

## BEYOND SIGNED T-SHIRTS: A SOCIO-TECHNOLOGICAL MODEL OF EQUITY CROWDFUNDING ADOPTION

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# BEYOND SIGNED T-SHIRTS: A SOCIO-TECHNOLOGICAL MODEL OF EQUITY CROWDFUNDING ADOPTION

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## ABSTRACT

This paper analyses the degree of relevance of certain factors in the intention of adopting technological innovation that equity crowdfunding involves. We propose a holistic and integrated model, which incorporates different theoretical frameworks consistent with the object of study. An online survey was conducted among contributors to campaigns on the largest reward crowdfunding platform in Spain. The empirical framework of analysis is based on structural equation modelling, as most of the relationships proposed in the hypothesis involve latent variables or constructs. The results emphasize the relevance of the perceived ease of use (above utility) in the intention to participate in equity crowdfunding. This factor mediates the role of perceived utility in the adoption of this innovation, compared to the Technology Acceptance Model (in its different versions). Likewise, the confidence of the potential adopter, based on different elements, does not directly determine participation in equity crowdfunding, unlike what happens with other online investment scenarios.

*Keywords:* Equity Crowdfunding, Adoption Decision, Perceived Usefulness, Perceived Ease of Use, Trust, Empathy, Personal Innovativeness

**JEL Codes:** O33, G11

Are backers who supported reward campaigns willing to adopt equity crowdfunding (ECF)? If so, what factors will influence their decision? Which strategies should crowdfunding platforms implement to promote the adoption of equity modality in individuals with different attitudes towards innovation, and unequal previous experiences?

Equity crowdfunding is an innovative model based on the use of technology applied to communities of individuals with common interests to support online investment projects. Consequently, the field of research in which this paper is framed is the adoption of innovations.

This paper analyses the degree of relevance of certain factors in the intention of adopting the technological innovation that equity crowdfunding involves. We propose a holistic and integrated model, which incorporates different theoretical frameworks consistent with the object of study.

The research has been carried out in two phases: qualitative, with in-depth interviews and a focus group with representatives of the three parties involved in the CF process (promoters, platforms, investors), and quantitative, an investor survey of the largest CF platform in Spain (Lánzanos). The empirical framework of analysis is based on structural equation modelling (SEM), as most of the relationships proposed in the hypothesis involve latent variables or constructs.

Regarding the above objective, the paper is structured as follows. It begins with a review of the literature on adoption of innovations, which extends to other frameworks of analysis that reflect the specificity of the CF as a type of electronic commerce, and as a community of participants. Hence, we derive the variables and determinants with a potential impact on the decision to adopt the ECF, which make up the model proposed in this paper, and which is tested through quantitative research.

## **THEORETICAL BACKGROUND**

The theoretical framework of this paper uses widely accepted models and theories in the literature that collect the different dimensions present in the reality of ECF: (1) It implies the adoption of a technological innovation; (2) The process is conducted on the Internet and in the field of electronic commerce; (3) As it is an equity CF, we must consider its connections with the financing of start-up venture projects; (4) It is a social phenomenon by nature, in which the role of the community is relevant for its success. The essential theoretical foundations are then developed from each of these four dimensions, in order to propose an integral and holistic model of ECF adoption.

## Literature Review on Adoption of Technology Process and Influencing Factors

The predominant novelty of equity crowdfunding, together with the technology element, determines the main stream of literature analyzed in relation to the adoption of innovations, where the Technology Adoption Model (TAM) (Davis, 1989) and the Diffusion of Innovations Theory (Rogers, 2010) are prevalent.

TAM posits that Attitude is influenced by Perceived Usefulness (PU) and Perceived Ease of Use (PEOU), where PU is “*the degree to which a person believes that using a particular system would enhance his or her job performance*”, and PEOU “*the degree to which a person believes that using a particular system would be free of effort*” (Davis, 1989, p. 320). In addition, PU has a direct influence on behavioral intention.

At a later stage of its development, TAM evolved by disaggregating the factors that influence PU, since it was found to be the variable with a greater impact on intention. Simultaneously, TRA’s subjective norm was incorporated after being absent from the initial TAM, due to difficulties in assessing its direct and indirect effects on intention (Davis *et al.*, 1989). This modified version of the TAM, commonly identified as TAM2, also incorporates the effect of voluntariness on the intention to use, especially in cases of mandatory adoption, as well as the effect of the experience over time. Finally, with the purpose to improve its actionability, detailed determinants of PEOU were included, together with the influence over time that experience with a system has, as a mediator between some of these variables and the perceived ease of use. The result is the so-called TAM3 model (Venkatesh, Bala, 2008), which will be the basis of the model in this paper to capture the innovation adoption components that investing in ECF implies for RCF funders.

A main reason for selecting TAM is that this model has been applied extensively and is a mature and recognized framework that consistently explains around 40% of the variance in individuals’ intention and behavior to use IT (Venkatesh, Davis, 2000). Furthermore, in the online financial services arena where ECF lies, TAM appears to be superior to the TPB and the TRA in explaining behavioral intention and actual use (Yousafzai *et al.*, 2010).

TAM3 will be useful in the elaboration of the model object of this paper by means of the PU and PEOU constructs, whose antecedents will be adapted to the ECF context as follows:

- Since CF is conducted in an out-of-work context, TAM variables related to the professional setting, such as mandatory and job relevance, will be excluded.

- TAM variables and first-level constructs will be adapted to the closest possible environment to CF, which is e-commerce, due to the low availability of CF literature.

## Trust in the Context of E-Commerce

Trust is considered to be the main deterrent to participating even in low risk activities such as RCF campaigns, which are considered as the “soft side” of CF (Gerber, Hui, 2013). Even more, trust is relevant in equity projects due to the risk involved in this type of CF, since funders may lose the amounts provided. For this reason, ECF is considered as the “hard side” of CF, together with lending.

Trust has emerged as a core component in the explanation of e-commerce adoption from the start, and ECF is contemplated as a type of e-commerce where the shop is the CF platform and the product purchased is a share in the project. In this regard, the lack of a bricks-and-mortar facility implies the assumption of risk since “*the shop is unknown, the shop owners are unknown, the quality of the product is unknown, and the settlement performance is unknown*” (Van der Heijden *et al.*, 2003, p. 42). Moreover, in the case of ECF, a double risk is implied and therefore double trust is required: first in the platform (the virtual shop), and then in the project. Subsequently, trust needs to be built towards both entities.

In search of factors that determine trust in the e-commerce context Kim *et al.* (2004), consider the situation when a consumer conducts a purchase from an online vendor for the first time, which could be analogous to contributing to a first CF campaign. For the authors, a lack of physical presence between consumer and supplier influences trust as a critical concern. In this context, the two constructs that most affect trust are the information available about the supplier, and his or her reputation. In our ECF model we consider both components in the quality and operational competence constructs respectively.

Due to the increasing popularization of internet stores, the need to consider the trust component has been acknowledged by academics. Models that intend to explain the adoption of e-commerce are often built by incorporating trust as a main component of TAM, even with a stronger effect on the outcome than PU and PEOU (Pavlou, 2003; Chircu *et al.*, 2000; Gefen *et al.*, 2003; Jarvenpaa *et al.*, 1999; Van der Heijden *et al.*, 2003; Savolainen, 2016; Zheng *et al.*, 2016; McKnight *et al.*, 2002)

## Early Stage Venture Funding

The second type of risk assumed by ECF funders rests on consideration of the ECF project as a start-up venture with the risk associated with these early stage investments. From the funders' perspective, this profitability component to some extent underlies all the interviews carried out for this research, in that a return on investment was the only motivation for one interviewee in this research, who had built a portfolio of ECF projects as the only financial source for his retirement.

The revised literature on financial constraints in the decision to invest in ECF highlights a lack of agreement about the extent to which ECF funders follow profitability-related criteria similar to business angels and venture capitalists. On the one hand, existing literature indicates that, in the case of RCF investors, immaterial criteria prevail, while ECF funders are mainly guided by financial reasons (Hemer, 2011; Collins, Pierrakis, 2012). On the other hand, papers like Cholakova and Clarysse (2015) posit that the fact of being guided by profitability does not imply a reduction of funds previously assigned to RCF (that is to say, there is no crowding out), since the total amount pledged ends up being larger and dedicated to both RCF and ECF.

