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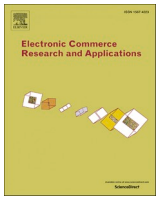

Individualism, collectivism and reward crowdfunding contribution intention and behavior

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ABSTRACT

The study examines the role of the individualism-collectivism (IDV) cultural dimension in reward crowdfunding contribution intentionality and behavior. An extended Theory of Planned Behavior framework is used for comparative analysis using survey data collected from users of national platforms from opposing cultures along the IDV dimension – China and Finland. Main findings suggest that: attitudes are positively associated with information sharing and financial contribution intentions in both cultures; collectivism enhances the effects of subjective norms on both intentions; behavior control is more strongly observed in individualistic cultures; and information sharing intentions are more strongly associated with contribution behavior in collectivistic cultures.

1. Introduction

Modern manifestations of what recently became known as 'Crowdfunding' capture methods of fundraising, where small financial contributions are collected from a large group of backers (Short et al., 2017), while using the internet, and often without the involvement of traditional financial intermediaries (Mollick, 2014). Specifically, reward crowdfunding is a popular non-investment method of fundraising, where backers receive non-monetary benefits in exchange for monetary contributions while accepting a degree of risk of non-delivery on campaign promises (Shneor and Munim, 2019). In such exchange, backers enjoy benefits that include non-pecuniary tangible rewards such as products and services, intangible or symbolic rewards such as enhanced reputation and sense of belonging (Cholakova and Clarysse, 2015), as well as greater degree of consumer empowerment (Chaney, 2019). Furthermore, interactions between prospective backers and the fundraiser are critical for the success of the reward campaign efforts (Wang et al., 2018).

Understanding backer behavior in reward crowdfunding has received growing interest, as it is deemed valuable for both platform service development, as well as for enabling more effective and efficient campaigning by fundraisers. Early research in this context demonstrates that backer behavior was motivated by interest of purchasing needed products, helping others, being a part of a community, and supporting a valued cause (e.g. Gerber et al., 2012; Ryu and Kim, 2016; Steigenberger, 2017). Other studies identified cognitive antecedents of crowdfunding behavior such as commitment, perceived risks, trust, effort expectancy, social influence, self-efficacy, and attitudes (e.g. Moon and Hwang, 2018; Shneor and Munim, 2019; Zhao et al., 2017).

Interestingly, literature on crowdfunding behavior has largely overlooked the role of national culture despite its pervasiveness in a wide range of human behaviors. The few studies examining cultural aspects in crowdfunding have done so indirectly. Here, a study by Zheng et al. (2014) showed that social capital dimensions have higher explanatory power of campaign performance in China than in the US; and that reciprocal behavior has a stronger effect on campaign performance in China than in the US. A different study by Cho and Kim (2017), using Hofstede's (2001) cultural dimensions, found that campaigns on a

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Korean platform depicted higher levels of uncertainty avoidance elements than on a US platform; only partially depicted higher levels of elements associated with collectivism than on the US platform; and no difference in the depiction of power distance-related elements between the two platforms.

One of the cultural dimensions most frequently used in cross-cultural psychology and consumer research is the individualism-collectivism (hereafter 'IDV') dimension (Aaker and Maheswaran, 1997; Chu and Choi, 2011). It presents differences between cultures in terms of the emphasis they place on individuals vs. groups (Nardon and Steers, 2009). Collectivistic societies place premium on the interest of the group over that of the individual and ties between individuals are strong, while in individualistic societies premium is placed on the interest of the individual over that of the group and ties between individuals are loose (Hofstede et al., 2010). Furthermore, individualistic cultures are characterized by individuals' self-reliance, separateness, and distance from in-groups, while collectivistic cultures are characterized by individuals' interdependence, connectedness, and in-group membership (Singelis, 1994).

Since crowdfunding is a form of community-enabled financing dependent on social capital creation and mobilization (Butticè et al., 2017; Colombo et al., 2015; Zheng et al., 2014), the IDV cultural dimension is expected to be of particular relevance for understanding backer behavior in this context. Accordingly, the purpose of this study is to examine the role of the IDV cultural dimension in influencing reward crowdfunding contribution intentionality and behavior. For this purpose, and in accordance with the 'Most Different System Design' comparative research strategy (Anckar, 2008), data were collected from two contexts with opposing scores on Hofstede's (2001) IDV dimension, namely, Finland and China. Here, Finland represents a highly individualistic culture, while China represents a highly collectivistic culture.

We theoretically anchor our analysis in the Theory of Planned Behavior (hereafter 'TPB') (Ajzen, 1991), while adopting an extended version of it specific to the reward crowdfunding context (Shneor and Munim, 2019). Overall, the TPB enjoys wide cross-cultural validation and well-established relevance for the study of intentionality and behavior in the context of online interactions (i.e. Baker and White, 2010; Cheung and To, 2016; Fu et al., 2015) and transactions (i.e. Choi and Geistfeld, 2004; Gopi and Ramayah, 2007; Hsu et al., 2006).

Our analyses present several contributions. First, our study is the first to present a cross-cultural validation of the extended TPB framework, confirming that crowdfunding behavior is preceded by both contribution intentions and information sharing intentions. Furthermore, we do so while highlighting the moderating roles of the IDV dimension of national culture with respect to most model effects. Second, and more specifically, the study shows significant variations between the individualistic and collectivistic cultures: (1) the effects of subjective norms (extent to which close social circle encourages a behavior) on intentions are stronger in a collectivistic culture, (2) perceived behavior control had a negative impact on contribution intention in an individualistic culture, and (3) the impact of information sharing intensions on financial contribution behavior is significantly stronger in collectivistic cultures.

In the coming sections we first present a review of the literature at the intersection of crowdfunding behavior and culture and bring the two together while formulating a list of hypotheses for testing. Next, our research design and the methodology employed are outlined, followed by the results of our analyses. Later, the findings are discussed vis-a-vis earlier research, while highlighting the study's contributions and limitations. Finally, we conclude with suggested implications for research and practice.

2. Literature review

Entrepreneurs use reward crowdfunding for enjoying a variety of benefits associated with such practice. Reward crowdfunding represents a mechanism for generating sales before production while reducing or eliminating working capital deficits (Frydrych et al., 2014), as well as lowering marketing costs that may otherwise be required (Schwienbacher and Larralde, 2012). Furthermore, running a reward crowdfunding campaign may provide entrepreneurs with timely feedback, knowledge, and technical advice for the development of their concepts (Belleflamme et al., 2014). Other benefits include being an effective marketing tool (Brown et al., 2017), allowing access to a group of early adopters, customers, and fans (Thürridl and Kamleitner, 2016), as well as the signaling of project legitimacy (Frydrych et al., 2014) through market validation and popular support (Schwienbacher, 2018). Nevertheless, tapping into such benefits heavily depends on the ability to attract a relatively large group of prospective backers for the campaign.

Understanding backer behavior in crowdfunding is important both for platform service development, as well as for campaign design towards more effective fundraising. Research on backer behavior in investment crowdfunding models (i.e. equity and lending) has shown that both calculus trust and relationship trust were positively associated with willingness to invest (Kang et al., 2016), while concerns about fraudulent borrowers and platforms were negatively associated with willingness to invest (Daskalakis and Wei, 2017). Other studies suggest that different groups of crowdfunding investors are influenced by both self-interest (i.e. financial returns and image enhancement) and prosocial motivations (i.e. participation and help) to different degrees (e.g. Bretschneider and Leimeister, 2017; Lukkarinen et al., 2017).

When examining the limited research in the specific context of reward crowdfunding, one can identify two budding streams of research. One stream has focused on motivational aspects of crowdfunding backer behavior. Here, Gerber et al. (2012) identified four key motivations for backers' willingness to pledge including: the collection of rewards, helping others, being a part of a community, and supporting a valued cause. Ryu and Kim (2016) suggested a similar motivation-based typology of backers including: angelic backer, reward hunter, avid fan, and tasteful hermit (the latter being a fan less motivated by extrinsic motivations). Later, a larger scale study has identified two groups of reward crowdfunding backers, one exclusively driven by a utilitarian purchase motive, while the second displayed the purchasing motive alongside an altruistic and involvement motive (Steigenberger, 2017).

