

I Am What I Pledge

The Importance of Value Alignment for Mobilizing Backers in Reward-Based Crowdfunding

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Title: I Am What I Pledge: The Importance of Value Alignment for Mobilizing Backers in Reward-Based Crowdfunding (Pre-acceptance submission)

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Abstract: Crowdfunding has emerged as an important alternative financing tool for entrepreneurs.

Extant research on the antecedents of crowdfunding success have produced divergent results. By applying the cross-disciplinary lens of strategic linguistic framing, i.e. framing campaign messages in a way that is salient and that resonates with the values of the audience, we experimentally examine the role of value framing for a successful campaign outcome. Our results indicate that altruistically framed campaigns have a higher chance for funding as compared to campaigns that emphasize egoistic or environmental motives, but even more importantly, that message framing needs to be aligned with the personal values of the backers. As such, our study highlights important similarities between resource mobilization in social movements and in crowdfunding.

Keywords: Crowdfunding, Resource Mobilization, Framing Theory, Social Movements

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Introduction

The growth of reward-based crowdfunding as an alternative source of innovative financing has recently triggered great enthusiasm for its potential to enable a greater diversity of entrepreneurs access to important seed funds (Gerber & Hui 2013; Sorenson et al. 2016). This enthusiasm is in part related to the fact that – as compared to other forms of innovation capital and indeed other models of crowdfunding, such as lending or equity-based – the consumer plays a central role as a financier of the reward-based innovation. Considering that consumers represent a different kind of investor (Assenova et al. 2016a), they are also driven by a wider and distinct range of motivations as compared to traditional investors (Lehner 2013). Understanding this new kind of investor has thus been subject to increasing academic debates, especially regarding the success criteria of reward-based campaigns (Mollick 2014). However, empirical evidence to date has produced mixed results – while some studies suggest a social- or environmental value orientation of a given reward-based campaign to significantly increase its odds of receiving funding (Lehner & Nicholls 2014; Calic & Mosakowski 2016), other studies have found no such effect (Hörisch 2015; Cholakova & Clarysse 2015). Thus, despite enthusiasm from a range of actors, it is unclear under which conditions reward-based crowdfunding campaigns are successful in receiving funding. In this respect, the role of message framing has received little interest, despite its potential for shedding light on the criteria for crowdfunding campaign success. Against this background, the overarching research question we seek to examine in this paper is *“how does founders’ framing of a reward-based crowdfunding message affect the mobilization of backers and what values are conveyed in successful crowdfunding efforts?”*

In order to answer this research question, the paper builds on the tenets of framing theory, which suggests that individuals possess several cognitive frames of references, which serve as interpretative frameworks and guide individual perception when making sense of a situation and determining appropriate responses (Goffman, 1974; March & Simon, 1958). More specifically, our

study builds on framing theory as utilized in the literature of social movement mobilization, which found strategic linguistic framing, i.e. a salient message that is noticeable to an audience (Entman 1993) and resonates with their values (Snow et al. 1986; Giorgi 2017) plays a pivotal role in securing movement participation (Benford & Snow 2000). Considering that in reward-based crowdfunding entrepreneurs are equally concerned about mobilizing backers for their campaign, we investigate whether entrepreneurs' strategic linguistic framing affects backer's attention and influences their interpretation and action towards the crowdfunding campaign. Based on the theoretical literature on human values (Schwartz 1994), we operationalize these linguistic frames as egoistic, altruistic, and biospheric (Axelrod, 1994; Groot & Steg, 2008; Stern, 2000). These three values provide us with three salient linguistic frames that allow us to observe their individual effects on backer behavior, as well as the importance of an alignment between personal and campaign values on crowdfunders' decision making.

In order to observe causality between these three linguistic value frames and individual pledging behavior the study employs an experiment as this allows us to observe causal relationships not easily teased out with other methods (Trochim 2001; Colquitt 2008). We replicated an online crowdfunding platform which resembled what respondents would see in the real world and thus providing us with more external valid observations (Grégoire et al. 2019). More specifically, we investigate how the framing of reward-based crowdfunding messages as either egoistic, altruistic, or biospheric affects success of eight hypothetical projects seeking financing in return for the respective product. These three values – egoistic, altruistic and biospheric – reflect considerations on “what is in it for me”, “what is in it for others”, and “what is in it for the environment” when purchasing a given product (de Groot & Steg 2008). In practice these three values were used as a strategic framing device in a series of product campaign descriptions (Tversky & Kahneman 1981). By randomly assigning a range of products to one of the three values frames or a descriptive control, we were thus

able to observe how variations in these value frames influenced crowdfunders' willingness to support the respective product.

This study makes three contributions to the crowdfunding and entrepreneurship literature. First, we introduce framing theory and its application in social movement research as a relevant cross-disciplinary theoretical lens for studying resource mobilization in a crowdfunding context. By incorporating insights from psychology and sociology, we are able to explore how people react to differences in the way a crowdfunding project is presented to them. Research on crowdfunding has started to focus on the role of media content in crowdfunding (e.g. Allisson et al., 2013; Mollick, 2014), yet our understanding why some campaigns outperform others remains poorly understood (Kenny et al., 2017). By utilizing strategic linguistic framing as a theoretical lens, our findings provide relevant insights for crowdfunding scholars and practitioners by showing that the way in which a crowdfunding message is framed significantly affects backers' willingness to support the crowdfunding campaign. In addition, our study contributes to the framing literature by providing empirical evidence for how entrepreneurial ventures leverage linguistic frames to their (dis)advantage and more generally how the notion of framing affects crowdfunding dynamics in an entrepreneurial setting.

Second, we apply human value theory (Schwartz, 1994) to explain how the framing of a message as either emphasizing egoistic, altruistic, or biospheric values affects the willingness of crowdfunders to support the campaign. Our results show that in a reward-based crowdfunding context, altruistic cues outperform egoistic and biospheric ones, which is in line with the collectivistic culture that most crowdfunding platforms are promoting. More generally, our study confirms that the expression of personal values plays a significant role for facilitating impersonal exchanges in online business contexts.

Third, our study sheds light on the discrepancies discussed in the current crowdfunding literature by demonstrating the important, hitherto overlooked, interaction effect of value alignment. Extant research has found divergent results when trying to explain what type of message, an individualistically-oriented or collectivistic-oriented one, attracts crowdfunders to support a campaign (Lehner & Nicholls 2014; Cholakova & Clarysse 2015; Hörisch 2015). Our findings provide an explanation for the observed differences by highlighting the importance of message resonance, i.e. an alignment between the values expressed in the crowdfunding campaign and the personal values of the backer. Our findings thereby confirm similar observations made in the mobilization of movement participants (Snow et al. 1986; Giorgi 2017) and provide crowdfunding scholars and practitioners with an important, hitherto missing, lens for determining the successful outcome of a crowdfunding campaign.

Crowdfunding

Crowdfunding is often conceived as an open call for monetary investments facilitated by the internet that seeks to engage interested parties in donating, pre-purchasing, lending, or investing in a specific project or venture (Belleflamme et al. 2014). Although feasible without intermediary support, crowdfunding is increasingly enabled by platforms (such as Indiegogo and Kickstarter) that act as facilitators of the crowdfunding process in exchange for a commission (Mollick 2014). Hence, when seeking to characterize crowdfunding it is commonly subdivided into four models depending on the nature of the funding as illustrated in Table 1 (Cholakova & Clarysse 2015).

Table 1. The four models of crowdfunding

--- INSERT TABLE 1 HERE ---

We will exclusively focus on the phenomenon of reward-based crowdfunding in this paper (hereafter referred to simply as “crowdfunding”) both due to its more common prevalence as compared to for example equity-based crowdfunding (Cholakova & Clarysse 2015) and because the innovation financiers in this context are represented by consumers who represent a “a different kind of investor” from traditional innovation financiers (Gerber & Hui 2013; Assenova et al. 2016b; Short et al. 2017). The emerging crowdfunding literature has thus sought to explore the strategies and factors associated with achieving funding success with this new kind of investor (Bruton et al. 2015; Fleming & Sorenson 2016). This literature broadly distinguishes between three actors involved in the crowdfunding process: capital seekers, capital providers, and intermediaries (Moritz & Block 2016). The capital seekers represent the respective entrepreneurs that strive to entice consumers – i.e. the capital providers – to support their specific campaign. The interaction between the two is typically facilitated by an intermediary, platforms like IndieGoGo or Kickstarter, that serve to reduce information asymmetries and thus the risks involved for the participating parties (Burtch et al. 2013). Given the studies’ focus on crowdfunders’ willingness to pledge in certain campaigns, the paper builds upon the earlier work focused on the role of motives in the interaction between capital providers and capital seekers (Moritz and Block, 2016).