With opposite results, Lukkarinen *et al.* (2016), in trying to ascertain the decision criteria of ECF funders, find that they follow non-financial criteria more similar to those of other CF types, unlike what happens with more professional BA and VC investors. In this case, the type of funder selected may have influenced the choice of motives since, despite being ECF funders, 86% of them had only participated in one campaign, which may imply a lower level of sophistication in comparison with the aforementioned studies.

Therefore, the project quality components (management, supporters and innovativeness) will be incorporated into our proposed model as antecedents of the trust construct for testing, as we will discuss later.

## Empathy and the Role of the Community

In addition to the technological adoption, trust and financial aspects, CF implies a strong social perspective that is incorporated into the present model. By analyzing this component, we will try to find out to what extent the community element is also present in ECF and, if positive, which are its driving factors.

Empathy-related motives are extensively acknowledged as the main reason behind contributing to RCF campaigns (Collins, Pierrakis, 2012; Hemer, 2011; Gerber, Hui, 2013). The self-determination theory categorizes these drivers as intrinsic, since they are intimately originated by individuals and

are different to the extrinsic ones analyzed in the previous section (Deci, Ryan, 1985).

By applying the theoretical model of consumption value (Sweeny, Soutar, (2001), Harms (2007), this identifies a comprehensive list of affinity-related motives that influence funders and will be analyzed in detail in the discussion about components of the proposed model in the next section.

Affinity-related motives are connected to innovator-related theories like that of lead users (Von Hippel, 1986), early adopters (Rogers, 2010) and personal innovativeness (Agarwal, Prasad, 1998). The social component of affinity is closely connected with herding behavior in a manner that will be analyzed in the discussion about the social influence construct.

The literature review conducted about CF motives has identified a wide variety of empathy-related reasons for supporting CF campaigns that can be grouped in two main areas: affinity with the promoter and affinity with the project. Their analysis and influence on intention will be studied in the following section, where research hypotheses are formulated.

## Proposed Model and Hypothesis

The selected foundation for the theoretical framework of this research is the literature on adoption of technological innovations, in particular the TAM model. From this foundation, components about the influence of trust in e-commerce, start-up investment and crowdfunding have been added.

The basis for the proposed model is TAM3 (Venkatesh, Bala, 2008) since this theory has been applied extensively with satisfactory explanatory power. Even though TAM is an intention-based model, the correlation between intention and behavior is widely documented in academic literature (Karahanna *et al.*, 1999; McKnight *et al.*, 2002).

Throughout this section, we will review each one of the variables that constitute the adoption model proposed in this thesis. For each of them, relevant references are included that demonstrate the validity of these factors in analyzing the adoption of new technologies, as well as their potential application to RCF and ECF. Table 1 summarizes the factors finally selected with the main bibliographical references that support their choice.

All the existing literature about the TAM model in the online context where ECF operates and that has been reviewed in the previous section allows us to state that the constructs PU and PEOU have been extensively acknowledged to have a direct positive effect on intention (King, He, 2006; Perea *et al.*, 2004). The first two hypotheses are formulated in accordance with this:

Table 1 – Summary of constructs and their antecedents that compose the ECF model, plus their main references

Constructs	Antecedents	Authors
USEFULNESS	Profitability	Agrawal <i>et al.</i> (2014); Collins, Pierrakis (2012); Cholakova, Clarysse (2015); Gerber, Hui (2013); Konana, Balasubramanian (2005); Lukkarinen <i>et al.</i> (2016); Ordanini (2011); Deci, Ryan (1985); Bhattacharjee (2000)
	Social Influence	Hahn, Lee (2013); Harms (2007); Kim, Viswanathan (2014); Kuppusswamy, Bayus (2013); Lin <i>et al.</i> (2014); Savolainen (2016); Ward, Ramachandran (2010); Xu <i>et al.</i> (2014); Fishbein, Ajzen (1975); Venkatesh, Davis (2000); Venkatesh, Bala (2008); Von Hippel (1986); Sun (2013); Fischer <i>et al.</i> (2011)
	Investment Strategy	Ahlers <i>et al.</i> (2015); Cholakova, Clarysse (2015); Konana, Balasubramanian (2005); Deci, Ryan (1985); Michael (2009); Epstein, Schmeddler (2008)
EASE OF USE	Knowledge	Compeau, Higgins (1995); Brush, Artz (1999); Bandura (1978); Taylor, Todd (1995); Barber, Odean (2001a, 2001b); Fischhoff <i>et al.</i> (1977)
	Operational competence	Konana, Balasubramanian (2005); Savolainen (2016); Konana <i>et al.</i> (2000); Parasuraman <i>et al.</i> (1988); Berry <i>et al.</i> (2002); Venkatesh (2000); Balasubramanian <i>et al.</i> (2003); Kim <i>et al.</i> (2004)
	Convenience	Konana, Balasubramanian (2005); Berry <i>et al.</i> (2002); Bateson (1985); Meuter <i>et al.</i> (2000); Rayport, Sviokia (1995)
	Playfulness	Harms (2007); Jarvenpaa, Todd (1997); Rice (1997); Eighmey, McCord (1998); Perea <i>et al.</i> (2004); Venkatesh (2000); Davis (1992)
TRUST	Protection	Agrawal <i>et al.</i> (2014); Balasubramanian <i>et al.</i> (2003); McKnight <i>et al.</i> (2002); Saphiro (1987); McAllister (1995); Zeithalm <i>et al.</i> (2000)
	Quality	Ahlers <i>et al.</i> (2015); Lin <i>et al.</i> (2014); Lukkarinen <i>et al.</i> (2016); Mollick (2012); Moritz <i>et al.</i> (2015); Zheng <i>et al.</i> (2016); Balakrishnan, Koza (1993); Spence (1973); Franke, Gruber (2008); Fried, Hisrich (1994); Shepherd (1999); Beckman <i>et al.</i> (2007); Baum, Silverman (2004); Lukkarinen (2016)
	Resources	Konana, Balasubramanian (2005); Savolainen (2016); Venkatesh <i>et al.</i> (2003)
EMPATHY	Affinity with project	Agrawal <i>et al.</i> (2014); An <i>et al.</i> (2014); Collins, Perrakis (2012); Gerber, Hui (2013); Harms (2007); Hemer (2011); Schvienbacher, Larralde (2010); Ordanini (2011); Deci, Ryan (1985); Rogers (2010); Agrawal, Prasad (1998)
	Affinity with creator	Agrawal <i>et al.</i> (2014); Collins, Perrakis (2012); Gerber, Hui (2013); Giudici <i>et al.</i> (2013); Harms (2007); Lukkarinen <i>et al.</i> (2016); Zheng <i>et al.</i> (2016); Adler, Kwon (2002)
PERSONAL INNOVATIVENESS		Arts <i>et al.</i> (2011); Limayem <i>et al.</i> (2000); Kaushik, Rahman (2014)

*Hypothesis 1:* Perceived usefulness (PU) has a direct positive impact on intention.

*Hypothesis 2:* Perceived ease of use (PEOU) has a direct positive impact on intention.

In the same way and according to the previous references, the positive influence of the trust construct on e-commerce purchase intention is widely documented in academic papers (Gefen *et al.*, 2003; Pavlou, 2003), which allows us to outline the following hypothesis:

*Hypothesis 3:* Trust has a direct positive impact on intention.

Despite the novelty of CF as a phenomenon and the scarce academic literature about this subject, the empathy construct is posited as an antecedent of intention in numerous papers (Collins, Perrakis, 2012; Gerber, Hui, 2013; Harms, 2007; Hemer, 2011; Lukkarinen *et al.*, 2016). Therefore, the following hypothesis is formulated:

*Hypothesis 4:* Empathy has a direct positive impact on intention.

The relevance that the personal innovativeness of the CF investor can have in motivating the transition from the reward modality to the equity one has been indirectly raised in previous sections insofar as it reflects the

level of empathy and the affinity with the project in which he/she decides to participate.

