

4-24-2023

Giving Neurotic Entrepreneurs Money to Save the World? An Analysis of U.S. Equity Crowdfunding Projects

Scarlett Koster

Heinrich-Heine University of Düsseldorf, s.koster@hhu.de

Andrew Jay Isaak

Heinrich-Heine University of Düsseldorf, andrew.isaak@hhu.de

Follow this and additional works at: https://aisel.aisnet.org/ecis2023_rip

Recommended Citation

Koster, Scarlett and Isaak, Andrew Jay, "Giving Neurotic Entrepreneurs Money to Save the World? An Analysis of U.S. Equity Crowdfunding Projects" (2023). *ECIS 2023 Research-in-Progress Papers*. 16. https://aisel.aisnet.org/ecis2023_rip/16

This material is brought to you by the ECIS 2023 Proceedings at AIS Electronic Library (AISeL). It has been accepted for inclusion in ECIS 2023 Research-in-Progress Papers by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

Giving Neurotic Entrepreneurs Money to Save the World? An Analysis of U.S. Equity Crowdfunding Projects

Research in Progress

Scarlett Koster, Heinrich-Heine-University of Düsseldorf, Germany, S.Koster@hhu.de

Andrew Isaak, Heinrich-Heine-University of Düsseldorf, Germany, Andrew.Isaak@hhu.de

Abstract

A key challenge faced by entrepreneurs is financing the venture for which equity crowdfunding presents an alternative with relatively low entry barriers. While it has recently been shown that perceived personality traits of the entrepreneur can impact crowdfunding success, so far, little is known about which perceived personality traits drive funding success in the context of sustainable ventures, which this study explores. To answer this question, through the lens of asymmetric information, we use quantitative regression analysis of U.S.-based equity crowdfunding projects. Overall, our preliminary results suggest an interaction between sustainability and the negatively perceived personality trait (neuroticism) on equity crowdfunding funding success. Further, we replicate recent findings on the role of negatively perceived personality traits in crowdfunding. This study contributes to our knowledge of the role of the entrepreneur's perceived personality and communication in successfully financing sustainable ventures via equity crowdfunding, bringing us closer to co-creating sustainable digital futures.

Keywords: Sustainability, Equity Crowdfunding, Implicit Personality Theory, Big Five.

1 Introduction

There have long been calls to use the transformative power of information systems (IS) to support the sustainable development of our world – to advance and foster sustainable actions in our society in order to reduce our environmental impact (Watson et al., 2010). Sustainable entrepreneurs strive to be both profitable and impactful simultaneously – earning a reasonable profit while seeking to solve social and environmental issues. A key challenge that these entrepreneurs face is financing the venture; due to liabilities of newness (Stinchcombe, 1965) and smallness, too often, startups fail due to a lack of funding. Sustainable entrepreneurs have a particularly hard time financing from traditional sources and creating sustainable solutions can require huge up-front investments e.g., for R&D. Equity crowdfunding presents an alternative means of venture financing from a crowd of investors via an online platform with lower entry barriers (e.g., no collateral required) than bank loans or classical venture capital (e.g., Vismara, 2019; Neuhaus et al., 2022). Consequently, crowdfunding has been found to support new business ideas and innovative ventures which aim to respond to environmental, social, and economic issues (e.g., Calic and Mosakowski, 2016; Hörisch and Tenner, 2020; Lehner, 2013).

Crowdfunding is now seen as a creative source of capital for new startups – especially those sustainably-oriented entrepreneurs who are still disadvantaged when seeking funds from traditional investors (Bento et al., 2019). Schwiembacher and Larralde (2010) define crowdfunding as “an open call, essentially through the Internet, for the provision of financial resources either in the form of donation or in exchange for some form of reward and voting rights to support initiatives for specific purposes.” (Schwiembacher and Larralde, 2010, p. 4). In equity-based crowdfunding (ECF) startups sell shares of a company to investors in the crowd (Vismara, 2019; Neuhaus et al., 2022). The strong growth of equity crowdfunding, which is now seen as an “important source of alternative finance for entrepreneurs” (Butticè and Vismara, 2022, p. 1236), is an encouraging and optimistic sign for young ventures and