The motives of individuals for engaging in crowdfunding have been subject of studies and found to be multifaceted and often depending on the respective crowdfunding model (Ordanini et al. 2011; Lin et al. 2014). One area that remains particular contested is to what degree crowdfunders are motivated by their own needs and to what degree pro-social values (Defazio et al. 2020) or intrinsic motives play a role (Lehner & Nicholls 2014; Lin et al. 2014). While a significant number of articles suggest that “companies or projects with a social or non-profit oriented background have a higher probability of receiving crowdfunding” (Moritz & Block 2016, p.32) these proposition remain empirically weakly grounded and contradictory as exemplified by the diversity of insights emerging

from the literature (Testa, Nielsen, et al. 2019). While Calic & Mosakowski (2016), Defazio et al. (2020) and Testa, Roma, et al. (2019) find that pro-social and/or sustainability-oriented initiatives positively influences funding success, Hörisch (2015) and Lagazio & Querci (2018) counter these observations by respectively finding that neither environmental ventures nor social impact projects are better placed to receive funding as compared to other campaign types. Finally, Vasileiadou et al. (2016) find that a combination of motivations drive participation in crowdfunding campaigns ranging from hedonic goals (individuals want to improve the way they feel in a specific moment), gain goals (individuals aim at increasing or protecting their resources) or normative goals. Thus while researchers agree that entrepreneurial narrative (Manning & Bejarano 2016) and/or campaign framing (Defazio et al. 2020) significantly influences the likelihood of achieving funding success in a reward-based crowdfunding context the divergent insights with respect to what type of message leads to a successful campaign outcome warrants further examination.

Framing Theory, Social Movements and Backer Behaviour

Framing theory is an influential construct in the organizational literature, providing an explanation for how individuals represent their environment, i.e. how they construct meaning in context (March & Simon 1958). This is particularly important for our understanding of individual behavior and thus, for explaining individual decision-making (Walsh 1995; Gavetti & Levinthal 2000). At the core of the theory rests the assumption that individuals rely on mental shortcuts or knowledge schemas, which help to make sense of any given information (Bateson 1972; Goffman 1974). With this respect, a more nascent literature stream has studied how frames are co-constructed in social interaction with others (Nadkarni & Narayanan 2007; Dewulf et al. 2009). This literature builds on early works by Goffman (1974), who claimed that individual sensemaking, is socially

situated, i.e. is shaped and co-constructed in interaction with others. Following Kaplan (2008), we draw on framing as applied and conceptualized in social movement research (Benford & Snow 2000).

Crowdfunding in order to be successful requires collective action from a dispersed group of individuals that to a large extent are strangers to one-another (Nielsen 2018). Entrepreneurs must thus identify ways in which to engage and mobilize the support of strangers as a means for mobilizing resources, much in line with how leaders of social movements seek to engage individuals for their cause. In line with McKenny et al.'s (2017) call to examine "how resource mobilization theories regarding social movements (can) inform fundraising using crowdfunding" we propose that strategic linguistic frames, as noted by the seminal work on social movements by Benford & Snow (2000), represents one significant way in which to mobilize backers' support (Fisher et al. 2017; Pan et al. 2019). Linguistic framing represents a communication strategy employed by individuals or organizations to delimit the audience's attention to certain aspect of reality and influence their interpretation and action towards an issue (Benford & Snow 2000; Cornelissen & Werner 2014). Linguistic frames can adopt various forms, which are distinguished as discursive, strategic, contested, or diffusive (Benford & Snow, 2000). Considering our phenomenon of interest, we focus on strategic linguistic framing, which reflect deliberate, utilitarian, and goal directed frames that serve to mobilize adherents and acquire resources (Ibid). Strategic linguistic frames are thus seen to drive collective action as they allow social actors to compete for attention and audience action especially in circumstances characterized by **ambiguity** and uncertainty (Giorgi 2017). Studies have, for example, shown that linguistic frames help entrepreneurial ventures obtain venture capital funding (Pan et al. 2019), create legitimacy (Navis & Glynn 2010; Fisher et al. 2017), and attract investors (Martens et al. 2007).

Critical for the success of linguistic frames is their respective *salience* and *resonance*, where salience refers to the content of the message, while resonance refers to how that message is received

by its audience (Pan et al. 2019). Saliency more concretely refers to degree to which a linguistic frame is noticeable to an audience (Entman 1993) and employs a vocabulary that is widely available, accessible, and repeated as these attributes increase a message's noticeability and in turn its assumed significance (Tversky & Kahneman 1974; Cornelissen & Werner 2014). Salient linguistic frames have subsequently been found to be an effective strategy for influencing audiences' attitudes and behaviors (Cappella & Jamieson 1996). Resonance refers to whether the audience of the frame experience a personal connection with that frame and whether it strikes a chord (Snow et al. 1986; Giorgi 2017). For a linguistic frame to be effective it must be salient and has to align with the beliefs, expectations, understandings, or values of the audience in order to trigger action.

Our study seeks to examine how linguistic frames both in terms of their saliency, but also resonance influences the ability of a crowdfunding campaign to attract backers. In line with Fisher et al. (2017) and Pan et al. (2019) we propose that linguistic frames are essential to entrepreneurial ventures also in a crowdfunding context. First, the campaign message holds a strategic communicative value for entrepreneurs, as they cannot build on the advantages of a brand history, and must instead create a story that is salient with an audience to set themselves apart from the competition (Manning & Bejarano 2016). Secondly, campaigns must construct a message that resonates with the audience to garner backer attention and support. Here linguistic frames can be employed to construct messages that draw attention and evoke a personal connection. Thirdly, because the quality of a given campaign is subject to a significant degree of ambiguity and uncertainty linguistic frames can serve to facilitate a message that leaves a favorable impression with backers. We thus propose that the way a crowdfunding message is presented, commonly referred to as the "entrepreneurial narrative", affects the interpretation of the message by its audience (Martens et al. 2007; Fisher et al. 2017; Defazio et al. 2020).

Strategic Linguistic Frames in the Mobilization of Backers

In the context of social movements, Benford (1993) referred to “vocabularies of motives” to describe the framing efforts by which movement actors provide meaning for their activity and compelling reasons for followers to engage in the movement. Translating these insights into the phenomenon under study, framing could significantly influence decision-making in crowdfunding consumers, lenders, and restricted investors “make decisions based mainly on the presentation of campaigns, but with limited incentives to pursue due diligence or monitor and interact with the entrepreneurs” (Vismara, 2019). The basic assumption is that the way a crowdfunding message is presented, commonly referred to as the “entrepreneurial narrative”, affects the interpretation of the message by its audience (Allison et al., 2013; Herzenstein et al., 2011; Martens et al., 2007). We thus argue that entrepreneurs seek to provide a convincing vocabulary through their campaign texts to motivate support in reward-based crowdfunding (Manning & Bejarano 2016). Entrepreneurs who offer their products on a crowdfunding platform offer a campaign text that explains their *raison d’être* and provides convincing arguments that are supposed to ease the investment decision. A reward-based crowdfunding decision is thereby similar to conventional purchasing decisions, whereby products compete for the attention of the customer in light of hundreds of alternatives (Zhang & Chen 2019). Only those products that can communicate a clear added value will be perceived as unique vis-à-vis alternatives. The way in which a crowdfunding message is framed is thus expected to significantly influence the decision of consumers to support the project. Accordingly, we would expect that varying the framing of a crowdfunding message affects the decision of consumers to support the project, as documented in the entrepreneurship literature (Navis & Glynn 2010; Pan et al. 2019) but also evidenced within the nascent reward-based crowdfunding literature (see e.g. Defazio et al., 2020; Lagazio & Querci, 2018). What these studies show is that salient and resonant strategic frames transmit specific meaning and value to the audience, which will have an effect on the

likelihood that a backer will support the given campaign. In the context of the experiment we would therefore expect that a campaign text emphasizing any kind of strategic frame, transmits specific meaning and value for the audience, and will thus attract potential backers and increases their willingness to support the campaign. Therefore:

H1: Crowdfunding campaigns employing a strategic framing will receive more pledges as compared to campaigns that frame their message in a purely descriptive manner

Frame Salience and Frame Resonance in the Mobilization of Backers

One of the most thoroughly studied phenomena of strategic framing in social movements investigates how the frame relates to existing value or belief systems (Skillington 1997). We propose that in order to mobilize backers entrepreneurs, similar to social movement organizers, employ values both as means to create a salient message and in order to articulate their campaign in a way that resonates with their aspired target audience (Defazio et al. 2020). In order to operationalize the strategic linguistic frames we employ the theoretical literature on the substantive contents of human values (Schwartz 1994). Human values have been extensively explored empirically and are widely recognized as a key antecedent for behavior (Rokeach 1979; Schwartz 1992), representing “a desirable transsituational goal varying in importance, which serves as a guiding principle in the life of a person or other social entity” (Schwartz 1994, p.21). Thus, values firstly reflect a desired end-state, secondly remain abstract and transcend specific situations, thirdly serve as a guiding principle for, in this case, individual action, and finally are ordered in a system of priorities.

Facing conflicting empirical insights into whether backers strive towards personal or prosocial aims when engaging in reward-based crowdfunding, we argue that Schwartz’s (1992; 1994) conception of the polar values self-enhancement versus self-transcendence represents a fruitful tool to operationalize salience and resonance in our strategic linguistic frames. Accordingly, self-

enhancement values result in a prioritization of outcomes that optimize individual utility, while self-transcend values are commonly associated with prosocial or collective-oriented behavior (Parks et al. 2013; Van Lange et al. 2013). Our study draws on the later theoretical work by Axelrod (1994) and Stern (2000) and in particular the empirical work by de Groot & Steg (2008) in proposing three specific values, egoistic, altruistic and biospheric, that respectively reflect consideration on “what is in it for me”, “what is in it for others”, and “what is in it for the environment” when acting (de Groot & Steg 2008).