A second stream examines cognitive antecedents of crowdfunding behavior. Here, a study by Zhao et al. (2017), which built on social exchange theory (Homans, 1958), showed that reward crowdfunding backers' sense of commitment to the project and their perceived risks surrounding it both influence funding intentions. A study by Moon and Hwang (2018) built on the unified theory of acceptance and use of technology (Venkatesh et al., 2003) and showed that, in their Korean sample, user intention to use crowdfunding (for backing projects) was positively influenced by social influence, effort expectancy, and perceived trust. A different study by Liang et al. (2019) built on trust theory more directly and showed that financial contribution behavior in Taiwanese reward crowdfunding was affected by funder's trust that a fundraiser will deliver on campaign promises. Such trust was itself affected by perceived value similarity between funder and fundraiser, as well as the funder's perception about the fundraiser's ability, reputation, and the quality of information they provided.

Similar studies in Western contexts, include Shneor and Munim's (2019) study in Finland, which built on the TPB (Ajzen, 1991) and suggested an extended framework for explaining reward crowdfunding behavior as depending on both financial contribution intentions and information sharing intentions. Furthermore, both these intentions are influenced by the antecedents of backers' attitudes, self-efficacy, perceived behavior control, and subjective norms. Most recently, based on data from the Kickstarter platform, Herrero et al. (2020) showed that potential backers' intentions are mainly influenced by their attachment to the project. In addition, they also showed that perceived business viability plays a secondary role influencing backers' campaign-related word-of-mouth intentions.

Other studies investigated cognitive determinants of donation crowdfunding (where no tangible reward is expected). Here, Liu et al. (2018) showed that an individuals' empathy and the perceived credibility of a project determine the intention to donate in charitable crowdfunding. A different study by Wang et al. (2019) found that both self-identity and social identity that are congruent with charitable giving are positively associated with crowdfunding donation intention.

2.1. Theory of planned behavior (TPB)

The TPB asserts that one's likelihood of engaging in a certain behavior depends on his or her intentions to engage in such behavior, when such choice can be made freely by the same individual (Ajzen, 1991). Here, intentions refer to the efforts one is willing or planning to invest in order to perform a behavior. Such intentions are influenced by subjective antecedents including attitudes towards the behavior, perceived behavioral control (hereafter 'PBC'), and subjective norms (hereafter 'SUBN'). Attitudes capture the extent to which one views a behavior favorably. PBC captures the extent to which one considers the behavior within one's own capacities and capabilities. And SUBN capture the extent to which people in one's close social circles hold views encouraging one's performance of the behavior.

The TPB has been extensively used and applied in a wide variety of studies examining human behavior in multiple contexts. These include its successful application in studies examining user behavior in online communities and social media applications (e.g. Baker and White, 2010; Casaló et al., 2010; Cheung and To, 2016), as well as Internet-mediated marketplaces (e.g. Gopi and Ramayah, 2007; Hsu et al., 2006; Pavlou and Chai, 2002).

More recently, the TPB has also been introduced for explaining crowdfunding contribution behavior in the context of reward crowdfunding (Shneor and Munim, 2019). This study empirically showed that crowdfunding contribution behavior is preceded both by financial contribution and information sharing intentions, as was suggested but not tested in earlier research (Burtch et al., 2013; Colombo et al., 2015; Lehner, 2014). Such approach is in line with what Kang et al. (2017) referred to as 'advocates', who both financially contribute and share related information with their social network. Both these intentions are affected by the TPB antecedents as predicted by the theory (Ajzen, 1991), while information sharing intention is also directly affected by financial contribution intention, as following the assumptions of self-presentation theory (Schlenker and Leary, 1982) and signaling theory (Spence, 1978). We will follow this approach and conceptualization throughout the current study.

Furthermore, it is important to acknowledge that behavioral decision making occurs within certain contextual conditions that shape the mindset of individuals considering such decisions. One such contextual condition is culture. Since cross-cultural studies have been relatively absent in crowdfunding literature (Cho and Kim, 2017), and were encouraged in a crowdfunding literature review (McKenny et al., 2017), we will explore its potential role in moderating the effects of various elements of the extended TPB framework mentioned above.

2.2. National culture and crowdfunding

Hofstede has popularized the understanding of culture as the "collective programing of the mind which distinguishes the members of one human group from another" (Hofstede, 1980, p. 25). As such, it shapes the cognitive schema ascribing meaning and values while guiding choices, commitments, and behavior (Erez and Earley, 1993).

The study of culture at the national level has produced several classifications reflecting how different nations relate to common human dilemmas (e.g. Hall, 1976; Hofstede, 1980; Hofstede et al., 2010; House et al., 2004; Minkov, 2011; Schwartz, 1994). In an effort to navigate the "jungle" of the dimensionalist approaches to national culture theory, Nardon and Steers (2009) have examined six of the most influential cultural dimensions' frameworks. This examination concluded with a conceptual clustering of dimensions around five common themes based on their utility for better understanding business related behaviours across cultures. Such approach allows research to go beyond the debate about which framework is superior, while identifying overarching human dilemmas common to all. These dilemmas are defined as those relating to group versus individual emphasis, power and authority, relationship with the environment, use of time, and locus of control.

Despite its prevalence, only few studies have examined the role national culture dimensions play in crowdfunding practice. Here, a study by Zheng et al. (2014) used the countries of China and the US as proxies for different cultures without tracing these differences to any specific dimension of culture. This study showed that social capital dimensions have higher explanatory power of campaign performance in China than in the US, and that reciprocal behavior has a stronger effect on campaign performance in China than in the US.

A different study by Cho and Kim (2017) has examined differences in the availability of different campaign elements that were associated with Hofstede's (2001) cultural dimensions of IDV, power distance, and uncertainty avoidance. The study analyzed campaigns on US and Korean platforms, as reflecting cultures with opposing values on these specific cultural dimensions. This study found that campaigns on the Korean platform depicted higher levels of uncertainty avoidance elements than on the US platform; only partially depicted higher levels of elements associated with collectivism than on the US platform; and no difference in the depiction of power distance-related elements in both platforms.

Zooming on Chinese culture, a study by Zhao and Vinig (2019) has stressed the role played by Guanxi (Luo, 1997), a core aspect of Chinese culture putting premium on investment in strong and cohesive relations between individuals, in predicting success of reward crowdfunding campaigns in China.

In the current study, we wish to investigate the role of culture in influencing crowdfunding behavior rather than campaign design or success. For this purpose, we propose moderating effects of culture on relations between crowdfunding intentions, behaviors, and their antecedents. Inspiration for such line of study can be drawn from earlier research in other computer-mediated marketplaces. In this context, a study by Pavlou and Chai (2002) has examined e-commerce adoption in China and the USA while building on the TPB framework. The study used these countries as contexts for examining the moderating roles of cultural dimensions on the relations between e-commerce adoption intention and its antecedents. They find that both attitude and SUBN have a stronger effect on intentions in the collectivistic than in the individualistic culture, while PBC has stronger effect in the individualistic culture than in the collectivistic culture. A similar study contrasting US and Korean cultures (Choi and Geistfeld, 2004), suggested that SUBN mediate the effects of IDV on online purchase intentions in both the (individualistic) USA and (collectivistic) Korea, and that perceived risk (as proxy for attitudes) mediates the effects of IDV on online purchase intentions in the USA, but not in Korea.

More generally, the prevalence of the IDV cultural dimension has been shown with respect to various behaviors related to online interactions and transactions. In addition to the studies mentioned above, research has also shown that individualistic cultures are associated with greater use of social networking websites (Gong et al., 2014); that collectivistic cultures are associated with more time spent on the social networking site of Facebook (Shneor and Efrat, 2014); that (the collectivistic) Chinese engage in e-Word-of-Mouth to greater extent than (the individualistic) Americans (Chu and Choi, 2011); and that there was a significantly higher number of knowledge acquisition messages shared in the (collectivistic) Chinese online virtual communities than in the (individualistic) US-based ones, where a significantly higher number of knowledge dissemination messages was recorded versus the Chinese virtual communities (Siau et al., 2007).

Indeed, the IDV dimension is one of the most frequently used dimensions in cross-cultural psychology and consumer research (Aaker

and Maheswaran, 1997; Chu and Choi, 2011), and the contrasting of findings from the US (as an individualistic culture) and China (as collectivistic culture) contexts have been frequently used for this purpose. At its core, the human dilemma captured by the IDV dimension relates to the centrality of the individual versus the collective in one's life. According to Hofstede and colleagues (2010), in collectivistic societies the interest of the group prevails over that of the individual and ties between individuals are strong, while in individualistic societies the interest of the individual prevails over that of the group and ties between individuals are loose. Furthermore, while self-reliance, separateness, and distance from in-groups characterizes individualistic cultures, interdependence, connectedness, and in-group membership characterizes collectivistic cultures (Singelis, 1994).

