals usually interact with other supporters or the number of contacts these individuals have on social network sites. Based on this information, companies should look for individuals who have previously donated, and who have participated in many projects or in charity projects, as these individuals could have a higher attitude toward helping others. In addition, individuals who have participated in innovative projects usually have a high level of innovativeness – a trait that increases their intention to participate. Furthermore, individuals who interact with the fund-seeker and with other crowdfunders, or those who have many contacts in the various social network sites to which they belong, could be those who search for social identification and interpersonal connectivity, and thus have higher intention to participate.

In addition, based on our findings, companies or fund-seekers currently using or expecting to use crowdfunding have to develop strategies focused on promoting social identification with the crowdfunding community. More effort should be devoted for developing consumers' social relationships and ties within the crowdfunding community. Therefore, we recommend that fund-seekers select crowdfunding platforms in which individuals can interact with each other. In addition, they should provide enough information and arguments for participating in the given project by emphasizing in them meanings and collective norms that can be shared by the potential crowdfunders. Finally, our results regarding the importance of social identification in determining crowdfunding participation should encourage crowdfunding platforms not only to allow, but also to encourage, interactions between fund-seekers and crowdfunders. Platforms that still do not allow interactions between fund-seekers and crowdfunders should review their internal policies according to the results obtained in this study. More and better communication tools should be included to enhance interactions among participants.

5.2 Limitations and future research

The approach we used to analyze consumers' personal and social traits influencing intention to participate in crowdfunding has some limitations, which have to be discussed to assess the contributions of this study. Given that we analyzed a general audience of potential crowdfunders, we only identified indications for potential intentions to participate in crowdfunding; this could cause problems for generalizing these results to specific projects. In addition, there may be some concerns about social desirability bias with the concept of attitudes toward helping others. To mitigate this bias, we used the indirect questioning approach (Podsakoff *et al.*, 2003), and we started the questionnaire with the main dependent variable, intention to participate in crowdfunding, with the aim of not giving any clue to respondents regarding the main interest of the research.

Another important limitation is that we did not ask about any particular type of crowdfunding; instead, we used some general statements about crowdfunding in the brief explanation of crowdfunding provided at the beginning of the questionnaire. Even when we found support for all of our theoretical hypotheses, we recognize that some other potential determinants were not addressed in this study. Previous studies have outlined several factors that can affect participation in crowdfunding, such as social capital (Giudici *et al.*, 2013) and the herding effect among consumers (Herzenstein *et al.*, 2011). These determinants, as well as their relationships with the personal and social traits we have studied, should be addressed in future research. Recent results have also suggested that there is a need to examine additional factors that may determine social identification with the crowdfunding community, such as homophily (Greenberg and Mollick, 2014) or geographical proximity between crowdfunders (Agrawal *et al.*, 2011). In addition, recent studies have analyzed risk aversion as a driver to participate in online economic activities (Paravisini *et al.*, 2017). Nonetheless, we did not analyze the individuals' risk aversion as a potential deterrent to participate in crowdfunding activities, therefore, we encourage future research to include this driver as a personal determinant that could influence individuals' intention to participate in crowdfunding.

Moreover, the funding for crowdfunding projects may differ across projects, such as those that might be present in a technology-related category (Josefy *et al.*, 2017). Following a recent study (Josefy *et al.*, 2017), which established that the types of products and services in crowdfunding may affect the support obtained, we encourage researchers to analyze the effect of the type of business on participation in the crowdfunding project. Future research

could also test the moderator effect of the type of business to explain the relationship between individuals' intention to participate in crowdfunding projects and its drivers.

Finally, this study only focused on consumers as potential crowdfunders, but did not consider the motivations of fund-seekers or the role that crowdfunding platforms may play as intermediaries in the crowdfunding process. As all three actors (crowdfunders, fund-seekers and platforms) are required for the crowdfunding process (Valančienė and Jegelevičiūtė, 2013), and are absolutely related, future research should consider the role that they play in this new phenomenon.

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