Frame Salience. The three values serve as salient and resonant frames through which we can observe the salience of strategic linguistic framing on backer behaviour as they represent vocabularies that are widely available, accessible, and repeated. In particular, we are interested in the degree to which emphasizing individualistic benefits along with a prioritization of outcomes that optimize individual utility, or a framing that emphasizes collectivistic benefits, i.e. rewards emphasizing altruistic (social) or biospheric (environmental) benefits, attract more pledges in a crowdfunding campaign. Given the mixed results in the crowdfunding literature (Testa, Nielsen, et al. 2019) and consistent with our theorizing, we rely once again on research on social movements (Hirsch 1990; Polletta & Jasper 2001) to propose that an emphasis on collective benefits will have a positive effect on the mobilization of backers for a crowdfunding campaign. Furthermore, as crowdfunding platforms are positioned as to “empower people to unite around ideas (..) and together make those ideas come to life” (Indiegogo, 2019), with some even reincorporating themselves as “Benefit Corporations” (Kickstarter, 2015), their missions explicitly emphasize the collectivistic benefits of using their platforms. This collectivistic positioning of crowdfunding platforms may further increase the likelihood that potential crowdfunders will react positively to campaigns that emphasize the altruistic or biospheric gains of their products. We therefore hypothesize:

H2: Crowdfunding campaigns emphasizing collective benefits will receive more pledges as compared to campaigns that emphasize individualistic benefits

Frame Resonance. Already in 1986, Snow et al. emphasized the importance of frame resonance for participation in social movements. The basic premise of frame resonance is that in order to mobilize followers, there needs to be an overlap between the values as articulated in the social movement frame with the personal values of the target audience (Snow et al. 1986; Stern et al. 1999). It follows then, that in order to mobilize backers for a crowdfunding campaign, entrepreneurs should seek for complementarity between the values they articulate in their campaign frame with the personal values of their aspired target group. The three values alongside providing salient frames also allow us to measure respondent values in an empirically validated fashion and thus to observe the degree to which resonance between individual values and campaign frame influences behaviour. The expectation based on theory is that we will observe a correlation between pledging behavior and the individuals' own stated values (Stern & Dietz 1994; Snelgar 2006). As individuals hold a relatively stable and small number of values, the personal values framework provides an efficient instrument for explaining similarities and differences in behavior and decision making (Rokeach 1973). To avoid forms of cognitive dissonance and distress, individuals are expected to act in ways that are consistent with their identity and values (Stern & Dietz 1994; de Groot & Steg 2008). When faced with competing values the individuals' choice is therefore based on the value considered most relevant to act on (de Groot & Steg 2008). For example, a person self-reporting highly within the egoistic value categories would thus be expected to pledge significantly more towards egoistically framed campaigns that emphasize personal gains, while a person high in altruistic values categories should be more willing to support campaigns framed in collectivistic terms, i.e. campaigns highlighting the altruistic gains of supporting the project. Thus:

H3: Alignment between personal values and values framed in the crowdfunding message will lead to more pledges as compared to campaign where no such alignment exists

Research Method

The study seeks to replicate a reward-based crowdfunding setting, where individuals pledge money with the expectations that if the campaign is successfully funded they will receive a tangible reward often in the form of a product or service (Mollick 2014). As opposed to other forms of crowdfunding such as lending and equity-based crowdfunding that skew towards professional investors (and some restricted investors) (Vismara 2019) reward-based crowdfunding is heavily dependent on consumers as source of innovation finance. The study is thus motivated to understand how founders' framing of a crowdfunding message affects the mobilization of consumers as they arguably represent a different kind of investor (Gerber & Hui 2013; Assenova et al. 2016a)

The vast majority of the literature on crowdfunding to-date has employed publicly available datasets (see Yu et al. 2017) to study for example backer behavior and while this method has significantly advanced our knowledge of the phenomenon they also have their respective drawbacks especially when seeking to observe the effect of values on behavior. For example, individual product campaigns only have one pitch and thus it is not possible to ascertain how the same campaign would have performed with an alternatively framed pitch. They thus lack counterfactual conditions that allow for the establishment of causality (Trochim 2001; Colquitt 2008). Comparing the effect of expressed value frames on success implies comparing multiple campaigns and even platforms at the same time with unknown and possible interacting features. For example, campaign success is dependent on a range of observed and unobserved features, which renders the isolation of the effect of "values" across contexts extremely difficult. Drawing on the work of Stevenson et al (2019a)

within the domain of equity-based crowdfunding we therefore employed an experimental design in order to observe causal effect of value frames on outcomes.

In order to observe causal effect of values frames on individual pledging behaviour, the study adopted a web experiment method inspired by past online experimental designs (see Camilleri & Larrick 2013; Oulasvirta et al. 2014). The campaigns varied in their framing of the campaign texts, emphasizing different values as well as a descriptive control. Each respondent was subsequently allocated the same fictive sum (200\$ per round over two rounds) which they were free to use (or not use) to back one or more campaigns. Respondents were asked to support campaigns as they would in reality for example by making it clear that they were not obligated to pledge anything if they so wished. This is also reflected in the data where the majority of the sample (65 pct.) utilized less than the full sum available to them. All respondents faced the same campaigns (a total of eight respective products), but the campaign text (or pitch) itself was randomly framed. By finally randomly combining the respective value frames within a specific campaign we could thereby observe how variations in a value frame for the respective campaign influences pledging behaviour. The application of an experiment thus allows us to observe how variations in values influenced pledging behavior towards those products. In this way, we tackled the research question by providing causal insights into under which circumstances and to what extent entrepreneurs can reliably garner support from consumers. In addition, the web-based nature of the experiment allowed for a better representation of how a crowdfunding website would look like, as opposed to e.g. a traditional public goods game used previously to study crowdfunding (Corazzini et al. 2015), thus overcoming a common criticism of experiments as being mundane and unrealistic (Stevenson et al. 2019b). Finally, the online nature of our experiment allowed us to employ a more diverse sample than the typical

college sophomore sample (see Reynolds 2010; Cooper et al. 2010). The sample was collected utilizing the survey provider Qualtrics who employed a stratified sampling approach¹ of the US.

Measures

Table 2 below provides an overview of main dependent and independent variables and how they were operationalized in the study, which are detailed further in the following subsections.

Table 2. Operationalization of dependent and independent variables

--- INSERT TABLE 2 HERE ---

Dependent variable. The dependent variable “pledges” is measured in relative percentage terms where the study observes each pledge as a pct. of the total sum pledged by the given individual. The study adopts a relative rather than absolute sum in order to account for the fact that 65.2 pct. of the sample pledged only part of their total allocated budget. A relative percentage of the total sum pledged was therefore seen to provide a more accurate account of pledging behaviour with regards to respective effects of the value frames. Accordingly, if subject A spent 50 dollars on campaign X and respectively 25 dollars on product Y and Z the respective relative pledge would be 50 pct., 25 pct. and 25 pct.

Independent variables. Much of extant literature differentiates values as either self-transcendence or self-enhancement values as a mean of understanding individual behavior. In this conceptualization, self-transcendence values are commonly associated with prosocial or collective-oriented behavior including pro-environmental behavior, while self-enhancement values result in a prioritization of outcomes that optimize individual utility often at a cost to the commons (Parks et al. 2013; Van Lange

¹ Simple random sample compiled using overall demographic quotas based on census percentages for representation: age, sex, ethnicity, household income, and census region.

et al. 2013). These two value dimensions have, however, been criticized as lacking when studying issues of sustainability leading to calls for a third value emphasizing the value of nature (Axelrod 1994; Stern 2000). The altruistic value focuses on a social good, while the biospheric value is focused on an environmental good. To better observe the nuances of different value framings, we employed the three *value frames* (*egoistic, altruistic, biospheric*) each of which serve to frame the respective campaign texts available to the respondents. In practice then a product with an egoistic value frame would reflect the benefits that given product provides in terms of the individual utility (e.g. design and personalization, individual monetary savings, individual health benefits). While an altruistic and biospheric frame would respectively have a strong focus on the benefits of the given product in terms of social utility (e.g. good labour conditions) or benefits of the given product in terms of environmental utility (e.g. recycled materials). As a control the paper opted for a descriptive “frame” as it represented the best available option for creating a control variable on which the impact of the respective other three value frames could be measured. These value frames were included both within the text itself and represented by the subtitle teaser text for the campaign. The inclusion of both a text and subtitle teaser was employed to identify potential simplification strategies that respondents may adopt in scanning campaigns. This approach also better mimics an actual crowdfunding website where campaign subtitle teasers play a key initial role in the selection of campaigns. For the sake of simplicity, the control is referred to as the descriptive value frame.

In order to validate that the product description reflected the intended value frames they underwent a series of iterative rounds. Firstly, they were created in group discussions with fellow researchers and subsequently pre-tested in ad hoc individual and group discussions. Subsequently, the resulting pitches were subjected to a validation process using a simple survey design. Firstly, utilizing a convenience sample, while the final two surveys employed a panel-based stratified sample (by region, gender, income) to ensure that any network or systematic biases that may have influenced

the convenience sample would not affect the validation process unduly. In the three iterative survey rounds a total of 293 participants were asked to label all eight product pitches, shown at random, utilizing the noted value frames. The snowballed convenience sample resulted in 96 completed responses, where 84 pct. of the project descriptions matched their intended value. The second purchased panel sample resulted in 89 completed responses, where 62 pct. of the project descriptions matched their intended value. The project descriptions that performed poorly were subsequently changed and all project descriptions were tested on a final third validation survey that resulted in 108 completed responses where 83 pct. of the project descriptions matched their intended value.