We suggest that such dilemma is of particular relevance to understanding crowdfunding behavior. This is because crowdfunding reflects an individual's action within a context of social action, and the dependence of such action on social capital creation and mobilization (Butticè et al., 2017; Colombo et al., 2015; Zheng et al., 2014). Accordingly, we focus our discussion on outlining potential moderation effects of the IDV dimension, while studying it in the context of the extended TPB (Shneor and Munim, 2019) framework, which stresses the importance of both financial contribution and information sharing intentions as antecedents of contribution behavior (as outlined earlier in section 2.1).

2.2.1. Attitudes

According to Ajzen (1991), attitudes capture the degree to which an individual may evaluate a behavior as favorable or unfavorable. Attitudes are formed by the beliefs held towards an object of attitude by the individual. Each belief links the behavior to outcomes that may be considered as either desirable or non-desirable, as well as to features that may be considered as feasible or unfeasible (e.g. associated costs). Overall, attitudes represent an aggregate subjective evaluation of beliefs weighted by their relative salience.

Crowdfunding contribution may imply an opportunity to influence one's own future consumption (Steigenberger, 2017) as well as enhanced sense of consumer empowerment when providing input about concepts under development (Chaney, 2019) towards better fit with one's own preferences (Gerber and Hui, 2013). Furthermore, contribution may also translate into more committed future consumption of products and services provided by the backed venture (Bitterl and Schreier, 2018). While such outcomes are likely to be viewed favorably in both individualistic and collectivistic cultures, they may still be more closely related to aspects characterizing individualistic cultures. Here, notions of self-reliance, the prominence of self-interest, as well as premium placed on speaking one's mind, are more typical of individualistic cultures (Hofstede et al., 2010). Accordingly, reliance on such a belief system may also lead to positive evaluation of related outcomes of crowdfunding contribution behavior, and hence – favorable attitudes towards it.

Accordingly, while attitudes are expected to significantly influence intentions in both cultures, we suggest that the extent to which attitudes may influence the formation of both financial contribution and information sharing intentions are likely to be stronger in individualistic rather than collectivistic cultures.

H1. *The strength of the effect of favorable attitudes towards crowdfunding on intentions to both (a) contribute financially to a campaign and (b) share information about a campaign will be stronger in an individualistic culture than in a collectivistic culture.*

2.2.2. Perceived behavioral control (PBC)

Acknowledging that most intended behaviors represent goals subjected to a degree of uncertainty, Ajzen and Madden (1986) argued for the importance of incorporating considerations of control in predicting behavior. This resulted in the development of the TPB (Ajzen, 1991) as a separate model from the Theory of Reasoned Action (Fishbein and Ajzen, 1975). Accordingly, PBC was introduced for capturing the beliefs on how easy or difficult performing a behavior is likely to be. Here, the guiding logic suggests that the more resources and opportunities one assumes to possess, and the fewer obstacles one expects, the greater will their PBC be. Perceptions about the difficulty expected with performing a behavior is informed both by personal experience, as well as by information about the experience of others in one's social network.

Beliefs about resources and opportunities that form PBC may draw guidance from values enshrined in either individualistic or collectivistic cultures. When brought into the context of crowdfunding, one can identify beliefs that may shape a stronger sense of PBC in individualistic than in collectivistic cultures. In collectivistic cultures, people are more concerned about how their decisions may influence others, and take it for granted that they need to contribute to the benefits of others (Hui and Triandis, 1986). Hence, in such environments, individuals may sense they have less control over the decision of whether to contribute to in-group members' campaigns based on the in-built social expectation of them to do so.

On the other hand, in individualistic cultures, task prevails over relationships and individuals are encouraged to act independently while speaking their own mind and guarding their privacy (Hofstede et al., 2010). Accordingly, in such environment individuals are likely to consider contribution decisions as private matters they can act independently upon while not being overly burdened by relational expectations in their decision-making processes.

Hence, while PBC is expected to significantly influence intentions in both cultures, we suggest that the extent to which PBC may influence the formation of both financial contribution and information sharing intentions is likely to be stronger in individualistic rather than collectivistic cultures.

H2. *The effect of perceived behavioral control in crowdfunding engagement on intentions to both (a) contribute financially to the campaign and (b) share information about the campaign will be stronger in an individualistic culture than in a collectivistic culture.*

2.2.3. Subjective norms

SUBN capture individual perceptions about the extent to which significant others in one's life (i.e. parents, family members, spouse, friends, etc.) would approve or disapprove of him or her performing a certain behavior (Ajzen, 1991). Unsurprisingly, normative beliefs defining SUBN draw on values underlying individualistic and collectivistic cultures. When brought into the context of crowdfunding, one can expect a stronger role to be played by SUBN in collectivistic cultures that in individualistic cultures.

According to Hofstede and colleagues (2010), in collectivistic cultures, people are born into extended families or other in-groups that protect them throughout their lives in exchange for loyalty. Under such conditions, resources are expected to be shared with relatives, the self is interdependent on others, opinions are predetermined by the group, while trespasses lead to shaming. Accordingly, one may feel strong pressure to contribute to an in-group members' cause, especially when a call for support is public, and endorsed by the group.

On the other hand, in individualistic cultures, individuals exhibit less concern with the effects of one's actions on others, and there are lower levels of sharing of resources and benefits with others (Hui and Triandis, 1986). Furthermore, in individualistic cultures resources are independently owned, opinions are private, and individual interest prevails over the collective one (Hofstede et al., 2010). Accordingly, under such conditions, one may feel less compelled to respond favorably to encouragement of others to engage in crowdfunding contribution behavior, unless such contribution may enhance their own interests or benefits.

Hence, while SUBN is expected to significantly influence intentions in both cultures, we suggest that the extent to which SUBN may influence the formation of both financial contribution and information sharing intentions is likely to be stronger in collectivistic cultures rather than in individualistic cultures.

H3. *The effect of perceived subjective norms towards crowdfunding on intentions to both (a) contribute financially to the campaign and (b) share information about the campaign will be stronger in a collectivistic culture than in an individualistic culture.*

2.2.4. Financial contribution intention impact on information sharing intention

Drawing on the self-presentation theory (Schlenker and Leary, 1982) it is suggested that financial contribution intention may lead to information sharing intention in order to enhance one's own image with respect to a certain target social group. In this context, earlier studies have shown that image enhancement was a predictor of crowd-equity investment behavior (Bretschneider and Leimeister, 2017), that self-presenting lenders funded a higher number of crowd loans (Cox et al., 2018), and that those with high reward crowdfunding contribution intentions also had higher information sharing intentions (Shneor and Munim, 2019). Furthermore, a positive self-image projection may not only be achieved by signaling an individual's financial contribution to a campaign, but by associating themselves with a successful campaign. In turn, the campaign success depends on its social reach and intensity (Bi et al., 2017; Hobbs et al., 2016).

When considering the IDV cultural prism, one may suggest that financial contribution intentions may be more strongly associated with information sharing intentions in individualistic rather than in collectivistic societies. Research on relations between cultural and personality dimensions have found strong association between individualism and extraversion (Hofstede and McCrae, 2004). This is explained by the notion that when relations between people are not prescribed by the culture, conscious decisions about sociability become more important (Hofstede et al., 2010). Indeed, earlier research showed that extraversion was associated with higher usage levels of online social networking sites (Correa et al., 2010), spread of word-of-mouth (Ferguson et al., 2010), as well as posting of pictures of self and self with others on such sites (Sorokowska et al., 2016). Moreover, while not considering extraversion per se, earlier research also shows that individualistic cultures were associated with greater use of social networking websites (Gong et al., 2014).

Accordingly, when brought in the context of crowdfunding, levels of extraversion coupled with positive self-presentation, as well as self-interest in seeing the campaign succeed for receiving rewards and benefits in the future, all suggest greater effect of financial contribution intentions on information sharing intentions in individualistic rather than collectivistic cultures.

H4. *The effect of financial contribution intentions on information sharing intentions will be stronger in an individualistic culture than in a collectivistic culture.*

2.2.5. Intentions' impact on contribution behavior

A large body of conceptual and empirical research has confirmed the strong association between intentions and behavior (Armitage and Conner, 2001). More specifically, in the context of reward crowdfunding, the effects of both financial contribution and information sharing intentions on financial contribution behavior have also been confirmed (Shneor and Munim, 2019). Nevertheless, these relationships are not a given. Different combinations of cognitive antecedents may lead to a situation where intention exists but does not translate into behavior. Such situations may occur due to the temporal separation between intention formation and behavior, when changing conditions or exposure to new influential information after an intention was formed but before behavior was acted upon, may lead to reconsideration of the action involved.