Nonetheless, certain works take it as a psychographic characteristic of the potential adopter that can act as a powerful driver of both the intention to adopt and the behavior that is finally realized. Defined as “*the general propensity of a consumer to adopt new products*”, it is collected in Arts *et al.* (2011, p. 136) as one of the determining variables in the consumer’s decision to adopt new products and services. The results of this work reinforce its significant positive impact on the intention to adopt and, to a lesser extent but equally significant, on the subsequent behaviour. Limayen *et al.* (2000) reached similar conclusions. In their research related to the factors affecting online shopping, the results provide strong support for the positive effects of personal innovativeness on attitude and intentions to shop online.

However, a clear unanimity among the authors does not seem to exist in relation to the explicit importance that innovativeness has had in the literature on intention and behavior of adoption. On the one hand, Kaushik and Rahman (2014), in their literature review on the innovative propensity of the consumer, recognize the existence of a category of jobs oriented to establishing the relation between innovation adoption behavior constructs and innovativeness. On the other hand, “*the role of consumers’ innovativeness has not been investigated despite its importance. Personal innovativeness was found to transform consumer actions from static, routinized purchasing to dynamic and continually changing behavior*” (Limayen *et al.*, 2000, p. 422). From this perspective, a theoretical contribution of potential relevance can be its explicit inclusion in the model of adoption intention of this paper.

According to this, a final hypothesis is formulated as follows:

*Hypothesis 5: Personal innovativeness has a direct positive impact on intention.*

For each of the above constructs, the literature has identified antecedent factors, some of which have been anticipated in previous epigraphs and are now discussed in detail.

### ***Profitability***

Profitability is the result that funders expect to obtain in exchange for their contribution to the campaign. It can either take the shape of a product or similar in the case of RCF or financial returns for ECF.

RCF sponsors in general expect to obtain rewards such as the pre-purchase of an item, before it is sold to the mainstream. This often implies a higher cost when compared with the market price due to the early stage of the production, the extra price that they are willing to pay being based on

the value assigned to this early possession (Gerber, Hui, 2013). The return can also be something different than the item produced in the RCF project, such as being mentioned in the credits of a movie, meeting the creator, or receiving a T-shirt with the campaign logo. In any case, RCF funders obtain the benefit of recognition, either tangible or intangible.

RCF rewards are considered as intrinsic motivators originated from the individual's inner beliefs. However, in the case of ECF, financial profitability is acknowledged as an extrinsic motivation in the sense that it is provided to the consumer from the outside (Deci, Ryan, 1985).

In the case of ECF, it is widely assumed that extrinsic motivation in the form of a return on investment is amongst the main drivers for investors (Collins, Perrakis, 2012; Ordanini, 2011; Bhattacharjee, 2000). However, according to Lukkerinen *et al.* (2016) it might not exclude intrinsic motivators, since in the case of amateur ECF backers, other factors related to the campaign characteristics and to the community may be more influential than monetary profit.

The main purpose of this research effort is to unveil the extent to which these extrinsic motivations influence the intention of RCF sponsors to the point of funding ECF campaigns, and what is the interaction with RCF motives. Research from Cholakova and Clarysse (2015) posits that both are compatible and even reinforcing since when there is an offer to ECF investors to support RCF campaigns, they ended up funding both.

Thanks to ECF, non-experienced investors can participate in ventures previously restricted to the professionals (Agarwal *et al.*, 2014). Furthermore, ECF enables amateur investors to dedicate a portion of their savings portfolio to this type of financial asset, considered as risky (Konana, Balasubramanian, 2005). Accordingly, it can be expected that the expected return has a direct positive impact on perceived usefulness.

### **Social Influence**

Social influence captures the essence of subjective norm from the TAM3 model: "*The degree to which an individual perceives that most people who are important to him think he should or should not use the system*" (Ajzen, Fishbein, 1975; Venkatesh, Davis, 2000). According to TAM3, social refers not only to the consideration of others' opinion about the new technology but also the influence that it may have in enhancing one's image (Venkatesh, Bala, 2008).

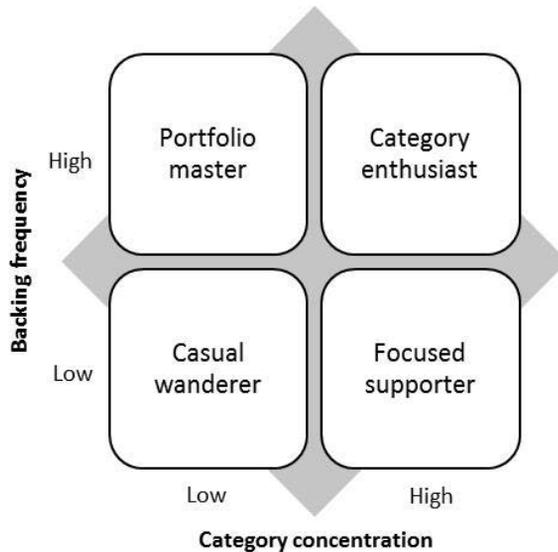
In the context of ECF, potential funders face a new model and therefore their decision implies a higher risk than in a business as usual situation. As a consequence, they seek opinions from others as inputs that reduce

uncertainty and help them in making an informed decision. Influences may come from peers (interpersonal influences) and also from external sources, the latter by means of social networks or other mass media (Savolainen, 2016).

For individuals, ECF is a way to access a superior class of innovators (Harms, 2007), that is being peers with early adopters in the sense of visionaries from Von Hippel's lead users (1986), since at this early stage, ECF is only accessible to financial minorities. In addition, participating in an ECF campaign provides access to deals that were only accessible to experts in the past, therefore reinforcing the feeling of belonging to an elite and enhancing one's own perception.

Furthermore, in the context of technology adoption, social image is deeply connected to herding behavior, with some differences acknowledged by Sun (2013). Notwithstanding the scarce literature available, the herding behavior of potential contributors has been analyzed by academics in the context of crowdfunding. Kim and Viswanathan (2014) analyze the influence of experienced investors on amateurs in the case of platforms where both coexist. From the perspective of the diffusion of responsibility effects (Fischer *et al.*, 2011), Kuppuswamy and Bayus (2013) posit the influence of previous donations in crowdfunder's behavior in the sense of not contributing if they believe their money is not needed or, in contrast, pledging

Figure 1 – Typology of crowdfunders



at the end of the campaign when the goal is not being reached. Ward and Ramachandran (2010) use the case of an RCF platform Sellaband to illustrate how peer information drives the success of CF campaigns to a greater extent than other variables. In the case of Xu *et al.* (2014) the authors demonstrate how using certain words in communications during the campaign contributes to increasing pledges.

Some authors even identify clusters of funders that behave and influence in a distinctive manner: Lin *et al.* (2014) identify active backers, trend followers, the altruistic, and the crowd. Hahn and Lee (2013, p. 7) acknowledge differences among funders that influence their pledging strategies and propose a framework that classifies them into four distinctive types (see Figure 1). The combination of the two dimensions of this classification not only informs who the individual backer is but also socially influences other backers.

### ***Investment Strategy***

Getting involved in an ECF campaign no longer implies just providing funds to get a reward, as is the case with RCF. Decisions about the investment strategy in the ECF context involve a process with a strong extrinsic rational component, as per Deci and Ryan (1985).

The rational process would be as follows: an individual determines what part of his/her income he/she wants to dedicate to each goal: current expenses, investments, others. Within the investment portfolio, a decision needs to be made about allocation of funds, depending on the individual risk tolerance that is specific to each person (Cholakova and Clarysse, 2015). ECF projects emerge as a new alternative to listed stock within the higher risk investments class. The result of this rational process is a decision about the amount to be invested and a search within ECF platforms for campaigns that meet the individual's requirements.

In the past it was impossible for this process to be conducted without the help of a financial adviser in a face-to-face activity. This changed thanks to the technology that empowered private customers by allowing them to perform operations remotely. This evolution that occurred in the 1990s gave way to the explosion in online investing, with customers gathering the necessary information to make investment decisions by themselves. The model of Konana and Balasubramanian (2005) sets out the issues that individual investors consider when making an investment decision. For the purpose of the model built in this research, and due to the scarce existing literature, these variables are incorporated due to the similarity between both phenomena.