In order to account for the effect that personal values may have on individual pledging behaviour and to assess the role of value alignment in crowdfunders' decision making, the study employed de Groot and Steg's (2008) *personal value orientation scale (PVO)*. In line with Schwartz (1994), respondents were asked to rate on a 9 point Likert scale² the importance of the 12 value orientations "as a guiding principle in their lives". Each of the three personal values orientation (egoistic, altruistic and biospheric) was measured using four subsets. Mean scores were computed on items included in each scale. Cronbach's alpha was .78 for the egoistic PVO, .81 for the altruistic PVO and .91 for the biospheric PVO (M = 1.11, SD = .23). In order to account for scale use biases at individual level we employed Lindeman & Verkasalo (2005) approach where each of the respective PVOs were obtained by dividing the sum of the appropriate items by the personal mean of all items multiplied by the number of items on the scale. For example, the score of value egoistic PVO was counted as follows: Egoistic = (social power + wealth + authority + influence)/(4 × personal mean of all items).

In order to account for the effect that products may have on individual pledging behavior the experiment sought to minimize differences between products in terms of price, popularity, and sex

² 7 'extremely important' to 0 'not important', -1 opposed to my values. Respondents will be encouraged to vary the scores and to rate only a few values as extremely important

specific preferences. Table 3 provides an overview of the eight *products* included in the web experiment.

Table 3. Overview of the eight products

--- INSERT TABLE 3 HERE ---

Firstly products were selected to be within the same price range within the two respective rounds of the experiment; products in round 1 were priced between 20 and 25 US dollars, while products in round 2 were priced between 115 and 130 US dollars. These price differences in products were also implemented in order to observe the potential effect of price on the influence of the three campaign value frames. Secondly, the products themselves were inspired by past successful reward-based crowdfunding campaigns in order to ensure that all products were attractive to consumers and to increase the external validity of our experiment (Grégoire et al. 2019). Finally, the products themselves were pilot tested in smaller group discussions in order to confirm that they were generally appealing to a broad audience and were as gender neutral as possible.

The study also employed Zaichkowsky's (1994) Personal Involvement Inventory (PII) as post-test to account for the individuals' respective interests in the eight different products presented, where the respective individuals' final PII score was indicated on a scale from 10 to 70 their respective level of interest in that product. The Cronbach's alpha for the PII again also exceeded the 0.7 threshold³. Appendix A & B includes an overview of respectively de Groot and Steg's (2008) PVO scale and Zaichkowsky's (1994) Personal Involvement Inventory.

Control variables. The control parameters for all models included age (years), education (years), income (categories), seven dummy variables labelled "sex(female)", "married", "retired",

³ Cronbach's alpha was for the respective products was between 0.93 and 0.98.

“unemployed”, “full invst”⁴, “Price”, “Knowledge of CF” and “Participated in CF”. Knowledge of and participation in crowdfunding were measured based on filter questions starting with Yes/No answers. Respondents answering yes to both were asked to proceed onto additional questions regarding the type of crowdfunding supported and number of times (s)he had supported a campaign within a six-month period. Finally, seven dummy variables for seven of the eight products were included in order to account for the respective individual effects of the products themselves. Product 8 – Vulcan – was used as the reference category. Table 4 provides an overview of the descriptive statistics and correlation matrix for the individual variables introduced above – not including the campaign value frames, price or products themselves as these variables are present independent of individual choice and hence equally distributed.

Table 4. Descriptive statistics and correlation matrix.

--- INSERT TABLE 4 HERE ---

⁴ Dummy coded variable for respondents who used their total allocated budget.

Design

To investigate our hypotheses our study employed a 4 (three values frame and control) x 4 (four products) between-subject design, where each respondent faced two rounds of this design that varied by product. The experiment itself employed a blocked design as illustrated in Table 5 consisting for four blocks resulting in respectively 232, 221, 270, and 254 unique respondents within each block as will be detailed more in the following section.

Table 5. Experiment block design.

--- INSERT TABLE 5 HERE ---

In order to strengthen the external validity of the experiment was coded utilizing HTML5, CSS and JavaScript in order to mimic existing reward-based crowdfunding platforms with a number of embedded surveys. The coding served to create a realistic interface while the embedded surveys served to record respondent pledges towards the respective products and eventually their PII, PVO and control variables. Finally, the respondents' IP-address served to connect the respondents' choice to the specific condition. Figure 1 below seeks to illustrate the respondents' path through the experiment from initial randomized assignment to one of the four previously noted blocks to the final survey.

Figure 1. Experiment and Survey Flow

--- INSERT FIGURE 1 HERE ---

Each of the two rounds of the experiment included a main index page – providing the respondent with an overview of all four campaigns including a value framed subtitled teaser text –

and four sub-pages linked to the main index page for each of the four products. In addition to the two rounds the web experiment was preceded by an explanative introduction and after the first round a product evaluation of four initial products (Powercell, Vacuum, Dora Bars, Advensac) was conducted. Finally, after round 2 another product evaluation was conducted on the final four products in addition to a questionnaire on a number of personal characteristics.

Sample

Utilizing the survey provider Qualtrics, the web experiment was circulated to a representative national sample within the United States (US). The US represents a leading country for crowdfunding exemplified by the fact that the two biggest reward-based platform Kickstarter and IndieGoGo have their headquarters and main operations in the US. Given this particularly relevant context, the US seemed like a natural first point of departure for studying the phenomena (Mollick 2014). The subjects were collected utilizing a simple random sample of the US population, considering overall demographic quotas based on census percentages for representation: age, gender, ethnicity, household income, and census region. In total, 977 valid web-based experiments were completed (response rate 51%). Table 6 illustrates the main summary statistics for the sample composition.

Table 6. Main summary statistics for the sample composition. (n=977)

--- INSERT TABLE 6 HERE ---

In addition, the study also sought to observe respondents knowledge of and participation in crowdfunding as detailed in Table 6.

Table 7. Knowledge of and participation in crowdfunding. (n=976)

--- INSERT TABLE 7 HERE ---

To this date there is only a limited literature on the demographic makeup of those who participate in crowdfunding and thus the degree to which this study captures a representative sample of these individuals remains difficult to ascertain. Smith (2016) and Zhang et al. (2014), who focus on respectively the US and UK crowdfunding market, provide some insights that suggest that the sample may underrepresents the number of people who partake in crowdfunding. It should, however, be noted that the study finds no observable effect of either knowledge of, or participation in crowdfunding in any of the models run. Furthermore because of crowdfunding's rapid expansion it is difficult to ascertain who will or will not crowdfund in future and thus the study sought a representative sample rather than a selective one.

Screening, Dropout and Selective Attrition

Figure 2 seeks to provide an overview of the number of respondents who either dropped out of their volition or who were dropped by the experimenters due to low-quality data. As is clear a total 2077 individuals were initially invited to take part in study via an anonymous link distributed by Qualtrics, while our final number of respondents was 977. The following section provides and overview of the screening and dropout levels throughout the study.

Figure 2. Dropout rates across the experiment

--- INSERT FIGURE 2 HERE ---

Initially 176 respondents dropped out before commencing experiments as they only clicked the anonymous link, but otherwise did not engage in any further activity on the platform. This resulted in 1901 respondents divided across the four blocks as detailed above. In order to arrive at the final 977 respondents a significant number were of respondents were dropped from the experiment either because of low-quality data (in white) or because they dropped out of their own volition (in black). If we firstly focus on respondents who were dropped due to low-quality data this process was partly based on automated procedures from the survey providers side including straight line or pattern grid responses, bad verbatims to open end questions, and surveys completed in less than mean + 2 SD of average time. In addition within the two experimental rounds, where we see the largest number of respondents dropped due to low-quality data, respondents were asked in the introduction to experiment to indicate both those product campaigns they were interested in by assigning a monetary amount they would be willing to pledge, and secondly, to indicate which product campaigns did not appeal to them by inputting '0'. This additional attention check was implemented in order to minimise circumstances where respondents would either only browse a single product or skip the experiment entirely and proceed to the survey. Respondents who failed to note interest or disinterest in more than two out of the eight products displayed were dropped from the final sample. Only in circumstances where both the survey provider and the experimenters agreed on the validity of the responses, did respondents get compensated. Respondents were given the opportunity to object.

Overall including both respondents dropped due to low-quality data or who dropped out of the experiment independently we observe a mean dropout rate for the experiment of 48%. While this process arguably results in better data it could also result in internal validity issues and should both be expanded on and accounted for as noted by Zhou & Fishbach (2016, p.4) who suggest one should be “concerned if dropout rates are substantial (e.g., 20% or above), because [of] the threat of compromised internal validity due to selective attrition”. While we realise, they refer to experimental

attrition/mortality we nonetheless saw it as necessary to control for potential negative consequences of weening out this high number of respondents.