Once again, when factoring in the IDV cultural dimension, it may be suggested that both financial contribution and information sharing intentions will exhibit a stronger association with contribution behavior in collectivistic rather than individualistic cultures. In collectivistic cultures greater efforts are expected from individuals to comply with the demands of the in-group to share resources with other members of the group and for avoiding public shame and exclusion that may result from non-compliance. Once sufficient cues have been received from the group about contribution as a preferred course of action, in-group members' compliance will be assessed more by action than by intention. Here, while contribution may be made according to relative capacities (e.g. financial capabilities), it nevertheless must be made in line with group expectations.

Furthermore, and specifically with respect to information sharing intentions, individuals in collectivistic cultures may be particularly concerned with congruence between their words and actions when publicly sharing information about a campaign, while signaling their own support for it. Here, others may interpret such information sharing as a request for group compliance and may be particularly frustrated if the sources of information would not themselves do what they ask others to do.

Accordingly, considering the premium placed on compliance with social expectations of in-group's members in collectivistic cultures, we hypothesize that both financial contribution and information sharing intentions will exhibit a stronger association with contribution behavior in collectivistic than in individualistic cultures.

H5. *The effect of both (a) financial contribution intentions and (b) information sharing intentions on financial contribution behavior will be stronger in a collectivistic culture than in an individualistic culture.*

3. Methods

3.1. Data collection

In accordance with the 'Most Different System Design' comparative research strategy (Anckar, 2008), data were collected from two contexts with opposing scores on Hofstede's (2001) IDV dimension including Finland, a highly individualistic culture, and China, a highly collectivistic culture. In Finland, data were collected from users of Mesenaatti, a platform established in 2013 and which had a userbase of 25,000 users in 2016 (when data were collected). In China, data were collected from users of Zhuang You (Chinese: 庄游), a platform established in 2015 which had a user base of 20,000 in 2017 (when data were collected). The latter has grown substantially following an investment from the Zhen Fund, and has reached over 500,000 registered users by the end of 2018. Today it operates through its dedicated app, and via the Chinese social media application WeChat/Weixin. Both platforms cater to domestic markets, and hence better represent the majority of reward platforms operating globally, rather than the outlier global platforms (e.g. Kickstarter and Indiegogo) which have been the prime focus of earlier research (Shneor and Munim, 2019; Short et al., 2017).

Data collection in Finland took place during Spring 2016, while data collection in China during late Fall 2017, based on the survey developed and validated in Finland (Same as used in: Shneor and Munim, 2019). The original survey was developed in English, and surveys for both contexts were translated by native speakers in three rounds of iterative back translations, with the final version checked and amended (when necessary) by platform officials for ensuring suitability of crowdfunding-specific jargon.

The call for participation was distributed by the platforms with four reminders as recommended by Dillman et al. (2009). Each call included a link to a web survey using SurveyXact. Since respondents needed to devote a significant amount of time to complete the survey, they were promised partaking in a lottery of gift cards. These cards were distributed when the data collection effort was concluded.

After removing observations with missing data and those suspected of monotonous response patterns, we were left with 556 observations in Finland (2.2% response rate) and 191 in China (1% response rate). We defined monotonous response as recording the same response for ten consecutive items, while including items from at least two separate multi-item constructs.

A sample of 200 or more observations produces reliable estimates in SEM (Hair et al., 2010; Kline, 2015). Thus, our samples meet the sample size requirements. Table 1 presents the frequency distribution. Both samples represent good gender balance. In terms of education, majority has a bachelor's degree in the Chinese (160) sample but a master's degree in the Finnish (205) sample. Interestingly, Chinese respondents (majority, 26.70% spends 5 h or more) seems to spend much more time on online browsing, search, and news daily in comparison to Finnish people (majority, 37.41% spends 1 to 2 h). The majority of both Chinese (67.53%) and Finnish (41.01%) samples spend up to 1 h on social and professional networking sites.

3.2. Non-response bias

Non-response bias in web surveys arises from respondents not participating in the survey. We use the wave analysis to check for non-response in the samples (Armstrong and Overton, 1977). We divided each of the samples into two sub-samples. To maintain equal observations in sub-samples, the Chinese sample is divided into first and last 95 observations, and the Finnish sample into first and last 278 observations. Then, we test differences among demographic variables. Table 2 shows that most of the variables are not statistically significant among the sub-samples, except for education level in both the Chinese and Finnish samples, as well as age in the Chinese sample. Although statistically significant, the differences in average education level value among the sub-samples are lower than 0.25, and age difference among the Chinese sub-samples is only 2.78 years. None of which representing theoretically different groups. Thus, there exists no major risk of non-response bias in this study.

3.3. Normality check

The estimation approach in measurement model and structural model depends on the multivariate normality of measurement items (Hair et al., 2010). Table 3 presents the multivariate normality test results using the Mardia's test (Mardia, 1970), which rejects the null hypothesis of multivariate normality of data. For robustness, we also checked univariate normality of all measurement items using the Shapiro-Wilk test (Shapiro and Wilk, 1965). All p-values below 0.05 confirmed non-existence of univariate normality.

Table 1
Sample frequency distribution.

Variable	Categories	China (ZY)	Finland (Mesenaatti)
Gender	Female – 1	106	273
	Male – 2	85	283
Education	<12 years	5	63
	High school/ gymnasium	12	106
	Bachelor's degree	160	155
	Master's degree	13	205
	PhD degree	1	27
Average daily time devoted to online browsing, search and news	Zero	0	6
	Up to 1 h	39	181
	1 to 2 h	35	208
	2 to 3 h	34	93
	3 to 4 h	32	45
	5 h or more	51	23
Average daily time devoted to using social and professional networking sites	Zero	27	51
	Up to 1 h	129	228
	1 to 2 h	13	149
	2 to 3 h	6	81
	3 to 4 h	4	29
	5 h or more	12	18

ZY N = 191, Mesenaatti N = 556

Table 2
Response bias check.

	Mean first responders	Mean last responders	T	df	P Value
China (ZY)					
Age	29.947	31.474	−1.476	181.14	0.142
Gender ($\chi 2$)	—	—	0.000	1.000	1.000
Education level	2.884	3.042	−2.164	176.93	*0.032*
Web browsing time	4.179	4.032	0.677	187.45	0.499
Online networking time	3.347	3.358	−0.049	187.70	0.961
Finland (Mesenaatti)					
Age	41.259	44.040	−2.680	553.06	*0.008*
Gender ($\chi 2$)	—	—	0.000	1.000	1.000
Education level	2.942	3.155	−2.287	553.86	*0.023*
Web browsing time	3.047	3.165	−1.266	553.05	0.206
Online networking time	2.741	2.766	−0.254	553.11	0.799

Table 3
Multivariate normality test.

Test	Statistic	P-Value	Normality
China (ZY)			
Mardia Skewness	7068.226	<0.001	NO
Mardia Kurtosis	34.185	<0.001	NO
Finland (Mesenaatti)			
Mardia Skewness	26465.293	<0.001	NO
Mardia Kurtosis	124.769	<0.001	NO

3.4. Measurement model

A few approaches to measurement and structural model estimation with non-normal data exist. According to Rosseel (2012), the best approach is using the maximum likelihood robust (MLR) estimation based on the Satorra-Bentler scaled test statistic (Satorra and Bentler, 1994). Thus, we proceed with the MLR estimator of the *lavaan* package (Rosseel, 2012) of the R software for measurement model estimation. The *Semopy* package is a similar solution available for Python users (Igolkina and Meshcheryakov, 2020).

The concepts of attitude, perceived behavior control, subjective norms, financial contribution intention, information sharing intention and financial contribution behavior are complex and multi-faceted. Thus, we measure each of the concepts with multiple measurement items. First, we conduct exploratory factor analysis (EFA) using the full sample, that is, 747 observations, of which 191 are from the Chinese and 556 from the Finnish sample. We removed two measurement items with factor loadings below 0.40, that is, ATT5 and ISI4. Then, we proceed with confirmatory factor analysis (CFA) with the valid measurement items for Chinese and Finnish sample separately. Table 4 presents the measurement items with their corresponding factor loadings, Cronbach alpha values and sources. The ratio of chi-square and degrees of freedom for the Chinese (428.108/260 = 1.65) and Finnish (699.634/260 = 2.70) samples indicate good fit with their respective conceptual and observed models, which are below 3, as suggested by Bollen and Long (1992). The comparative fit index (CFI) and Tucker-Lewis index (TLI) values also exceed the recommended minimum threshold of 0.90 (Hair et al., 2010). The root mean square error of approximation (RMSEA) and the standardized root mean square residual (SRMR) values are below the cut-off value of 0.08 (Hair et al., 2010). Thus, our measurement model is acceptable.