To what extent is participation in ECF projects the result of a rational process of managing the investment portfolio, as in the case of the interviewee

funder mentioned above, who intends to live on the expected returns during retirement? Or, at the opposite extreme, is it the result of a non-planned opportunistic decision? To what extent does the funder use ECF as a vehicle to manage his investment portfolio in search of rational efficiency?

Return is a component that influences the rational decision to contribute to a CF Project. For its assessment funders must obtain information about the expected cash flows of the venture. However, an information asymmetry exists when compared to the information that the creator possesses.

To reduce the asymmetry of information in relation to the creator and evaluate the potential of the business, the potential funder needs to have the numbers of the business plan: assumptions and results. If financial projections are attractive, investors will be encouraged to invest, but even the mere fact of having detailed projections is already considered to be a positive signal about the potential of the venture (Michael, 2009; Epstein, Schneider 2008). It could be said that in evaluating the financial projections, the amateur funder approaches the BA and VC criterion, although it is known that it is not the fundamental criterion used by these agents since, due to the early stage of the business, they prioritize the quality aspects and are therefore collected as components of the trust construct in another part of the proposed model (Ahlers *et al.*, 2015).

### **Knowledge**

Knowledge refers to TAM's self-efficacy concept: "*the degree to which an individual believes that he or she has the ability to perform a specific task/job using the computer*" (Compeau, Higgins, 1995, p. 190). In the TAM model it is one of the constructs called "anchors", which is an antecedent of PEOU.

In the context of ECF, self-efficacy implies having minimal notions, not only about technology but also finance, legal and operational matters related to understanding how to evaluate the return of the investment, assess exit conditions and interpret the drag coefficients in contracts. In an analogous way to online trading, investing in ECF requires a preparedness superior to other e-commerce activities (Brush, Artz, 1999). Interestingly enough, a common characteristic amongst the funders interviewed, both RCF and ECF ones, is that all of them had an acceptable level of knowledge in all these areas, even in the case of those whose main reason to contribute to the campaign was their personal relationship with the creator. This might reinforce the assumption about the need for knowledge as a basic requirement for funding.

The concept of self-efficacy – originated in the social cognitive theory – posits that the perception of an individual about his ability to perform

a task determines the final outcome (Bandura, 1978). In the decomposed Theory of Planned Behavior (DTPB) self-efficacy represents the internal control that, together with the external control, determines perceived behavioral control which subsequently influences intention (Taylor, Todd, 1995). In a situation of assessing the capacity to use a new model, such as ECF, the only perception one has is the internal self-assessment about the capability to conduct it. In the present research, and after having previously pledged to RCF campaigns, will the funders consider themselves qualified enough to operate in ECF or, on the contrary, will they think that the new model is too complicated for them? To what extent will this self-assessment affect their perception about the ease of use of ECF?

Dealing with individuals who have operated independently in at least one RCF campaign, one might assume that they would convey some confidence in their ability to perform innovative tasks.

Using the analogy of online investors, research postulates that after having spent time and effort collecting information to make a decision, funders consider that their knowledge is superior to what it objectively is (Barber, Odean, 2001a). Likewise, it is possible that backers consider that their valuation of the projects is superior to that conducted by others, termed overconfidence and posited by academics to happen to inexperienced investors (Barber, Odean, 2001b; Fischhoff *et al.*, 1977).

### ***Operational competence***

Operational competence refers to the ability of the ECF platform to conduct the transaction in a timely and error free manner while providing punctual information about the results (Konana *et al.*, 2000). It is captured in the reliability item of the service quality SERVQUAL model (Parasuraman *et al.*, 1988), and is also a component of the service transaction convenience construct, as considered by Berry *et al.* (2002).

In the TAM model this variable is partially captured by the construct objective usability and evaluated by measuring the time required to perform certain activity (Venkatesh, Davis, 2000). Even though objective usability in TAM is an antecedent of usefulness, this is not always the case since it precedes trust in other occasions, such as Savolainen (2016). Furthermore, in this paper the relevance of time and effectiveness implied by ECF investment made us place operational competence as an antecedent of ease of use that ends up being the most influential construct.

Operational competence is a key component in the provision of financial services, due to the monetary implications of small errors, in particular

when dealing with large transaction volumes. Effectiveness is also the reason why individuals move from face to face to online channels, since they can conduct the same transactions with the same or higher level of accuracy in a remote manner (Konana, Balasubramanian, 2005). In this context the goal of the ECF platform is to provide funders with a perceived experience of operational excellence, even though the underlying processes might be imperfect (Balasubramanian *et al.*, 2003). For Kim *et al.* (2004), and in the case of e-commerce, the ability of the supplier, in this case the CF platform, to carry out operations with high levels of quality is a factor that especially influences the loyalty of customers and their satisfaction, although in the model of potential customers this is not significant.

Even though ECF potential funders are willing to operate in a self-service environment without personal support, ensuring ease of use through operational competence of the platform might be a prerequisite whose magnitude is tested in this research.

### ***Convenience***

This construct captures the concept of access convenience stated by Berry: “Access convenience involves consumers’ perceived time and effort expenditures to initiate service delivery. It involves consumers’ required actions to request service and, if necessary, be available to receive it” (Berry *et al.*, 2002).

In financial services, individuals who operate in a self-service environment value the lack of personnel involvement that makes customers independent of the supplier’s open hours (Bateson, 1985; Ding *et al.*, 2007). It is also one of the key motivators for the growth of self-service technologies (Meuter *et al.*, 2000) and a key driver of customer satisfaction with online services (Rayport, Sviokla, 1995).

In the online investment context, convenience is the ability to conduct transactions at the time, from the place, and using the desired devices, without the need to be concerned about the financial advisors open hours. Some online investors value their convenience to the point of feeling that it is inconvenient to deal with persons (Konana, Balasubramanian, 2005).

### ***Playfulness***

Playfulness captures the feeling of enjoyment inspired by contributing to an ECF campaign before, during and after the transaction. This intrinsic motivation emerged in most interviews conducted during this research in different forms: the fun of learning about new companies, enjoying a free flight, attending a concert, or becoming familiar with vineyards in the northwest of

Spain. In a similar vein, when applied to CF, Harms (2007) refers to enjoyment as an attribute that is part of emotional value, and is captured in the conversations among participants of online newsgroups.

In the e-commerce arena, enjoyment is a determinant of customer loyalty. Jarvenpaa, Todd 1997; Rice 1997; Eighmey, McCord 1998; Perea y Monsuwé *et al.*, 2004 identify three manifestations of the enjoyment construct: escapism, in the sense of flow; pleasure, related to having fun; and arousal, that is connected to feeling stimulated during the activity.

In the proposed model, playfulness reflects the meaning of the perceived enjoyment construct in TAM, that is, “*the extent to which the activity of using a specific system is perceived to be enjoyable in its own right, aside from any performance consequences resulting from system use*” (Venkatesh, 2000, p. 351). It is an intrinsic motivation that influences consumers when using a system by increasing the perception about ease of use (Davis *et al.*, 1992). Also in the TAM model, the effect of a systems’ perceived enjoyment arises when used, thus being an adjustment factor.

Moreover, the playfulness construct in the proposed model captures part of the significance of TAM’s computer playfulness, that is, the degree of cognitive spontaneity in microcomputer interactions (Martocchio, Webster, 1992). This anchor motive precedes the use of a system and deals with the expected enjoyment that a user will experience, which subsequently positively influences its perceived ease of use.

### **Protection**

Protection of potential funders is an essential element for ECF, due to the potential loss of all their investment, in particular after the damage that occurred in the financial crisis in the first decade of this century. Not surprisingly, legislators have taken a substantial amount of time to approve the ECF legislation after having passed RCF laws. However, even though the reputation of large financial institutions suffered as a result of misconduct, moving to operate through a crowdfunding platform implies a substantial risk, since both these fintech companies and their managers lack a track record in the activity.

The protection construct deals with the environmental security that ECF contributors expect to experience (Balasubramanian *et al.*, 2003). This institution-based trust includes structural assurance – the feeling that an institution exists that supervises financial intermediaries to ensure consumer safeguards (McKnight *et al.*, 2002). Social/institutional safeguards refers to the role played by institutions such as the Securities and Exchange Commission (SEC) and the various stock exchanges in prescribing minimum

performance standards, monitoring performance levels, and punishing sub-standard performance and fraud (Saphiro, 1987).