Firstly, given the fact that online experimental studies result in higher dropout rates the study was designed in a way to minimize the potentially harmful effects of selective attrition. The design was implemented in such a fashion that no block was more arduous to complete as compared to the others. This was implemented to avoid skewed dropout rates between interventions that are comparably more or less arduous – this is also reflected in similar dropout rates for the four blocks where participants were randomly assigned to (Block 1 - 48%, Block 2 - 46%, Block 3 - 48%, and for Block 4 - 52%). To account for variations in respondent dropped within the respective blocks, we ran a number of regression analyses to account for variations in demographic compositions⁵. For the variables of income (categorical), married (dummy) and female (dummy) we observe that block BD was significantly different and while we would expect to observe some significant differences when running six variables in a four-way comparison, these differences nonetheless require a secondary control. We therefore sought to observe whether this resulted in any significant difference with regards to the personal values of the participants or product evaluation across groups as this could bias the results. No significant differences were observed. Given this lack of significant variance between the experimental blocks, the noted design of the experiment, and similar dropout at similar intervals between the respective blocks we believe that the effect of selective attrition on our results will be negligible.

⁵ Age, income, education, married (dummy), female, education, knowledge of crowdfunding

Results

The hypotheses were tested using Stata 15 utilizing a mixed-effects linear regression in order to account for the fact that observations at individual level are correlated to the two respective rounds in the experiment and thus cluster⁶. All models include the noted control variables.

Hypotheses 1

Model 1 in Table 8 relates to the testing of Hypotheses 1 where we observe that all campaign value frames have a significant positive effect on relative pledges as compared to the descriptive control. Thus, confirming that the three respective value frames had positive effect on amount money individuals were willing to pledge towards the respective products.

Table 8. Effects of campaign value frame on pledges (n=973)

--- INSERT TABLE 8 HERE ---

Hypotheses 2

In order to test Hypothesis 2, Model 2 observes how the respective value frames compare to one another by respectively holding the egoistic and altruistic value frames constant. This allows us to observe, one, whether the effect of values associated with collective benefits differ significantly from a individualistically-oriented value and two, whether values associated with collective benefits values differ significantly from one another (altruistic vs. biospheric). As illustrated in Table 9 and Figure 3 we interestingly observe that only the altruistic values had a significant positive effect on pledges as compared to the egoistic control. The biospheric value frames in our study conversely do

⁶ A single linear regression could and was also employed with similar results. The study however opted for mixed-effects linear regression in order to account for the noted clustering at the individual level

not significantly differ from the egoistic value frames. Thus, there appear to be significant differences with regards to the effect on behaviour on whether a self-transcendent message is oriented towards human well-being (altruistic) or the environment (biospheric).

Table 9. Effects of campaign value frame on pledges (n=973)

--- INSERT TABLE 9 HERE ---

Figure 3. Effects of campaign value frame on pledges (n=973)

--- INSERT FIGURE 3 HERE ---

Hypotheses 3

Models 3 reported in Figure 4 test Hypotheses 3 that reports on the effect of value alignment between the egoistic, biospheric and altruistic values conceptualised by de Groot & Steg (2008).

Figure 4. Interaction effect between campaign value frame and personal value orientation (n=898)

--- INSERT FIGURE 4 HERE ---

As illustrated in Figure 4 there is a significant positive relationship between PVO and campaign value frame (interaction effect table available in Appendix C). Model 3 confirms that egoistic, altruistic and biospheric PVO have significant positive effects on pledges towards campaigns that are framed in line with respondents PVO.

Discussion

By employing framing theory, and more specifically by consulting the literature on strategic linguistic framing, our study sought to uncover not only how *salient* crowdfunding messages attract audience attention as explored by existing literature (Testa, Roma, et al. 2019; Defazio et al. 2020), but more importantly to unravel the role of message *resonance* (Snow et al. 1986) for our understanding of success or failure of a given crowdfunding campaign. In particular, we aimed at reconciling the discrepancy observed in existing literature, where some researchers have found crowdfunding campaigns that highlight collective benefits to be an antecedent for success (e.g. Calic & Mosakowski 2016; Testa, Roma, et al. 2019; Defazio et al. 2020), while others found the opposite effect, namely individualistic benefits to increase the chances of a successful campaign outcome (e.g. Hörisch 2015; Lagazio & Querci 2018). Given the discrepancies in answering this highly critical question, we conducted an experiment to contribute reliable evidence on the underlying causal effects that fuel this on-going debate. The most interesting outcome of our study relates to two findings that help to shed light on the opposing results of extant literature: First, we find campaigns framed toward collective rather than purely individual benefits to receive significantly more financing, however, only if those collective benefits espoused are oriented toward social rather than environmental gains. Second, we find value resonance to be critical in order to further nuance these observations. With this respect, our study reveals that individuals' are willing to support a crowdfunding project when their own values—irrespective of the type of value – align with those emphasized in the campaign frame.

Building on the quickly growing literature, which examines the linguistic strategies employed by entrepreneurs (Martens et al. 2007; Cornelissen & Clarke 2010; Manning & Bejarano 2016; Cappa et al. 2020), our study shows how competing linguistic strategies influence the likelihood of achieving success in reward-based crowdfunding contexts. In line with studies investigating social movement mobilization we proposed that linguistic frames represent one way through which entrepreneurs

create narratives that are salient and resonate with a perspective audience (Pan et al. 2019). In particular we were interested in how value frames focused on either collective or individual benefits perform in a crowdfunding setting. On an aggregated level we find that entrepreneurs who employ strategic linguistic frames oriented towards collective benefits outperform those emphasizing individualistic benefits, however, only when oriented towards social (e.g. fair payment, equal rights) rather than environmental gains. Our findings thereby partially support the study by Calic and Mosakowski (2016) who distinguished between the social- and environmental-orientation of a campaign and found both types to increase the number of pledges – with the exception of the film and video industry where only social orientation led to higher pledges. Our findings challenge these authors' observations by showing that an altruistic frame leads to significantly higher pledges than either a biospheric or egoistic frame – *across industries*. Furthermore, our study provides support for the results of Hörisch (2015), who found no positive relationship between environmental orientation and funding success, and is in line with studies that find campaigns emphasizing social values as well positioned to receive funding from the crowd (Testa, Roma, et al. 2019; Defazio et al. 2020). Taken together then, our observations suggest that even though social and environmental entrepreneurship share many similarities (Thompson et al. 2000; Belz & Binder 2017), in the context of crowdfunding, a differentiation between social and environmental entrepreneurship is highly critical for our understanding of the dynamics at play. Altruistic and biospheric value frames rather than correlating, as we would have expected, result in significantly different pledging behavior. We thus contribute to the entrepreneurship literature by providing insights into how competing linguistic narratives translate into backer (in)action in reward-based crowdfunding. Our study also contributes to the framing literature by providing evidence for how entrepreneurial ventures may leverage linguistic frames to their (dis)advantage and more generally adding insights to the “few studies that have examined how the notion of framing plays out in the entrepreneurial setting.” (Pan et al. 2019, p.13).

The second and most intriguing insight relates to the criticality of value resonance between values communicated in a crowdfunding campaign and values of the targeted backers. While our results confirm a heterogeneity of backers' values as observed by Vasileiadou et al. (2016), we critically extend these authors' insights by showing that consumers seek value alignment when deciding to support a crowdfunding campaign. We derived our assumption that value alignment might be an important missing puzzle piece from the social movement literature, where the successful mobilization of a crowd has been linked to movement leaders' ability to link the movement to followers' existing values and beliefs (Snow et al. 1986; Zuo & Benford 1995; Stern et al. 1999). Indeed, our results depict a significant interaction effect between personal value orientation and campaign value frames, which provides us with an important additional lens to interpret extant literature. More specifically, this might explain some of the variation regarding crowdfunders' preference for collective and individual benefits, as past research has not controlled for crowdfunders' personal values. Reward-based crowdfunding therefore appears to enable a greater diversity of entrepreneurs access to funding: from traditional entrepreneurs pursuing an economic bottom-line, to social and environmental entrepreneurs pursuing respectively an economic and social/environmental bottom-line (Shah & Tripsas 2007; Lenox & York 2012; Belz & Binder 2017). The antecedent of success is thus not simply the salience of the given message, but arguably more importantly how this message resonates with the target audience.

Limitations and Avenues for Future Research

As noted by Simons et al. (2017) all studies are constrained by their sample, material, procedures and historical/temporal setting, which in turn give rise to opportunities for further research. This is not any different for our study. Firstly, in terms of our sample we opted for a US context and thus our observation should not be extended beyond these confines without risk of losing

a significant degree of generality given the centrality that distinctive institutional context have in shaping both organizations (e.g. Whitley 2003) and individuals (e.g. Schwartz 1994). Cross-country comparisons would thus be welcome, for example, comparing our findings with that of a Scandinavian sample as they are “routinely cited as a global leader in corporate social responsibility (CSR) and sustainability.” (Strand et al. 2015, p.1). In addition, with relation to our sample many experiments to-date suffer from the so-called ‘college sophomore problem’ reflecting the overrepresentations of college students (Sears 1986; Cooper et al. 2010). The resulting observations have led to avid debates on the reliability of these studies when seeking to generalize findings across the population at large (see Reynolds 2010; Cooper et al. 2010). However, despite these criticisms college student still represent the most commonly utilized sample group perhaps because most experiments require pre-installed, linked and synced software to run⁷ (Cooper et al. 2010). The emergence of online or web experiments (see Reips 2000), however, offer an alternative option that provide a “serviceable replacement for more traditional data sources, such as college students and other similar convenience samples” (Zhou & Fishbach 2016, p.1; see also Paolacci & Chandler 2014). The study therefore opted to embrace this approach utilizing a browser-enabled design with the specific goal of being able to approach a more representative sample. Despite these measures, we acknowledge that some limitations regarding our sample remain, as it was collected on basis of demographic quotas that are imperfect means to achieve representativeness. Furthermore, despite significant efforts certain groups remain underrepresented, for example young males, as they proved prone to dropout and failing our attention filters.