Table 4
Measurement items, properties and sources.

Latent construct	Measurement items		China FL	Finland FL	Source
ATT (Attitude) α_C = 0.95 α_F = 0.91	ATT1	I think I would like contributing to crowdfunding campaigns.	0.884	0.843	ATT 1–2 adapted and modified from "attitude" (towards blog usage) in Hsu and Lin (2008)
	ATT2	I am likely to feel good about contributing to crowdfunding campaigns.	0.853	0.817	
	ATT3	I think contributing to crowdfunding campaigns is good for me.	0.912	0.779	ATT3-6 adapted and modified from "attitude" (towards online shopping) in Hsu et al. (2006)
	ATT4	I think contributing to crowdfunding campaigns is appropriate for me.	0.871	0.854	
	ATT5	I think contributing to crowdfunding campaigns is beneficial for me.	X	X	
	ATT6	I have a positive opinion about contributing to crowdfunding campaigns.	0.893	0.809	
PBC (Perceived behavior control) α_C = 0.86α_F = 0.75	PBC1	My engagement in contributing to crowdfunding campaigns is within my control.	0.817	0.397	PBC 1–3 adapted and modified from "perceived behavioral control" (towards participation in online travel community) in Casaló et al. (2010)
	PBC2	I would be able to contribute to crowdfunding campaigns (if I wanted to).	0.690	0.824	
	PBC3	The decision to contribute to crowdfunding campaigns is entirely mine.	0.842	0.815	PBC 4 adapted and modified from "perceived behavioral control" (towards online shopping) in Hsu et al. (2006)
	PBC4	Whether or not I contribute to crowdfunding campaigns is entirely up to me.	0.781	0.739	
SUBN (Subjective norms) α_C = 0.89α_F = 0.89	SUBN1	People who are important to me think that I should contribute to crowdfunding campaigns.	0.768	0.845	SUBN 1–2 adapted and modified from "social norms" (towards blog usage) in Hsu and Lin (2008)
	SUBN2	People who influence my behavior encourage me to contribute to crowdfunding campaigns.	0.827	0.782	SUBN 3–4 adapted and modified from "interpersonal influence" (towards online shopping) in Hsu et al. (2006)
	SUBN3	My colleagues think that I should contribute to crowdfunding campaigns.	0.871	0.786	
	SUBN4	My friends think that I should contribute to crowdfunding campaigns.	0.834	0.885	
FCI (Financial contribution intention) α_C = 0.93α_F = 0.91	FCI1	Given the chance, I intend to financially contribute to crowdfunding campaigns.	0.917	0.845	FCI 1–3 adapted and modified from "intention to transact" in Pavlou (2003)
	FCI2	Given the chance, I predict that I would financially contribute to crowdfunding campaigns in the future.	0.877	0.854	FCI 4–5 adapted and modified from "intention to participate" in Algesheimer et al. (2005)
	FCI3	It is likely that I will financially contribute to crowdfunding campaigns in the near future.	0.799	0.847	
	FCI4	I have the intention to financially contribute to crowdfunding campaigns.	0.897	0.898	
	FCI5	I intend to actively contribute to crowdfunding campaigns financially.	0.814	0.698	
ISI (Information sharing intention) α_C = 0.89α_F = 0.92	ISI1	I intend to share information about crowdfunding campaigns I know of more frequently in the future.	0.834	0.878	ISI 1–6 adapted and modified from "eWoM intention" in Cheung and Lee (2012)
	ISI2	I intend to share information about crowdfunding campaigns I supported more frequently in the future.	0.816	0.867	
	ISI3	I will always provide information about crowdfunding campaigns I know of at the request of others.	0.675 X	0.637 X	
	ISI4	I will always provide information about crowdfunding campaigns I supported at the request of others.	0.807	0.902	
	ISI5	I will try to share information about crowdfunding campaigns I know of in a more effective way.	0.820	0.912	
	ISI6	I will try to share information about crowdfunding campaigns I supported in a more effective way.			
FINC (Financial contribution behaviour) α_C = 0.88α_F = 0.88	FINC1	I frequently contribute financially to crowdfunding campaigns.	0.881	0.749	FINC 1–2 adapted and modified from "eWoM Participation" in Yoo et al. (2013)
	FINC2	I spend much effort in financially contributing to crowdfunding campaigns.	0.890	0.640	

China model fit (N = 191): $\chi 2\ (260) = 428.108$, CFI = 0.94, TLI = 0.94, RMSEA = 0.06, SRMR = 0.06.
Finland model fit (N = 556): $\chi 2\ (260) = 699.634$, CFI = 0.94, TLI = 0.93, RMSEA = 0.06, SRMR = 0.06.
Note that all factor loadings are statistically significant at 0.10%. FL refers to factor loading and X represents removal of an item due to low factor loading in EFA. α_C refers to Cronbach alpha value for Chinese sample and α_F for Finnish sample.

3.5. Validity and reliability

Convergent validity, that is, ensuring that items are measuring the latent construct is a prerequisite to SEM. All the factor loadings in Table 5 are statistically significant at 0.10% confirming convergent validity (Anderson and Gerbing, 1988). Divergent validity, that is, ensuring that latent constructs which are different from each other is established through the Fornell and Larcker (1981) criteria. In Table 5, we present the correlation matrix of the latent constructs and the square root of their respective average variance extracted (AVE) values on the diagonal. As all the correlation values of a construct are lower than their respective square root of AVE values, divergent validity is confirmed.

Table 5
Latent variable descriptive statistics and discriminant validity.

Variables	Mean	SD	ATT	PBC	SUBN	FCI	ISI	FINC
China								
ATT	5.552	1.188	**0.883**					
PBC	5.796	1.167	0.536	**0.785**				
SUBN	3.925	1.438	0.480	0.207	**0.826**			
FCI	5.420	1.253	0.716	0.449	0.485	**0.862**		
ISI	5.035	1.213	0.652	0.370	0.627	0.686	**0.792**	
FINC	4.031	1.543	0.540	0.287	0.606	0.678	0.637	**0.885**
Finland								
ATT	5.120	1.270	**0.821**					
PBC	6.280	0.920	0.208	**0.716**				
SUBN	2.940	1.380	0.408	−0.127	**0.826**			
FCI	4.260	1.380	0.650	0.088	0.355	**0.831**		
ISI	3.340	1.410	0.513	−0.011	0.411	0.579	**0.846**	
FINC	2.530	1.110	0.381	−0.065	0.387	0.655	0.584	**0.696**

Bold value presented on the diagonal are square root of AVE of the respective latent construct.

Moreover, the Cronbach alpha values (Cronbach, 1951) of all latent constructs in Table 5 are higher than 0.70, which confirms reliability.

3.6. Common method bias

Common method bias typically results from using the same measurement scale for all survey questions. Podsakoff et al. (2003) suggests a few approaches to check for common method bias. First, we use the Harman's single-factor approach by creating a single factor with all measurement items in EFA without any rotation. The single factor could explain 45% variance in the Chinese sample and 35% in the Finnish sample, both are below the recommended cut-off threshold on 50%. For robustness, we also use the marker variable approach (Williams et al., 2010). We use a three-item latent construct, trust, as the marker variable. In addition to its own measurement items, the marker variable loads all the measurement items of other latent constructs, too. The variance explained by this model is further reduced in both samples, while eliminating concerns of a common method bias problem in this study.

4. Results

As the aim of this study is to compare regression coefficients of the determinants of reward crowdfunding behavior between two cultures, we first need to confirm at least scalar invariance (Chen, 2008). To establish scalar invariance across the two samples, we estimate three multi-group measurement models. First model is the configural model, which is without any constraints across groups. In the second model, we fix factor loads as equal across groups. In the final model, we fix factor loadings and item incepts as equal across groups. Then, we compare model fit to achieve metric and scalar invariance of the measurement model. Initially, we failed to achieve metric invariance as the chi-square of configural and equal factor loading models are significantly different at 5%. In such cases, partial measurement invariance can be achieved after removing equality constraints (Byrne et al., 1989). As shown in Table 6, we achieve partial metric invariance after removing equal factor loading constraint from two items (ATT6 & SUBN3), and partial scalar invariance after removing equal item intercept constraint from 11 items (FCI5, ATT3, FINC2, PBC2, SUBN1, PBC1, ISI3, ISI1, ATT2, SUBN3). As we achieve partial scalar invariance, we can compare the regression coefficients across the samples.