In their analysis of the major disincentives to participate in a CF campaign, Agrawal *et al.*, (2014) identify fraud as one of the most relevant: when operating in an independent environment individuals might be victims of manipulation or false information which might be aggravated by their performing inadequate due diligence in an attempt to avoid costs.

Protection emerges as a relevant factor for ECF, due to the fact that this activity is conducted in a setting with no personal contact (McAllister, 1995) and consumers are poorly prepared to assess the service and operational quality received (Zeithaml *et al.*, 2000).

As a result, the protection construct proposed for the present model incorporates an expectation of good practice from the ECF platform in the form of fair price and information accessibility; it also includes trust in the system in the form of financial institutions and regulatory bodies (Balasubramanian *et al.*, 2003). McKnight *et al.*, (2002) consider them as institutional-based trust and trusting beliefs that influence intention and precede behavior.

### **Quality**

Potential ECF funders must feel that they have a double trust: in the platform and in the project; the first was analyzed under the protection construct, while the second will be analyzed under the quality construct.

Potential ECF funders must assess the quality of the venture in order to make a decision about its attractiveness prior to pledging funds. In order to overcome information asymmetry (Balakrishnan, Koza, 1993) they will look for signals that provide us with clues (Spence, 1973). Business angels and venture capitalists who invest in a regular manner use indicators related to the management team's experience, as well as to the value of the product (Lukkarinen *et al.*, 2016). Ahlers *et al.*, (2015) posit three types of signals related to the quality of ECF projects: management quality (human capital), backer quality (social capital), and products/service quality (intellectual capital).

Regarding management quality, a number of papers identify this factor as a valid signal for business angels and venture capitalists: educational degrees and past performance of the management team appears as the best indicator for future success (Franke *et al.*, 2008; Fried, Hisrich, 1994; Shepherd, 1999; Mollick, 2012; Burton *et al.*, 2002; Beckman *et al.*, 2007).

The quality of the backers that support ECF projects is assessed by their social capital (Baum, Silverman, 2004), which is partially connected to

herding behavior. Interestingly enough, indirect recommendations of campaigns are more appreciated by potential funders than direct ones from entrepreneurs towards possible backers. Moritz *et al.*, (2015) posit that third party endorsements to a great extent influence the decision in ECF ventures, while Zheng *et al.*, (2016) postulate in a similar manner in the case of RCF projects. Along the same lines, Lukkarinen (2016) acknowledges the influence of private and public networks in the decisions of ECF funders.

Opinions by third parties are considered differently. Lin *et al.* (2014) identify clusters among Kickstarter funders that behave differently from one another, after having observed the pledging activity of members from a different cluster: active backers, trend followers, altruistic and the crowd. Moreover, when dealing with investors who are also experts in an application development CF platform, potential contributors consider the opinion of developer investors for concept apps, while that of experienced investors is more valued in the case of live apps that are further forward in their life cycle.

### **Resources**

Resources represent the necessary means that funders need to possess in order to conduct the ECF activity. In the TAM model this construct is represented by facilitating conditions: “*The degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system*” (Venkatesh *et al.* 2003, p. 453)

In the do-it-yourself environment where ECF funders operate, individuals enjoy the feeling of independence, but at the same time must ensure that all resources needed are available to them (Konana, Balasubramanian, 2005). In that context, the requirements are essentially computers and funds: the first to access the ECF platform, and the second to be able to invest. The monetary resources are more relevant than in RCF, due to the fact that the return will be obtained at a later moment in time, and also because the amounts needed might be higher than in the case of RCF. In the technology component, having the necessary means to access online is the only requirement (Savolainen, 2016).

### **Affinity with project**

The affinity of potential funders with the project involved in a CF campaign is in the internal nature of CF and deals with the intrinsic motives of the individual to do things, in line with the self-determination theory (Deci, Ryan, 1985). In one interview conducted for this paper, that reason emerged in the shape of a desire to see a movie made a reality without needing banks, and allowing the author to maintain the control of the creative project.

The idea of funders supporting projects with which they identify for non-financial reasons has been represented in the CF literature since its early stages (Collins, Perrakis, 2012; Hemer, 2011), even more intensively in the case of frequent investors (An *et al.*, 2014).

Affinity with the project cause relates to supporting a venture that matches the funder's inner beliefs, while he/she might also feel good about allowing the creator to keep control of her project (Gerber, Hui, 2013). It also implies a functional value in the form of being able to obtain a reward desired by the funder, or to allow contributors the social value implied to self-express, and even an epistemic value of learning about something new by being involved in the project (Harms, 2007).

All the above-mentioned motivations move potential funders to contribute to the project in shapes that are additional to the monetary dimension, such as providing their expertise (Schwienbacher, Larralde, 2010), or even providing funds but not demanding the promised reward in exchange (Gerber, Hui, 2013).

An additional dimension of the affinity with the project is the desire of funders to be innovators, in line with lead users from Von Hippel (1986), Rogers' early adopters (2010), and personal innovativeness (Agrawal, Prasad, 1998). Ordanini identifies "*to be engaged in innovative behavior*" as the aspiration common to most CF contributors (Ordanini *et al.*, 2011). Agrawal *et al.* (2014) posit that being involved in a CF campaign allows funders to combine access to products of which they are a fan before others, while contributing to creating value for the projects by aligning his aspirations with those of the venture.

### ***Affinity with promoter***

Affinity with promoters is acknowledged as a reason for supporting RCF campaigns (Collins, Perrakis, 2012); and this research tries to figure out to what extent it is also a driver in ECF. Individuals like to feel part of a community of peer investors because it allows them to feel how they can help other, who need it as a positive emotion of being altruistic (Harms, 2007). Persons that are close to creators acknowledge the effort that it implies, and therefore like to support their peers with the aim of feeling part of its success, in fact CF serves as an operational infrastructure to channel the monetary support of backers (Gerber, Hui, 2013). In the interviews conducted for this research, the affinity of backers had the form of family (L'Inégalité musical group), business acquaintance (Cepas de la Culebra wine) and friend (Mensaje post-itivo movie).

Technology supports the peer support goal by reducing geographical barriers, thus allowing creators to obtain funds from members well beyond their community (Agrawal *et al.*, 2014). As an example, the Vortex project, whose management was interviewed for this paper, was published in the US platform Indiegogo and obtained funds from both sides of the Atlantic, thanks to the geographical reach of the CF platform.

In the case of friends, their support for CF projects goes beyond their monetary support, since their contributions in the early stages of campaigns are perceived as positive signals about the quality of the venture, which subsequently activates other backers (Agrawal *et al.*, 2014).

The influence of the peer group is such that a creator's social capital is linked to the success of the CF campaign (Giudici *et al.*, 2013). Social capital is defined as “*the goodwill available to her/him from the structure and content of his/her social relations*” (Adler, Kwon, 2002). The affinity with the promoter component in ECF campaigns is materialized in communications provided in private and public networks, which are one of the main drivers of funding in this type of projects (Lukkarinen, 2016). Furthermore, indirect communications from creators to potential funders are more effective than direct ones (Zheng *et al.*, 2016).

## METHODOLOGICAL ISSUES

The discussion highlighted in the theoretical framework has allowed us to suggest the model represented in Figure 2, which underlies the following relationships between factors and adoption decision:

Hypothesis 1: Perceived usefulness (PU) has a direct positive impact on intention.

Hypothesis 2: Perceived ease of use (PEOU) has a direct positive impact on intention.

Hypothesis 3: Trust has a direct positive impact on intention.