Furthermore, our experiment, albeit seeking to recreate an authentic crowdfunding website, can only resemble some aspects of the actual crowdfunding experience. With this respect, we did not include the ability to screen and communicate with the founders of the campaign, see the actions of

⁷ Natural (or open) experiments are increasingly being conducted, but are typically significantly more costly than their closed counter-parts and often difficult to conduct.

others, or share experiences via social media – all aspects that have been found to be important signaling factors in past research on the phenomenon. The simplification of the process was necessary in order to observe meaningful causal connections between variables. However, this approach also removes complexity and thus runs the risk of oversimplifying or missing out on key causal influences on decision-making. Replication studies and not least studies that seek to build upon and extend our observations would be highly encouraged. For example, exploring how different models of crowdfunding (reward vs. equity) may be influenced differently by value frames would be an interesting focus area. As reward-based crowdfunding is more strongly connected to consumer decision making and equity-based crowdfunding to investor decision making, it would be intriguing to explore whether our observations can be replicated in an equity crowdfunding context as well. It would also be interesting to observe how individuals respond to competing cues, for example, value framed project description that are influenced by individual characteristics competing with different levels of funding that signal social approval.

Next, the hypothetical nature of the experiment could have created skewed observations due to a potential social desirability bias. In order to overcome this issue, one could introduce real costs to respondents' behaviour. This could be achieved by employing a similar design as in our study, but with real products that can be framed in various ways and then stating that a certain number of participants drawn at random will be given the products they purchase in addition to the left-over budget. Alternatively, one could construct a closed public-good experiment where campaigns that hit a certain level of funding will result in participants being rewarded, while the ones that fail to reach their funding goals will lose.

Moreover, the study could have employed a conjoint analysis to partition respondents' decisions into their underlying preferences structures and decision rules (Lohrke et al. 2009). This would have allowed us to observe how a range of attributes effected the respondents' decision-making

as opposed to observing only how variations in value frames effected respondents' willingness to support a given product. Future studies may, however, consider a conjoint analysis in order to gauge the effect of multiple attributes on crowdfunders' behaviour.

A further interesting avenue for further research relates to the theoretical embedding of the phenomenon. In this study we have employed a strategic linguistic framing theory lens as applied in the literature on social movements to better understand the role of values in crowdfunding campaigns. We thereby respond to calls for adopting a cross-disciplinary approach to crowdfunding research (McKenny et al., 2017). Future research might further extend our work by considering other models from the social movement and collective action literature. The research on collective identity, for example, has been found to be a relevant lens for explaining the dynamics of resource mobilization in social movements (see overview article of Polletta & Jasper 2001). Considering the recent upsurge in the application of identity theories to entrepreneurial phenomena (Fauchart & Gruber 2011; Mathias & Williams 2014), the notion of collective identity formation, as well as the relationship between founder identity and crowdfunders' collective identity (identity alignment) might be a particularly promising avenue for future research.

Implications for Practice

The results provide fresh insights into an emerging debate relating to the potential of crowdfunding to support entrepreneurship. Firstly, our findings show that while some consumers respond positively to campaigns emphasizing intrinsic benefits, an emphasis on such collective benefits cannot be seen as a silver bullet for crowdfunding success. Indeed, while we find that an emphasis on altruistic benefits leads to an overall higher willingness to support the campaign, we find no such effect in the case of products emphasizing the benefits for the environment, but rather that

the attractiveness of a crowdfunding campaign is dependent on the alignment with the values of the respective target audience.

Thus, secondly, when seeking to garner funding via a crowd, the importance of customer segmentation and a thorough understanding of these customers' values and expectations remains the most relevant task before designing and launching the crowdfunding campaign. Our results clearly show that the willingness to invest in a campaign largely depends on the alignment between backers' values with the values transmitted in the campaign. Aligning the campaign to the values and expectations of the target audience is even more important than when trying to attract professional investors with the crowdfunding campaign, as their expectations and decision-making criteria differ considerably from that of consumers (Roma et al. 2017).

Finally, the findings provide implications for sustainable entrepreneurs, for whom crowdfunding has been emphasized to provide a relevant fundraising opportunity (Testa, Nielsen, et al. 2019). On the one hand, the fact that crowdfunding is driven largely by consumers rather than professional investors does not in itself change consumer demands; demands which more often than not fail to correlate with sustainable behavior (Sheeran 2002; Webb & Sheeran 2006). While one may argue that the motivations of funders for pledging towards a campaign may be different from those of a professional investor, our results seem to confirm that consumers seek to satisfy their own values when deciding to invest in a crowdfunding campaign. On the other hand, this does not imply a lack of significant potential for sustainable entrepreneurs' success in reward-based crowdfunding. Considering the increasing concern for sustainability and because of our finding that value alignment has a particularly high potential in a crowdfunding context, sustainable campaigns focusing on a clearly delineated target group have a high likelihood to reach their aspired funding goal.

Conclusion

Reward-based crowdfunding has emerged as an increasingly common source of funding for entrepreneurs. Yet, the conditions under which crowdfunding campaigns are successful have produced mixed results: while some studies suggest financial rewards to remain the most relevant investment criteria, other studies point to the uniqueness of crowdfunding as a context where social and environmental rewards prevail in the decision-making process. By applying the cross-disciplinary lens of strategic linguistic framing, i.e. framing campaign messages in a way that is salient and that resonates with the values of the audience, we find that the way in which a crowdfunding message is framed significantly affects backers' willingness to support the crowdfunding campaign. Even more importantly, we unravel that the success of a campaign text is moderated by crowdfunders' own personal values. This finding implies that campaign messages need to be framed in a way that are aligned with the personal values of the targeted crowdfunders to be truly effective.

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Tables and Figures

Table 1. The four models of crowdfunding

Crowdfunding Model	Definition
Donation-based	Donation towards a specific project with no expectations of financial or material returns.
Reward-based	Individuals invest a pre-defined amount of money with the expectation that if successfully funded, they will receive a tangible (but non-financial) reward, product or service.
Lending-based	In the lending-based model the crowdfunder lends a small amount of money to a specific platform, project or person.
Equity-based	Small investments in crowdfunding project in return for an incremental stock in the respective business.

Source: Zhang et al. (2014) and Cholakova & Clarysse (2015)

Table 2. Operationalization of dependent and independent variables

Variable	Operationalization
Pledges	A relative percentage of the total sum pledged. Measures respondents' willingness to pay for the yet unrealized, but promised product.
Value frame	<p>Campaign texts were framed to dominantly reflect on of the three value frames.</p> <ul style="list-style-type: none"> • Egoistic values framed in the product in terms of its individual utility (e.g. design and personalization). • Altruistic values framed in the product in terms of its social utility (e.g. good labor conditions). • Biospheric values framed in the product in terms of its environmental utility (e.g. recycled materials). <p>Value frames validated through three iterative survey rounds.</p>
Personal values	de Groot and Steg's (2008) personal value orientation scale (PVO) in order to measure personal values.
Product evaluation	Zaichkowsky's (1994) Personal Involvement Inventory (PII) in order to measure respondents.

Table 3. Overview of the eight products

Round	Product	General product description
Round 1	Powercell (PC)	Thin sleeve that slips over battery to extend lifespan
	Vacuum (VM)	A vacuum-based food container
	Dora Bars (DB)	A nutritious snack bar
	Advensac (AS)	A travel sack with adaptable split storage
Round 2	Smartmeter (SM)	Wireless “smart” thermostat
	Ebuds (EB)	Wireless earbuds designed to fit every type of ear
	Gazelle (GZ)	Personalized tailored sportswear
	Vulcan (VC)	Temperature Adjustable Mug

Pre-acceptance submission

Table 4. Descriptive statistics and correlation matrix.

	Mean	SD	N	1	2	3	4	5	6	7
1. Relative pledge	12,11	14,16	977	1						
2. Egoistic PVO	0,68	0,28	977	-0,01	1					
3. Altruistic PVO	1,21	0,21	977	0,01	-0,56*	1				
4. Biospheric PVO	1,11	0,23	977	0,01	-0,68*	-0,19*	1			
7. Age	51,16	15,84	976	0,02	-0,13*	0,11*	0,07*	1		
8. Years of Education	3,49	1,18	972	0,00	0,05*	-0,04*	-0,02*	-0,03*	1	
9. Income range ^b	5,38	3,38	901	-0,01	0,17*	-0,10*	-0,12*	0,09*	0,30*	1
10. Married ^a	0,60	0,49	977							
11. Unemployed ^a	0,10	0,29	977							
12. Retired ^a	0,26	0,44	977							
13. Full Investment ^a	0,25	0,44	977							
14. Knowledge of CF ^a	1,44	0,50	976							
15. Participation in CF ^a	1,04	0,94	977							

^a Dummy variable | ^b Ordinal variable |

Table 5. Experiment block design.