For comparison of regression co-efficient, we estimate the model separately for the Chinese and Finnish samples, which we present in Figs. 1(a) and (b), accordingly. Both models meet the goodness-of-fit indices as the ratio of chi-square and degree of freedom (1.63 for Chinese and 2.67), both are below 3. Also, the CFI and TLI values are above 0.90. The RMSEA and SRMR values are below 0.08. While Fig. 1 depicts the standardized coefficients, we use the unstandardized coefficients for comparison of path coefficients across groups (see Table 7).

We compare path coefficients using the following equation (Clogg et al., 1995), where β represents unstandardized path coefficients and SE_β the standard error of β.

$$Z = \frac{\beta_1 - \beta_2}{\sqrt{(SE_{\beta_1})^2 + (SE_{\beta_2})^2}}$$

Table 7 presents the path coefficients for the Chinese and Finish samples, differences between path coefficients and the statistical significance of the difference. We find that the effect of PBC on financial contribution intentions is higher for the Chinese sample at 10% statistical significance. Also, the effects of SUBN on financial contribution intentions as well as information sharing intentions are higher for the Chinese sample at 10% statistical significance. The effect of information sharing intentions on financial contribution behavior is also higher for the Chinese sample at 10% statistical significance. In accordance with Cohen (1992) an effect size between 0.1 and 0.3.is a small effect. Accordingly, Δunstandardized beta > 0.10 may be considered as a small but not visible effect. And, hence, the effect of PBC on information sharing intentions and the effect of financial contributions intentions on financial contribution behavior is considerably higher for the Chinese sample.

Table 6
Measurement invariance.

	Df	AIC	BIC	Chisq	ΔChisq	ΔDf	Pr(>Chisq)
Metric invariance							
fit.configural	520	54,984	55,815	1321.8			
fit.loadings	537	54,981	55,733	1353	26.87	17	0.060
fit.intercepts	556	55,493	56,157	1902.8	530.83	19	< 2e-16
Scalar invariance							
fit.configural	520	54,984	55,815	1321.8			
fit.loadings	537	54,981	55,733	1353	26.868	17	0.060
fit.intercepts	545	54,977	55,693	1365.5	12.138	8	0.145

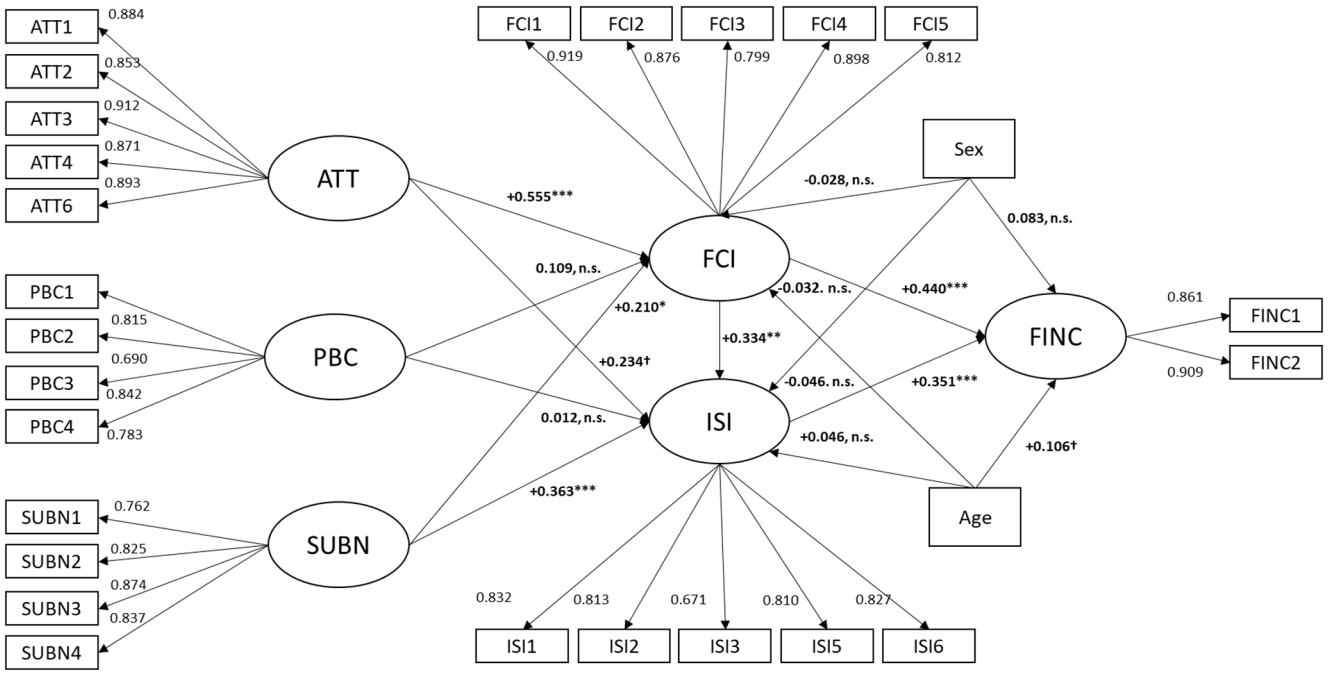

Fig. 1a. SEM estimation for the China (ZY) sample. China model fit (N = 191): $\chi 2$ (307) = 500.511, CFI = 0.94, TLI = 0.93, RMSEA = 0.06, SRMR = 0.07. †p < 0.10, *p < 0.05, **p < 0.01, ***p < 0.001. All values are standardized coefficients.

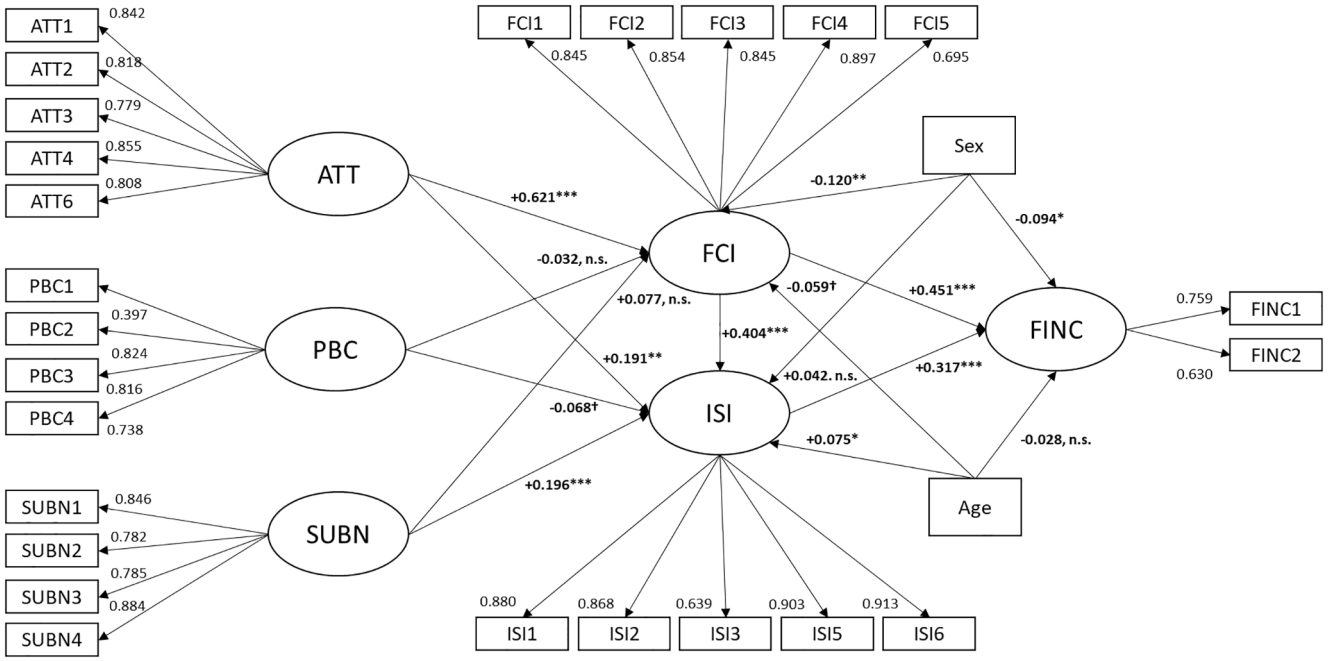

Fig. 1b. SEM estimation for the Finland (Mesenaatti) sample. Finland Model fit (N = 556): $\chi 2$ (307) = 824.584, CFI = 0.93, TLI = 0.92, RMSEA = 0.06, SRMR = 0.05. †p < 0.10, *p < 0.05, **p < 0.01, ***p < 0.001. All values are standardized coefficients.