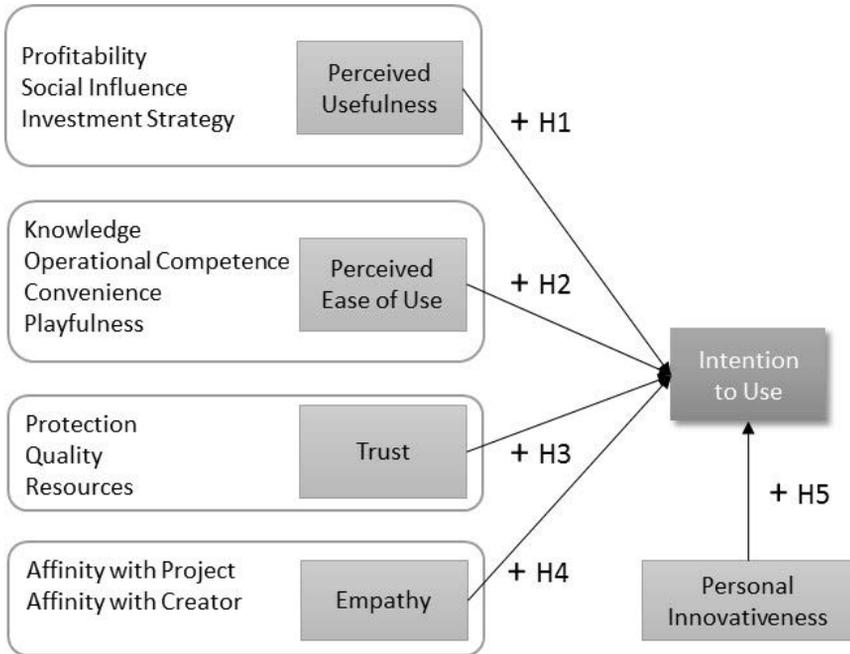
Hypothesis 4: Empathy has a direct positive impact on intention.

Hypothesis 5: Personal innovativeness has a direct positive impact on intention.

### Data and Sample

Data has been obtained by means of a questionnaire sent to a sample of 150,000 funders of Lánzanos, a Spanish RCF platform. The survey was

Figure 2 – Proposed Model and Hypothesis



submitted to the funders via an email presenting the research project and inviting participation online. The email was sent in two stages, during the summer of 2016.

The questionnaire is a combination of questions about the experience of the respondent with CF, his or her level of agreement with certain statements related to the intention to adopt ECF, the degree of personal innovativeness, and the profile of the interviewee. In some cases, the informant is required to evaluate the degree of agreement with statements related to the intention of adopting ECF by using a seven level Likert type scale. This scale is commonly utilized when assessing the intention to adopt a new technology (TAM), or online as a new channel to invest (Balasubramanian *et al.*, 2003).

The Appendix shows the items of the questionnaire grouped by the first level constructs (or antecedents) which are reflected.

A total of 328 valid questionnaires have been received, which means an answer rate of 0.22%. The final sample size, once incomplete questionnaires have been discarded, is n=241 respondents, which is the sample used in the model estimation.

## Empirical Model Estimation Strategy

As almost all the relationships proposed by the theoretical model, and almost all the hypotheses to be tested, involve latent variables, not directly observed, Structural Equations Modeling (SEM) has been used to estimate and test those hypotheses. The software used was Stata © v 13.0. A model evaluation was conducted in two steps: Evaluation of the measurement model and evaluation of the structural model (Anderson, Gerbing, 1988).

The measurement model involves the building of second order constructs (Perceived Ease of Use, Perceived Usefulness, Trust and Empathy) from many first order constructs (here also called “antecedents”). In each case, unidimensionality, reliability, and validity of the constructs have been assessed, with commonly employed measures (Cronbach’s alpha, AVE, among others).

The structural model establishes relationships between the second order constructs, and allows us to test the research hypothesis.

In order to achieve convergence in structural model parameters estimation, in some cases second order constructs have been replaced by their corresponding computed factor scores.

## Sample Description

Table 2 presents the main sociodemographic features of the estimation sample (n=241). It can be seen that the respondents were mostly male (79.7%) and highly educated, since 68.9% were graduates. Ages were concentrated in the 30s and 40s (65.5% of the total) in a percentage well above the Spanish population, where that age bracket accounts for 40% of the community (INE, 2011), and consistent with the profile of e-commerce users.

In addition, respondents exhibited a high intensity in their use of remote channels for banking purposes, as more than two thirds of them declared that they conduct 75% or more of their activity outside the branch. Regarding their economic situation, more than half of those polled declared that they make ends meet comfortably, while the rest claimed various degrees of difficulty.

Funders who had previously invested in CF declared that they had participated in between one and three projects, with more than half of them engaging in only one. The total amount dedicated to CF projects was €314 on average, which is 10% or less of their savings in most cases. This might indicate a) the incipient situation of CF as a novel investment mode and/or b) its perception as a moderate to high risk investment where the amount allocated is limited.

Table 2 – Sociodemographic descriptive (estimation sample n=241)

<b>Variable</b>		<b>%</b>
Age	<30	15.8
	31-39	34.4
	40-49	31.1
	50-59	14.1
	>60	4.6
Sex	Male	79.7
	Female	20.3
Employment status	Student	3.3
	Unemployed	9.5
	Self-employed	27.0
	Employed	57.7
	Retired	2.5
Education level	Student	4.1
	Graduate/post-graduate	68.9
	Undergraduate	27.0
Remote channels intensity	All activity in the branch	4.6
	25% or less remote banking	8.3
	25% - 75%	15.3
	75% - 99%	53.1
	All activity in remote channels	18.7
Economic situation (Facility / Difficulty to make ends meet)	Comfortably	57.2
	Tightly	33.2
	Sometimes I don't make it	7.5
	I don't usually make it	2.1

The first reason stated for investing in CF was due to an interest in the product / service / cause by 66.7% of the respondents. In comparison, supporting the project of a friend came in well below (21.7%), next was the connection with an acquaintance (6.6%) and finally, family (4.6%). These results may point towards two potential aspects, the first being the desire to contribute to CF as a means of belonging to a community of individuals who share interests (intrinsic motive), and the second as an interest in obtaining a return in the form of the product or service offered (extrinsic motive).

When assessing the experience of supporting CF projects, the answers were very diffuse, although most of them were positive, since 73% of the interviewees rated it between neutral and very good by choosing 4 to 6 in the 1-7 Likert scale.

## RESULTS

### Measurement Model

Internal consistency of the measures used in the model has been analyzed. To do this, the unidimensionality, reliability and validity of the proposed scales must be guaranteed.

Table 3 presents some widely used measures of reliability (i.e. all the indicators are measuring the same concept), and validity (i.e. the construct

Table 3 – Reliability and validity measures of antecedents (first order constructs) and constructs

Constructs	Antecedents (1st order constructs)	Reliability		Validity
		Cronbach's Alpha	Composite Reliability	AVE
Perceived Usefulness		0.705	0.730	0.481
	<i>Profitability</i>	0.845	0.849	0.654
	<i>Social Influence</i>	0.854	0.857	0.617
	<i>Investment Strategy</i>	0.641	0.749	0.508
Perceived Ease of Use		0.834	0.838	0.566
	<i>Knowledge</i>	0.889	0.909	0.715
	<i>Operational Competence</i>	0.895	0.896	0.741
	<i>Convenience</i>	0.944	0.940	0.759
	<i>Enjoy</i>	0.802	0.889	0.728
Trust		0.797	0.818	0.608
	<i>Protection</i>	0.825	0.772	0.540
	<i>Project Quality</i>	0.871	0.879	0.710
	<i>Resources</i>	0.766	0.867	0.685
Empathy		0.671	0.777	0.549
	<i>Affinity with Project</i>	0.811	0.895	0.74
	<i>Affinity with Creator</i>	0.833	0.915	0.781
Innovative Personality		0.743	0.798	0.548

is measuring what it is supposed to measure). The scales are considered to be mostly reliable, since the majority of Cronbach's alpha values and all the composite reliability ones were higher than 0.7 and 0.8 respectively. Furthermore, items loaded strongly and significantly on unique factors, thereby lending support to the unidimensionality of each construct. In addition, assessments of convergent and discriminant validity were undertaken, and the measurement model was found to be acceptable overall.

Additionally, a series of confirmatory factor analyses have been taken to determine the distinctiveness of the constructs Usefulness, Ease of Use, Trust, Empathy and Innovative Personality, given that there are some strong (>0.6) correlations among them, as is shown in Table 4. We compared the hypothesized five-construct measurement model with some alternative nested models, in which several factors were set to load on a single factor: a one-factor model (all of the hypothesized factors loading on a single underlying factor) and several models where pairs of highly correlated constructs were loaded on a single factor (i.e. the antecedents of Ease of Use and Trust were forced to load on a single factor). The goodness of fit of these all alternative models was significantly worse than that of the original model (tested as difference in two goodness of fit measures). Therefore, the five-factor model (Figure 2) explained the data better than the alternative models, supporting the five-construct discriminant validity.