private investors as it is more accessible to nontraditional stakeholders (Vu, 2021). Compared to other forms of crowdfunding which often entail pre-purchase or donations, in ECF, investors commit larger amounts (typically a minimum of 500-1000 USD) in exchange for a long-term share of the venture. Further, it involves a careful platform pre-screening. Therefore this setting is particularly interesting for study, since it relates more closely to classical venture capital, but in an IS-intermediated form. By engaging with this context we answer calls for further research on equity crowdfunding (e.g., Buttice and Vismara, 2022; Pollack et al., 2021), particularly in the context of personality and sustainability (e.g., Neuhaus et al., 2022).

In the field of IS different studies have examined various aspects of crowdfunding (e.g., Rottler et al., 2020; Hong et al., 2018; Nevin et al., 2017; Raab et al., 2017; Bretschneider et al., 2014). However, in this paper, we study equity crowdfunding through the dual lens of sustainability and personality. Pacheco et al. (2010, p. 471) describe “sustainable entrepreneurship as the discovery, creation, evaluation, and exploitation of opportunities to create future goods and services” consistent with sustainable development goals. Based on the Brundtland Report, sustainable development means “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987, p. 51). To accomplish such inclusive development, innovative solutions are required to overcome unsustainable (ecological and social) market failures. Sustainable entrepreneurship is essential for creating and implementing such innovations (Schaltegger and Wagner, 2011). Various studies have noted that crowdfunding represents a successful tool for financing sustainable entrepreneurship (e.g., Calic and Mosakowski, 2016; Hörisch and Tenner, 2020; Lehner, 2013). Following Lehner (2013) and Shepherd and Patzelt (2011), we, therefore, consider ventures having a social or environmental mission as their primary goal and contributing to preserving the environment and social communities as part of sustainable entrepreneurship.

Additionally, Schaltegger and Wagner (2011) point out that sustainable entrepreneurship is characterized by entrepreneurial activities which focus more on the personal initiative and skills of the entrepreneurial person or team and less on management systems or technical procedures. This indicates that the entrepreneur’s personality is an essential factor when it comes to sustainable ventures as well as sustainable crowdfunding. Regarding decision-making, personality traits matter because personality can be seen as the foundation for individual differences between people (Mairesse et al., 2007). While personality is a complex subject, researchers largely agree that all personality traits can be categorized into five main dimensions, often referred to as the Big Five (Goldberg, 1990). This Five-Factor Model (FFM) is the most widely used in research today (Barrick et al., 2001) and these traits have been shown to be stable over the course of adult life (e.g., Kassin, 2003; Judge et al., 1999).

In this paper, we examine associations between the Big Five personality traits of entrepreneurs perceived by investors and sustainability in crowdfunding. To shed further light on this interplay, we seek to answer the following research question: *What is the impact of perceived personality on the funding success of sustainability-oriented equity crowdfunding ventures vs. 'purely' profit-driven ventures?*

In particular, we attempt to examine this question using a narrative analysis approach based on machine learning. Based on implicit personality theory and our knowledge of the Big Five, we put forward that positively perceived personality cues in campaign communication should facilitate venture funding, while negatively perceived cues (i.e., neuroticism) will lead to less funding. Further, based on prospect theory, we argue and find that such negative cues should be particularly impactful in the presence of additional perceived uncertainty due to the particular context of sustainable ventures (e.g., due to stereotypes of lower profitability). Overall, while our effects for positively connotated personality cues do not reach significance, our results point to a considerable negative effect of perceived neuroticism on equity crowdfunding, particularly under the condition of sustainability-driven ventures, supporting both the notion of implicit judgements and prospect theory. Hereby, we contribute to studies in IS and entrepreneurial finance on the role of perceived personality and crowdfunding outcomes (e.g., Thies et al., 2016; Neuhaus et al., 2021; Neuhaus et al., 2022).

2 Theoretical Background

2.1 Sustainability and Crowdfunding

In his study, Vismara (2019) shows evidence of the attractiveness of sustainability-oriented ventures in equity crowdfunding. Even though sustainability orientation does not increase the chances of success or of engaging professional investors, it attracts a higher number of lay investors. Considering an institutional logic, the results reveal that professionals follow a market logic, and these smaller investors also believe in a community logic (Vismara, 2019).