5. Discussion

Our findings show that the model properly captures the antecedents of financial contribution intention in both cultural contexts, adding cross-cultural validity to the extended TPB model as suggested by Shneor and Munim (2019), while highlighting the moderating roles of the IDV dimension of national culture with respect to most effects. In the absence of earlier studies examining cross-cultural differences in the application of the TPB in crowdfunding, in the following discussion we compare our findings to studies of cross-cultural differences in the application of TPB in other behaviors related to consumption or online engagements.

First, our findings show that attitudes towards crowdfunding contribution are positively and significantly associated with both financial contribution and information sharing intentions in both cultural contexts. However, contrary to expectations, these effects do not vary between cultures. Such findings may be explained by the possibility that cultural congruence between crowdfunding contribution practice and cultural values exists in both contexts to similar degrees, though for differing reasons. Here, while enhanced sense of individual consumer

Table 7
SEM estimation results.

Hypothesis	Relationship	Unstandardized beta (China)	Unstandardized beta (Finland)	ΔUnstandardized beta	Z-statistic (p-value)	Remark
H1a	ATT → FCI	0.605*** (0.121)	0.648*** (0.053)	−0.043	−0.326 (0.372)	Rejected
H1b	ATT → ISI	0.244† (0.142)	0.199*** (0.062)	0.045	0.290 (0.386)	Rejected
H2a	PBC → FCI	0.123 (0.117)	−0.070 (0.078)	**0.193**	1.373 **(0.085)**	Rejected, Opposite supported.
H2b	PBC → ISI	0.013 (0.100)	−0.149* (0.082)	**0.162**	1.253 (0.105)	Rejected
H3a	SUBN → FCI	0.220* (0.097)	0.078 (0.048)	**0.142**	1.312 **(0.095)**	Supported
H3b	SUBN → ISI	0.364** (0.080)	0.197*** (0.044)	**0.167**	1.829 **(0.034)**	Supported
H4	FCI → ISI	0.319** (0.118)	0.402*** (0.063)	−0.083	−0.620 (0.268)	Rejected
H5a	FCI → FINC	0.490*** (0.122)	0.339*** (0.064)	**0.151**	1.096 (0.137)	Rejected
H5b	ISI → FINC	0.408*** (0.119)	0.240*** (0.054)	**0.168**	1.286 **(0.099)**	Supported
Controls	Gender → FCI	−0.071 (0.138)	−0.324*** (0.093)	0.253	1.520 **(0.064)**	No gender effect
	Gender → ISI	−0.111 (0.125)	0.113 (0.095)	−0.224	−1.427 **(0.077)**	No gender effect
	Gender → FINC	0.231 (0.158)	−0.189* (0.087)	**0.420**	2.329 **(0.010)**	Only in Finland females exhibit greater contribution behavior.
	Age → FCI	−0.006 (0.009)	−0.006† (0.004)	0.000	0.000 (1.000)	Weak negative age effect on FCI only in Finland.
	Age → ISI	0.008 (0.008)	0.008** (0.004)	0.000	0.000 (1.000)	Age effect on ISI only in Finland.
	Age → FINC	0.021† (0.011)	−0.002 (0.004)	0.023	1.965 **(0.025)**	Weak age effect on contribution behavior only in China

China *Model fit (N = 191): χ2 (307) = 500.511, CFI = 0.94, TLI = 0.93, RMSEA = 0.06, SRMR = 0.07.* ***Finland*** *Model fit (N = 556): χ2 (307) = 824.584, CFI = 0.93, TLI = 0.92, RMSEA = 0.06, SRMR = 0.07. Standard error in parenthesis. A negative* ΔUnstandardized beta means higher path coefficient for Finnish sample, and vice-versa. *†p < 0.10, *p < 0.05, **p < 0.01, ***p < 0.001.*

empowerment (Chaney, 2019) and consumers' ability to influence own future consumption (Steigenberger, 2017) are compatible with individualistic cultures, it can also be argued that engagement in collective action (Gleasure and Feller, 2018) and dependence on crowd wisdom (Polzin et al., 2018) are outcomes compatible with collectivistic cultural values. Hence, if crowdfunding contribution is considered as compatible with both cultures' values for different reasons, there may be no reason to assume such compatibility should be stronger in one culture versus the other.

Nevertheless, this finding is somewhat at odds with an earlier study by Pavlou and Chai (2002), who showed that attitudes had a stronger relation with e-commerce transaction intention in China than in the US. These differences may be explained by the fact that reward crowdfunding is not equal to e-commerce transaction, as it involves motivations beyond pure consumption (Gerber and Hui, 2013; Steigenberger, 2017). This explanation may receive support from a different study showing invariance between the US and China in terms of strength of the effects of attitude on intentions with respect to green consumption (Chan and Lau, 2002) and joining online brand pages (Muk et al., 2014), both of which can be regarded as involving motivations beyond simple consumption.

Second, our findings show that subjective norms that are viewed as encouraging crowdfunding contribution are positively and significantly associated with both financial contribution and information sharing intentions in China, but only with the latter in Finland. Furthermore, we show that the effects of SUBN on both types of intentions are significantly stronger in China than in Finland, although this significance is weak with respect to the specific effect of SUBN on financial contribution intentions. This confirms the assumption that expectations of sharing resources with other in-group members and the fact that such decisions are predetermined by the in-group, translate into stronger relations with financial contribution and information sharing intentions. These intentions capture both compliance with group expectations and the provision of public evidence about such compliance. These results confirm similar findings in earlier studies outside the context of crowdfunding contribution. Specifically, earlier studies documenting stronger effects of SUBN on intentions in collectivistic cultures with respect to engaging in e-commerce transactions in China vs. the USA (Pavlou and Chai, 2002), and in green consumption in China vs. the USA (Chan and Lau, 2002).

However, the same findings do contradict a different study showing stronger effects of SUBN on intentions to join online brand pages in the US vs. Korea (Muk et al., 2014). One explanation for this difference may be in the difference between joining a group and sharing resources with it. While invitation to join a group is a frequent and ongoing in collectivistic societies, it may be a rarer occurrence in individualistic societies, and hence it's greater effect on intentions to accept such invitations in individualistic cultures in order to enhance members' sense of belonging and social interaction (Muk et al., 2014). However, when it comes to sharing resources with members of a group, as in crowdfunding, such expectations are likely to be experienced more strongly in collectivistic environments than in individualistic ones, as resulting from the latter's stronger acceptance of individual ownership of resources (Hofstede et al., 2010).

Third, and surprisingly, we also find that PBC was not significantly associated with either of the intentions in China. While in Finland, PBC was only significantly associated with information sharing intentions. With respect to the absent and invariant effect of PBC on financial contribution intentions, a possible explanation here may be that surveyed users in both contexts represent those that may exhibit relatively high proficiency in social media engagement and digital payments and hence consider themselves capable to engage in crowdfunding, with little variance between individuals. Furthermore, since both cultural environments represent markets exhibiting relatively strong levels of adoption of digital payments, as well as social media engagements, there was also no difference in the salience of effects between the two cultures. A similar result was also identified by Muk et al. (2014) showing no effect of PBC over intention to join online brand pages in both the individualistic USA and collectivistic Korea.

Nevertheless, PBC's effect on information sharing intentions was significant in Finland but not in China, and was also stronger in Finland than in China. This can be explained by the notion that users in collectivistic cultures feel equally compelled to publicly show their engagement via information sharing regardless of their perceived control, as they perceive themselves to have equally little control over actions already viewed by the in-group as favorable. On the other hand, in Finland, control is exercised by not sharing information because of social pressure but doing so because one sees self-benefit. A similar finding was shown in the study of e-commerce adoption, where the effect of PBC on intentions was stronger in the individualistic US vs. the collectivistic China (Pavlou and Chai, 2002). An alternative explanation may be a unique facet of Finnish culture known as the virtue of 'Sisu', which

implies strength of will, determination, and not bowing to anyone (Sinkkonen, 2013). Sisu in this context may manifest in resistance to sharing information because of external pressure and only engaging in it at own will.