### Structural Model

Table 5 presents the estimation results of the proposed model. The overall model fit statistics are within or close to the generally accepted thresholds for a good fit:  $\chi^2 = 33.262$  ( $p = 0.066$ ),  $\chi^2 / d.f. = 1.513$ , root mean squared error of approximation (RMSEA) = 0.046, with a probability of 0.541 of being lesser than 0.05, comparative fit index (CFI) = 0.986, Tucker – Lewis index (TLI) = 0.975. The coefficient of determination is 0.656. These

Table 4 – Descriptive statistics and correlation matrix of constructs

Constructs	Descriptives		Correlation matrix			
	mean	standard deviation	Perceived Usefulness	Perceived Ease of Use	Trust	Empathy
Perceived Usefulness	0	0.441	1			
Perceived Ease of Use	0	0.793	0.524*	1		
Trust	0	0.584	0.604*	0.708*	1	
Empathy	0	0.619	0.386*	0.526*	0.598*	1
Personal innovativeness	0	1.526	0.283*	0.422*	0.335*	0.170*

\* indicates significance at 1% level

Table 5 – Model 1 estimates

Parameter	Std.		t- ratio	p-value	Hypothesis	Result
	Estimate	error				
Perceived Usefulness->Intention to Use	0.244	0.055	4.38	0.000 ***	H1	Supported
Perceived Ease of Use->Intention to Use	0.462	0.060	7.62	0.000 ***	H2	Supported
Trust->Intention to Use	-0.073	0.070	-1.05	0.294	H3	Non supported
Empathy->Intention to Use	0.213	0.055	3.84	0.000 ***	H4	Supported
Personal innovativeness->Intention to Use	0.192	0.047	4.03	0.000 ***	H5	Supported
Experience->Intention to Use	0.032	0.048	0.66	0.506		
Age->Intention to Use	0.004	0.043	0.11	0.912		
Male->Intention to Use	0.058	0.044	1.33	0.184		
Graduate->Intention to Use	0.001	0.044	0.04	0.972		
On line banking intensity->Intention to Use	-0.066	0.044	-1.49	0.137		
Economic situation->Intention to Use	0.005	0.045	0.13	0.899		

\*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% level

Estimate values have been standardized for comparison purposes

results suggest that the model fits well and corresponds to a close representation of the population of interest. A residual analysis suggested no major threats to unidimensionality, given the non-significant number of absolute values above 2.58 (Jöreskog, Sörbom, 2001) and the absence of modification indices above 5.0 (Anderson, Gerbing, 1988). Turning now to the signs of the parameters representing the hypotheses incorporated in the model, the results of the test of the structural model indicate that all signs of the associations between second order constructs in the model under analysis were in accordance with hypothesized relationships. One exception to this behavior is identified: H2, which establishes a direct relationship between level of trust and intention to use, which is not empirically supported (see Figure 3).

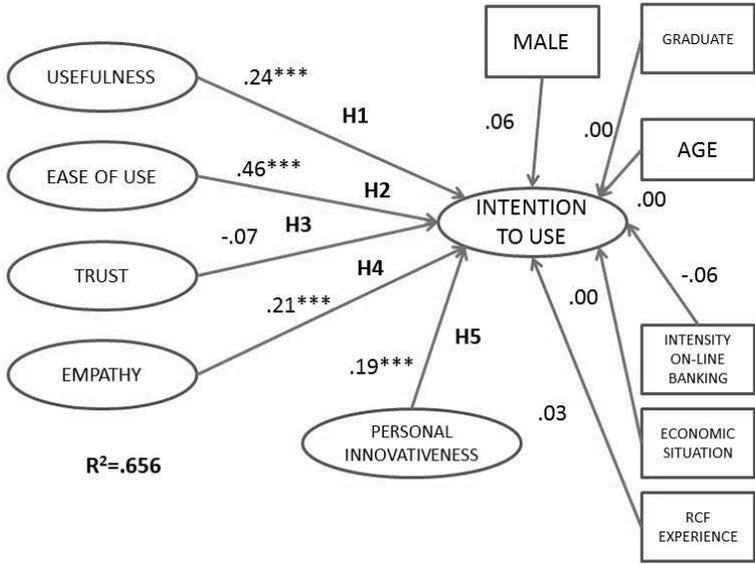
It can be seen that the most important factor that influences the intention to use is the ease of use, whereas usefulness, empathy and personal innovativeness have a similar degree of importance.

Furthermore, none of the sociodemographic features (sex, education, age, economic situation) have a significant effect on the dependent variable. The same results are obtained for the observed variables related to previous crowdfunding experience or intensity of use of online banking.

### Alternative Model

The literature establishes that perceived ease of use has a double potential impact on intention to use: directly, and mediated by perceived usefulness (King, He, 2006; Venkatesh, Bala, 2008).

Figure 3 – Model 1 path diagram



Therefore, a variant of model 1 has been estimated, incorporating this mediating relationship. However, this path is not significant and, moreover, overall fit measures worsen.

A new approach has been tried, that is, to consider that the mediating path is through perceived ease of use and not via perceived usefulness. According to model improvements suggested by the modification indices statistics, Model 1 has been slightly modified, adding mediating effects via PEU for some of the constructs. Therefore, Model 2 includes additional paths from perceived usefulness, trust, empathy, personal innovativeness and economic situation to PEU, that acts as a mediating variable. The intuition to do this can be summarized as follows: the more useful in innovation is perceived (ECF in this case), the more empathy with the project and the more trust the individual has on the platform, the more it is supposed that ease of use is perceived. That is because the individual is then more motivated to adopt the innovation, and therefore the perception of potential barriers and difficulties in the use of the innovation become relaxed.

Model 2 presents better goodness of fit measures than Model 1. So,  $\chi^2 = 33.647$  ( $p = 0.116$ ),  $\chi^2 / d.f. = 1.345$ , root mean squared error of

approximation (RMSEA) = 0.038, with a probability of 0.713 of being lesser than 0.05, comparative fit index (CFI) = 0.991, Tucker – Lewis index (TLI) = 0.983. The coefficient of determination is 0.686. These results suggest that the model fits well and corresponds to a close representation of the population of interest.

Table 6 shows the estimates of Model 2, whereas Figure 4 presents the path diagram of this alternative model. It can be seen that all the mediating paths proposed are highly significant and positive, as supposed. The strongest relationship is that of trust. Therefore, although there is no evidence that a level of more trust directly influences the intention to use ECF, however, this effect can be operating in an indirect way, via increasing the perceived ease of use.

Table 7 presents the aggregate of both direct and indirect effects exerted by both exogenous and endogenous latent variables. It can be seen that, overall, the perceived ease of use is the main driver of intention to use, followed by the perceived usefulness. There is some evidence that trust influences that intention, although in an indirect way, via increasing the perceived ease of use.