	Round 1		Round 2	
	Product	Value frame	Product	Value frame
Block 1	Product 1:	Egocentric	Product 5:	Control
	Product 2:	Altruistic	Product 6:	Biospheric
	Product 3:	Biospheric	Product 7:	Altruistic
	Product 4:	Control	Product 8:	Egocentric
Block 2	Product 1:	Control	Product 5:	Egocentric
	Product 2:	Egocentric	Product 6:	Control
	Product 3:	Altruistic	Product 7:	Biospheric
	Product 4:	Biospheric	Product 8:	Altruistic
Block 3	Product 1:	Biospheric	Product 5:	Altruistic
	Product 2:	Control	Product 6:	Egocentric
	Product 3:	Egocentric	Product 7:	Control
	Product 4:	Altruistic	Product 8:	Biospheric
Block 4	Product 1:	Altruistic	Product 5:	Biospheric
	Product 2:	Biospheric	Product 6:	Altruistic
	Product 3:	Control	Product 7:	Egocentric
	Product 4:	Egocentric	Product 8:	Control

Table 6. Main summary statistics for the sample composition. (n=977)

Variable	%	Variable	%		
Sex	Female	59,5	Marital Status	Single, never married	19,7
	Male	40,5		Married or long-term relationship	60,4
	Prefer not to say	0,0		Divorced	12,8
				Widowed	6,2
		Separated		0,7	
		Prefer not to say		0,2	
Age*	18 – 24	3,6		Employment	Full-time employed
	25 – 34	16,9	Part-time employed		11,0
	35 – 44	15,2	Self-employed		7,0
	45 – 54	16,0	Unemployed		9,6
	55 – 64	23,3	Homemaker		12,2
	Older than 65	24,6	Student/ in education		2,1
	Prefer not to say	0,6	Retired		26,2
		Prefer not to say	0,5		
Income per month	Less than 1400 \$	21,2	Years of education	11 years or less	1,5
	1401 – 1650 \$	7,4		12 – 13 years	21,8
	1651 – 1900 \$	5,2		14 – 15 years	24,3
	1901 – 2150 \$	5,4		16 – 18 years	37,4
	2151 – 2400 \$	5,8		19 – 20 years	6,9
	2401 – 3000 \$	7,7		20 years or more	7,7
	3001 – 3600 \$	8,6		Prefer not to say	0,5
	3601 – 4200 \$	8,0			
	4201 – 4800 \$	5,8			
	More than 4800 \$	17,1			
Prefer not to say	7,8				

* Categorized for summary statistics, but is otherwise a continues variable.

Table 7. Knowledge of and participation in crowdfunding. (n=976)

Focus	Question	Answer	Current Study	Smith N=1215	Zhang N=2000
Knowledge of CF	Had you ever heard of the term 'crowdfunding' before you participated in this study?	Yes	56,3%	64%	58%
		No	43,7%	36%	42%
Participation in CF	Have you ever financially supported a crowdfunding campaign?	Yes	10,8%	22%	14%
		No	89,2%	78%	86%

Table 8. Effects of campaign value frame on pledges (n=973)

	Model 1 Control
Egoistic campaign value frame	1.2195** (0.455)
Altruistic campaign value frame	2.1320*** (0.455)
Biospheric campaign value frame	1.4858** (0.455)
Control	Constant
Product 1: Powercell (PC) ^a	4.4511*** (0.642)
Product 2: Vacuum (VM) ^a	-2.2812*** (0.643)
Product 3: Dora Bars (DB) ^a	-7.8813*** (0.619)
Product 4: Advensac (AS) ^a	-7.7168*** (0.643)
Product 6: Ebuds (EB) ^a	-1.8963** (0.643)
Product 7: Gazelle (GZ) ^a	-5.6682*** (0.643)
N	7784

* p < 0.05, ** p < 0.01, *** p < 0.001

Mixed-effects linear regression coefficients. Robust standard errors in parentheses

Insignificant control variables: Egoistic PVO (ordinal), Altruistic PVO (ordinal), Biospheric PVO (ordinal), Sex (dummy), Age (years), Married (dummy), Full investment (dummy), Income (categories), Education (years), Unemployed (dummy), Retired (dummy), KnowledgeofCF (dummy), ParticipationinCF (dummy) and Product 5: Smartmeter (SM)

^a Reference Category Product 8: Vulcan (VC)

Table 9. Effects of campaign value frame on pledges (n=973)

	Model 1	Model 2	
	Control	Egoistic	Altruistic
Egoistic campaign value frame	1.2195** (0.455)	Constant	-0.9125* (0.455)
Altruistic campaign value frame	2.1320*** (0.455)	0.9125* (0.455)	Constant
Biospheric campaign value frame	1.4858** (0.455)	0.2663 (0.455)	-0.6462 (0.455)
Control	Constant	-1.2195** (0.455)	-2.1320*** (0.455)
Product 1: Powercell (PC) ^a	4.4511*** (0.642)		
Product 2: Vacuum (VM) ^a	-2.2812*** (0.643)		
Product 3: Dora Bars (DB) ^a	-7.8813*** (0.619)		
Product 4: Advensac (AS) ^a	-7.7168*** (0.643)		
Product 6: Ebuds (EB) ^a	-1.8963** (0.643)		
Product 7: Gazelle (GZ) ^a	-5.6682*** (0.643)		
<i>N</i>	7784		

* p < 0.05, ** p < 0.01, *** p < 0.001
Mixed-effects linear regression coefficients. Robust standard errors in parentheses
Insignificant control variables: Same as table 5 ^a Reference Category Product 8: Vulcan (VC)

Figure 1. Experiment and Survey Flow

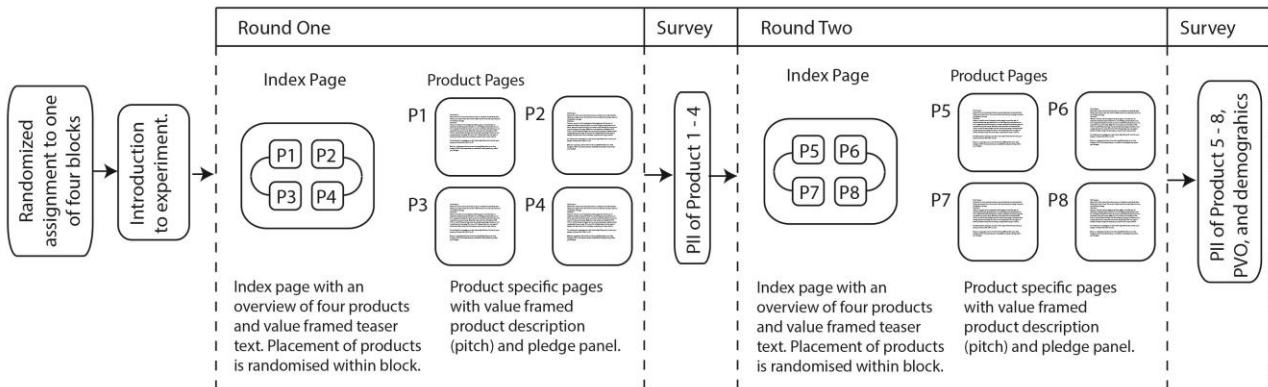


Figure 2. Dropout rates across the experiment

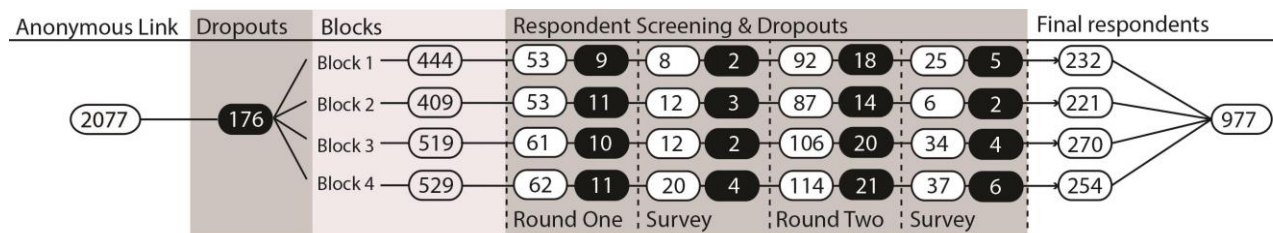


Figure 3. Effects of campaign value frame on pledges (n=973)