Fourth, while our study is the first to show a significant positive effect between financial contribution and information sharing intentions across cultures, the strength of such effect does not differ between the cultures. Here, the existence of such effect adds cross-cultural validity to the argument that self-presentation considerations impact information sharing intentions of those intending to contribute financially (Shneor and Munim, 2019). However, the lack of cultural differences in the strength of such effect contradicts our hypothesis. This can be explained by the fact that while members of collectivistic cultures may feel compelled to exhibit their group loyalty and compliance (Hofstede et al., 2010) via information sharing. At the same time, members of individualistic societies may be equally motivated to share information about campaigns they intend to support as means to enhance their self-interest (Ibid.) in increasing the likelihood of campaign success and receiving the rewards they wish to get.

Finally, our findings show that both financial contribution and information sharing intentions are positively and significantly associated with contribution behavior across cultures, and that these effects are significantly stronger in China than in Finland. These findings both provide cross-cultural validity to the assumptions of crowdfunding as dual natured incorporating both financial contribution and information sharing activities as suggested by Shneor and Munim (2019), as well as identifying a moderating effect of the IDV cultural dimension. The role of culture is explained by greater pressure for compliance with in-group expectations to contribute, as well as with congruence of word and action, as their level of engagement will be made known to the group at the end of the campaign.

However, these results contradict earlier studies showing a non-significant difference in strength of effect of intention to join brand pages and purchasing the brand's products in the US and Korea (Muk et al., 2014), and stronger effect of intention on actual green consumption in the US vs. China (Chan and Lau, 2002). These differences may be explained by the public nature of crowdfunding versus the private nature of consumer goods' consumption. Here, the embeddedness of crowding in a public call for action overseen by in-group members, ensures sharing of resources in accordance with group expectations in a collectivistic context. When one uses own resources for pure private consumption rather than for supporting a group member, social pressure may be less prominent and translation of intention to action may be equal to- or weaker than in individualistic cultures.

5.1. Limitations

Though our study presents interesting insights, it also has several limitations to be acknowledged. First, while our choice of national cultural contexts may properly capture individualistic and collectivistic cultures, they may also have unique aspects about them that may bias findings. These may include notions of 'Guanxi' in China, placing premium on long term investments in relationship development that results in mutual exchanges especially in business contexts (Luo, 1997), as well as notions of 'Sisu' in Finland representing a virtue implying strength of will, determination, and perseverance while not bowing to anyone (Sinkkonen, 2013). Accordingly, replication studies in other cultural contexts may help clarify the extent to which our findings may be generalized to other individualistic and collectivistic cultures.

Second, while we have argued for differences from the IDV cultural dimension perspective, building on the fact that the IDV is frequently used in cross-cultural psychology and consumer research (Aaker and Maheswaran, 1997; Chu and Choi, 2011), differences in terms of other cultural dimensions may also be relevant for analysis, including but not limited to power distance, masculinity-femininity, uncertainty avoidance, long-term orientation, and indulgence (Hofstede, 2001; Hofstede et al., 2010). Furthermore, these differences may interact with or overshadow the effects of IDV. Hence, while outside the scope of the current study, investigations into such questions are encouraged.

Finally, while we build on the TPB as our theoretical anchor, based on its prominence and repeated validations in a variety of Internet mediated marketplace contexts, such choice has also constrained our findings. Other factors influencing crowdfunding contribution behavior may also be influenced and moderated by cultural dimensions in general, and by the IDV dimension in particular. Accordingly, theories such as the technology acceptance model (Venkatesh and Davis, 2000), the unified theory of acceptance and use of technology (Venkatesh et al., 2003), and self-determination theory (Ryan and Deci, 2000) may all be successfully employed for this purpose.

6. Conclusions

The study examined moderation effects of the IDV cultural dimension with respect to reward crowdfunding financial contribution intentionality and behavior, as well as their antecedents. Our analyses relied on data collected from users of local reward crowdfunding platforms in China, representing a collectivistic culture, and Finland, representing an individualistic culture. Overall, our findings show that (1) the relation between attitudes and both financial contribution and information sharing intentions is invariant across cultures; (2) the relation between SUBN and both intentions is stronger in collectivistic China; (3) the relation between PBC and information sharing intentions is only evident in individualistic Finland, however, the relations between PBC and both types of intentions are invariant across cultures; (4) the relation between the two types of intentions is invariant across cultures; and (5) the relation between both types of intentions and contribution behavior is stronger in collectivistic cultures.

Overall, our study offers several contributions. First, it is the first study to present evidence for a cross-cultural validation of the extended TPB framework developed for the crowdfunding context, while exhibiting the dual nature of the phenomenon as involving both financial contribution and information sharing. Moreover, we present concrete differences in magnitude of effects that are explained by moderation effects of the IDV cultural dimension. Here, greater model generalizability may serve as an invitation for its employment in studies examining other cultural contexts, as well as with respect to backer behavior in different crowdfunding models (i.e. donation, equity, lending, etc.). Second, the study provides first evidence of the moderating effects of IDV, which are substantial for most associations in the extended TPB framework. Third, the study contributes by providing empirical evidence from domestic, national, and locally operating platforms that have received less attention in earlier studies, which were mostly focused on larger global platforms. These findings have important practical implications.

6.1. Implications for practice

Our findings help inform crowdfunding platforms in their service development efforts both towards domestic and international clientele. Here, platforms may be advised to focus R&D efforts on features that enhance social interaction and visibility of user engagements with campaigns. Since subjective norms carry weight across cultures in contribution intentionality and behavior, and even more strongly in collectivistic cultures, platforms should tap into the potentialities of value creation for campaigners (and indirectly for themselves) by supporting social information sharing and exchanges, visualizations of social engagement with campaigns, as well as interaction and communication between users on and across relevant platforms.

Other implications may be relevant for prospective fundraisers. Here, while the general rule of thumb may be to engage one's social network intensively regardless of cultural context, extra efforts in this direction may prove fruitful in collectivistic environments, but less

fruitful in individualistic environments. In such environments a certain degree of balance between social engagement and behavior control maintenance may be important to avoid triggering resistance to information sharing about the campaign. Here, again, crowdfunding platforms may invest in developing campaign support tools for fundraisers that will guide their social media engagements. Such tool may recommend scope, intensity, and timing of such engagements based on ongoing analysis of historical performance of similar messaging from campaigns aimed at similar target markets. Such tools may be even more helpful in platforms with international scope of activity, where different patterns may emerge from national cultural preferences as explored in current study.

Finally, our findings can also inform platform marketing communication strategies especially in the context of translating intentions to behavior. Here, incomplete transactions or more frequent visitations by users without resulting in financial contribution, may be followed up upon with tailored messages. For example, in collectivistic cultures prospective contributors can be encouraged to join specific friends (from their in-group) that have already contributed, and in individualistic cultures prospective contributors can be encouraged to enjoy, or not lose an opportunity to enjoy, the unique benefits of the product or service they have considered supporting.

6.2. *Implications for research*

Cross cultural studies in the context of crowdfunding are few, and those examining behavior are even fewer. Hence, opportunities for replicating the current study within different cultural contexts, sectors, as well as crowdfunding models, may all help test and refine the boundaries of the current findings' generalizability. Furthermore, opportunities also exist in further developing the core model by inclusion of additional variables that may also influence contribution intentionality and behavior. Such variables may be identified in other theories relevant for understanding human behavior and consumption.

Alternatively, future studies may also compare the current model versus alternative models refined from alternative theories, while examining the relative strength of the explanatory power of each. Such alternative theories may include the technology acceptance model (Venkatesh and Davis, 2000), the unified theory of acceptance and use of technology (Venkatesh et al., 2003), and self-determination theory (Ryan and Deci, 2000) to name a few.

Finally, longitudinal studies can collect either qualitative or quantitative data for examining the pervasiveness of cultural influence over time. Such efforts will help capture the effect of culture versus other competing explanations that are temporally anchored such as industry development level, individual experience with crowdfunding, or platform maturity.

CRediT authorship contribution statement

Rotem Shneor: Conceptualization, Methodology, Formal analysis, Investigation, Writing - original draft, Writing - review & editing, Project administration. **Ziaul Haque Munim:** Formal analysis, Writing - original draft, Writing - review & editing. **Helena Zhu:** Investigation, Writing - review & editing. **Ilan Alon:** Writing - review & editing.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.elerap.2021.101045.

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