Figure 4 – Model 2 path diagram

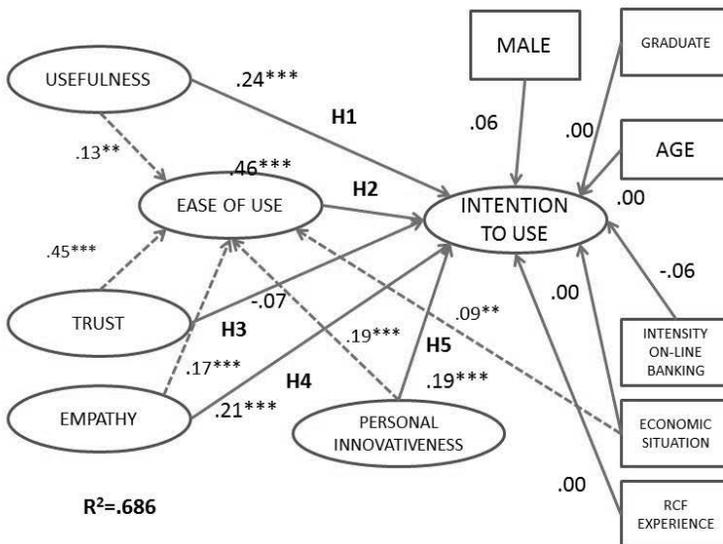


Table 6 – Model 2 estimates

<b>Perceived Ease of Use</b>							
Parameter	Estimate	Std. error	t- ratio	p-value			
Perceived Utility->PEU	0.135	0.053	2.54	0.011	**		
Trust->PEU	0.453	0.058	7.69	0.000	***		
Personal innovativeness->PEU	0.189	0.044	4.26	0.000	***		
Empathy->PEU	0.169	0.051	3.25	0.001	***		
Economic situation->PEU	0.090	0.042	2.12	0.034	**		
Constant	-0.434	0.208	-2.08	0.037	**		
<b>Intention to Use</b>							
Parameter	Estimate	Std. error	t- ratio	p-value	Hypothesis	Result	
Perceived Usefulness->Intention to Use	0.244	0.055	4.37	0.000	***	H1	Supported
Perceived Ease of Use->Intention to Use	0.462	0.061	7.51	0.000	***	H2	Supported
Trust->Intention to Use	-0.073	0.070	-1.05	0.294		H3	Indirectly supported
Empathy->Intention to Use	0.212	0.055	3.83	0.000	***	H4	Supported
Personal innovativeness->Intention to Use	0.192	0.047	4.02	0.000	***	H5	Supported
Experience->Intention to Use	0.032	0.048	0.66	0.506			
Age->Intention to Use	0.004	0.043	0.11	0.912			
Male->Intention to Use	0.058	0.044	1.33	0.184			
Graduate->Intention to Use	0.001	0.044	0.04	0.972			
On line banking intensity->Intention to Use	-0.066	0.044	-1.49	0.137			
Economic situation->Intention to Use	0.005	0.045	0.13	0.899			

\*\*\*, \*\*, \* indicate significance at 1%,5% and 10% level

Estimate values have been standardized for comparison purposes

Table 7 – Decomposition of structural effects

Effect on Intention to Use	Direct	Indirect	Total	significance
Perceived Ease of Use	0.462		0.462	***
Perceived Usefulness	0.244	0.062	0.306	***
Trust	-0.073	0.209	0.136	*
Empathy	0.213	0.078	0.291	***
Personal innovativeness	0.192	0.087	0.279	***
Experience	0.032		0.032	
Age	0.005		0.005	
Male	0.059		0.059	
Graduate	0.001		0.001	
On line banking intensity	-0.066		-0.066	
Economic situation	0.005	0.042	0.047	

\*\*\*, \*\*, \* indicate significance at 1%, 5% and 10% level

Estimate values have been standardized for comparison purposes

## DISCUSSION AND CONCLUSION

Various implications are derived for different stakeholders from the results of this research, whether they are practitioners or academics. Regarding the former, this research is interesting:

- For CF platforms, in the estimation of the potential that the reward backers, as well as the information and training necessary in these projects, can contribute to the implementation of participation projects, in view of their contribution to another CF modality. This model enlightens which factors are the main drivers of the potential migration process to ECF.
- As the main factor is the perceived ease of use, the CF platform should improve all its features related with this item. For instance, improve accessibility from all kinds of device, simplify processes of investment, or even add some gamification or social comparison component, in order to gain more convenience and playfulness scores.
- For the creators of projects, in order to improve the design of their communication campaigns. According to empirical results, it seems that this should be focused on ease of use, instead of the perceived trust of the platform.
- For the legislator, to the extent that it allows one to identify aspects of improvement in the current regulations that facilitate the access of investors to the CF. Empirical results do not strongly support the idea

that improvements in protection or security issues are acting as drivers of ECF use. Perhaps the role of legislation should better be more related to expanding the knowledge about this alternative, provided that knowledge is an antecedent of PEOU.

In terms of academic implications, a first contribution lies in the quantitative scope of research, which is almost non-existent in equity CF.

Second, with respect to the proposed explanatory model, the results emphasize the relevance of perceived ease of use (above utility) in the intention to participate in equity CF. This factor mediates the role of perceived utility in the adoption of this innovation. This path has an opposite path to that which the TAM model proposes (in its different versions). A possible explanation to that is that in ECF part of the perceived utility plays a part in the perceived ease.

Likewise, it is concluded that the confidence of the potential adopter, based on legal measures and guarantees, on the valuation of the promoting team and on the innovative character of the project, and on the availability of the necessary technological and financial resources, does not directly determine the participation in equity CF. This influence, which has been determinant in the literature associated with other online investment scenarios, in this work reinforces the perceived ease of use and, only through this, influences the investment intention.

It would be interesting to see if the effective migration to the ECF follows the same pattern as the intention, although it will be necessary to wait for the maturity of the platform, when the migration could have taken place

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## APPENDIX

Constructs	Antecedents	Questionnaire items
USEFULNESS	Profitability	<ul style="list-style-type: none"> <li>Investing in equity crowdfunding I would obtain better financial results than investing in other products</li> <li>If I invest in ECF in the future, I would make the right decisions</li> <li>ECF would make me more efficient in the management of my investments</li> </ul>
	Social Influence	<ul style="list-style-type: none"> <li>People who influence my behavior think that I should invest in ECF</li> <li>People who are important to me think that I should invest in ECF</li> <li>Investing in ECF is a status symbol in my entourage</li> <li>I would like to belong to the group of people that invest in ECF</li> </ul>
	Investment Strategy	<ul style="list-style-type: none"> <li>I have separated the amounts that I use for different financial goals (current expenses, savings, investments...)</li> <li>I would invest in an ECF project whose financial projections were attractive</li> </ul>
EASE OF USE	Knowledge	<ul style="list-style-type: none"> <li>I consider I would have enough financial knowledge to invest in equity crowdfunding</li> <li>I believe that understanding the process required to invest in equity crowdfunding would be easy for me</li> <li>When investing in equity crowdfunding I think I would understand the necessary legal aspects</li> <li>I think that my interaction with the equity crowdfunding platform would be clear and easy to understand</li> </ul>
	Operational competence	<p>The equity crowdfunding platform would:</p> <ul style="list-style-type: none"> <li>Conduct the transaction in a timely manner</li> <li>Conduct the transaction in an error free manner</li> <li>Provide me with any information that I may need, after having conducted the transaction</li> </ul>
	Convenience	<p>I would invest in equity crowdfunding</p> <ul style="list-style-type: none"> <li>If I could do it anywhere: from home, from the office...</li> <li>If I could conduct it by using any device: computer, smartphone, tablet...</li> <li>If I could do it at any time</li> <li>If in order to learn how to do it I would not have to perform a great mental effort</li> <li>If conducting the necessary operations were easy</li> </ul>
	Playfulness	<ul style="list-style-type: none"> <li>I would invest in equity crowdfunding if I had fun doing it</li> <li>I would invest in equity crowdfunding if I felt creative when doing it</li> </ul>
TRUST	Protection	<ul style="list-style-type: none"> <li>The equity crowdfunding platform would treat me fairly regarding the charge of fees</li> <li>If I invest in equity crowdfunding, I feel assured that I be will adequately protected by the system (legal, financial...)</li> <li>If I invest in equity crowdfunding I will have the necessary information and tools to control the performance of my investment</li> </ul>
	Quality	<ul style="list-style-type: none"> <li>I would contribute to equity crowdfunding projects where I would value the management team</li> <li>I would contribute to equity crowdfunding projects where I would value the individuals who support them</li> <li>I would participate in equity crowdfunding projects that were innovative</li> </ul>
	Resources	<ul style="list-style-type: none"> <li>I would have enough euros to invest in equity crowdfunding</li> <li>I would have the necessary technology to invest in equity crowdfunding</li> </ul>
EMPATHY	Affinity with project	<ul style="list-style-type: none"> <li>I would support projects that I would like to see come true</li> <li>I would support projects whose causes were connected with my personal beliefs</li> </ul>
	Affinity with creator	<ul style="list-style-type: none"> <li>I would support projects in which I had a personal relationship with the promoters: Family, friends, or acquaintances...</li> <li>I would support projects in which I had a professional relationship with the promoters: Coworkers, clients, vendors...</li> </ul>