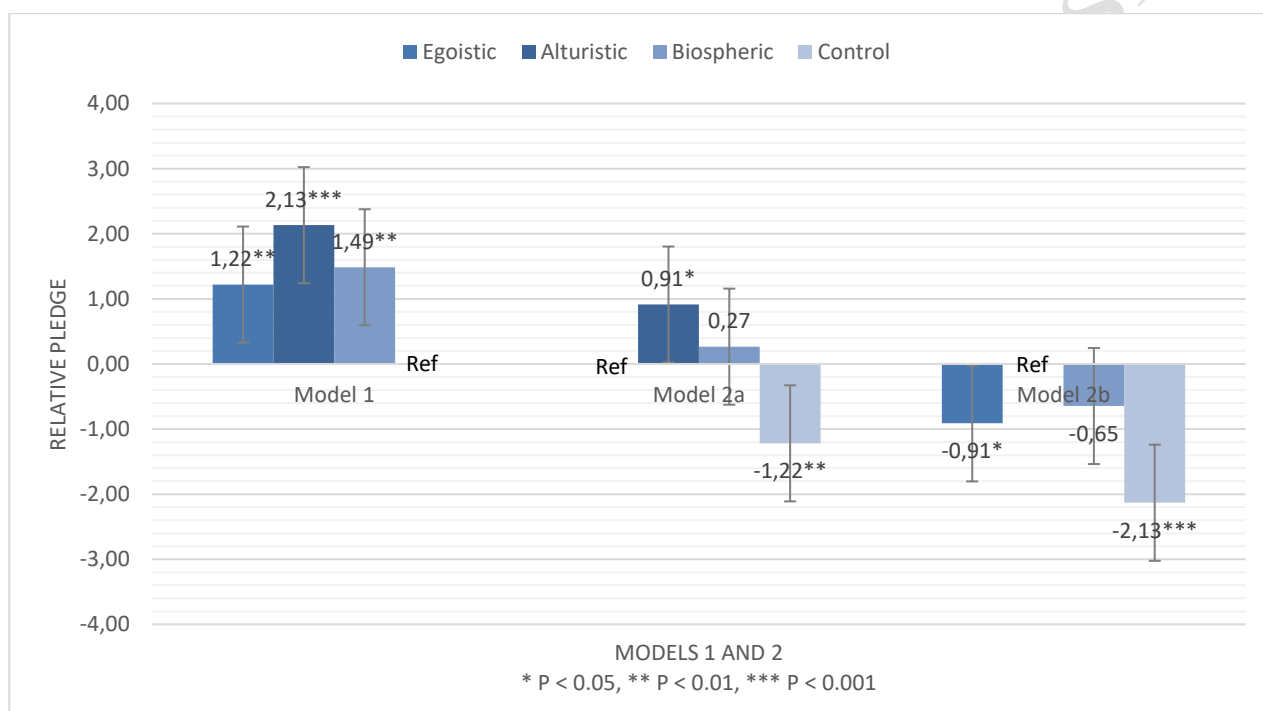
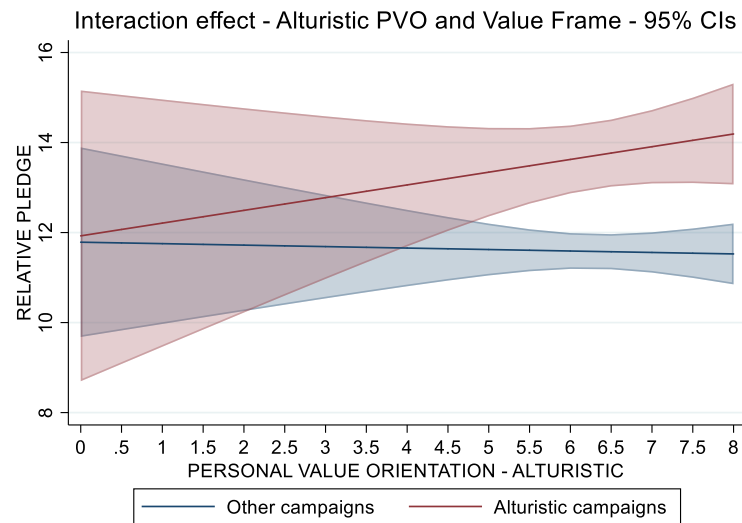
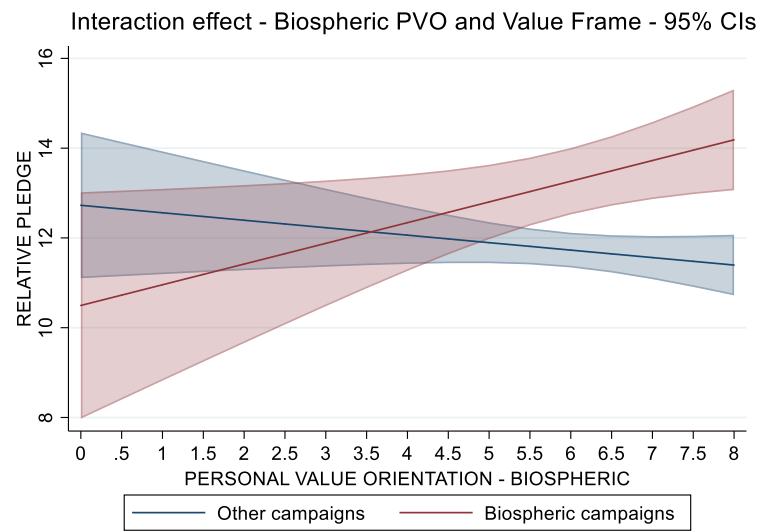
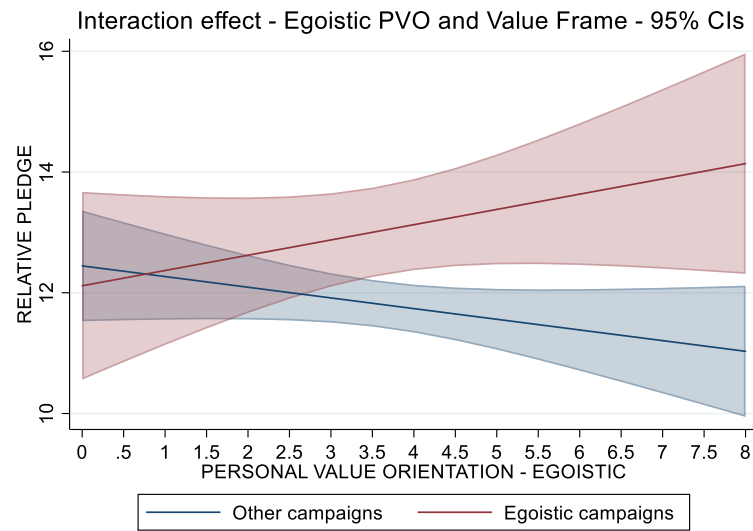


Figure 4. Interaction effect between campaign value frame and personal value orientation (n=898)



Appendix

Appendix A: Personal value orientation scale

Value item

Egoistic value orientations

1. Social power: control over others, dominance
2. Wealth: material possessions, money
3. Authority: the right to lead or command
4. Influential: having an impact on people and events

Altruistic value orientations

1. Equality: equal opportunity for all
2. A world at peace: free of war and conflict
3. Social justice: correcting injustice, care for the weak
4. Helpful: working for the welfare of others

Biospheric value orientations

1. Preventing pollution: protecting natural resources
 2. Respecting the earth: harmony with other species
 3. Unity with nature: fitting into nature
 4. Protecting the environment: preserving nature
-

Source: de Groot & Steg (2008)

Appendix B: Personal Involvement Inventory

To me (object to be judged) is:

1.	Important	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Unimportant*
2.	Boring	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Interesting
3.	Relevant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Irrelevant*
4.	Exciting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Unexciting*
5.	Means nothing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Means a lot to me
6.	Appealing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Unappealing*
7.	Fascinating	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Mundane*
8.	Worthless	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Valuable
9.	Involving	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Uninvolving*
10.	Not needed	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Needed

* indicates item is reverse scored

Source: Zaichkowsky
(1994)

Appendix C. Interaction effect between campaign value frame and personal value orientation (n=973)

	Model 3 Egoistic, biospheric, altruistic
Egoistic Personal Value Orientation (EPVO)	-0.1769 (0.118)
Biospheric Personal Value Orientation (BPVO)	-0.1664 (0.136)
Altruistic Personal Value Orientation (APVO)	-0.0326 (0.168)
Egoistic campaign value frame (ECVF)	-0.3295 (0.906)
ECVF by EPVO	0.4299* (0.218)
Biospheric campaign value frame (BCVF)	-2.2320 (1.392)
BCVF by BPVO	0.6278** (0.222)
Altruistic campaign value frame (ACVF)	0.1409 (1.767)
ACVF by ACVF	0.3155 (0.271)
Product 1: Powercell (PC) ^a	4.4511*** (0.642)
Product 2: Vacuum (VM) ^a	-2.2952*** (0.642)
Product 3: Dora Bars (DB) ^a	-7.6889*** (0.643)
Product 4: Advensac (AS) ^a	-7.2295*** (0.642)
Product 6: Ebuds (EB) ^a	-1.8684** (0.643)
Product 7: Gazelle (GZ) ^a	-5.6821*** (0.642)
<i>N</i>	7184
* p < 0.05, ** p < 0.01, *** p < 0.001	
Mixed-effects linear regression coefficients. Robust standard errors in parentheses.	
Insignificant control variables: Sex (dummy), Age (years), Married (dummy), Full investment (dummy), Income (categories), Education (years), Unemployed (dummy), Retired (dummy), KnowledgeofCF (dummy), ParticipationinCF (dummy) and Product 5: Smartmeter (SM)	
^a Reference Category Product 8: Vulcan (VC)	