Other studies also showed that when it comes to investors' decision-making, it is not always about extrinsic motivations such as monetary incentives. Based on cognitive evaluation theory, Allison et al. (2015) found that investors in reward-based crowdfunding respond positively to narratives highlighting the venture as an opportunity to help others and less positively when the project is framed as a business opportunity. Therefore, the authors suggest that funding initiatives are more effective when focusing on the reasons why investing would be intrinsically satisfying to the donors (Allison et al., 2015). Hence, crowdfunding presents more than simply a financial tool: it allows entrepreneurs to find an audience that aligns with their sustainability focus. In contrast, investors see opportunities to invest their money in line with their values (Vismara, 2019).

However, this may differ based on the crowdfunding type. The findings of Cholakova and Clarysse (2015) show that nonfinancial motives play no significant role when donors decide to invest in equity (typically much larger and more long-term investments) but that the extrinsic financial return motivation is a crucial driver on both equity-based and reward-based platforms. Analyzing projects from a reward-crowdfunding platform, Bento et al. (2019) find evidence that the perceived sustainable mission positively influences the outcome of the crowdfunding campaign.

2.2 Implicit Personality

Implicit personality theory refers to specific patterns and biases a person uses when forming impressions based on a limited amount of initial information about an unfamiliar person (Pedersen, 1965). The term describes the expectation of the co-occurrence of traits and behaviors. For example, people expect talkative people also to be sociable (Borkenau, 1992). Much of the process of social perception is automated and not conscious (Bargh and Chartrand, 1999). The conscious and intentional regulation of one's behavior, evaluations, decisions, and emotional states requires considerable effort and is relatively slow; therefore, conscious self-regulatory acts only occur for a short time. On the other hand, unconscious or automatic processes occur unintentionally, effortlessly, and very quickly. They are effortless and guide people safely through the day (Bargh and Chartrand, 1999).

Individuals' implicit expectations when meeting a stranger may differ. People unconsciously rate others' different implicit traits and behaviors (Borkenau, 1992). That being said, individuals tend to see themselves and others in similar ways, and perceiver effects are more and more stable over time, resulting in group-specific stereotypes (Srivastava et al., 2010). Consequently, first impressions and how potential investors in the crowd perceive an entrepreneur's personality are highly important in a funding situation. This is especially the case for sustainable or social entrepreneurs as they are linked to certain prejudices and public expectations. Plus, social determinants and peer influence are crucial factors in crowdfunding (Hong et al., 2018).

In an article from 2018, Forbes describes social entrepreneurs as those who "prioritize purpose over profit and step(ping) out of corporate life and into the world of passion and social impact" (Forbes, 2018). They differentiate themselves from traditional entrepreneurs by their vision-driven leadership, creativity for providing innovative solutions for issues they seek to address, temperament as they often see things that do not exist yet, profound beliefs and confidence in what they do, and persistence in challenging situations (Forbes, 2017).

Some scholars have looked at personality differences between the two types of entrepreneurs – those that act profit-oriented and those that strive to be profitable and impactful simultaneously. According to

Smith et al. (2014), social entrepreneurs display statistically significantly higher levels of creativity and innovativeness, risk-taking, and need for autonomy than traditional entrepreneurs. Using a content analysis technique Pangriya (2019) explored the characteristics and motivations of social entrepreneurs. The results indicate that social entrepreneurs' main character traits are creativity, empathy, community roots, and contentment, while they are also marked by education, global exposure, and prior work experience. Like the Forbes list, the findings reveal self-transcendence, unique ideas, and innovation to solve pain points, inspiration, and personal experience as the motivational key drivers for an individual to become a social entrepreneur (Pangriya, 2019). Hence, crowdfunders are likely to implicitly attribute these characteristics to sustainable entrepreneurs.

2.3 Personality and Crowdfunding

The fast-growing crowdfunding market allows individuals and organizations to raise funds for various projects. However, potential investors face uncertainties regarding the quality of projects and the characteristics and behavioral intentions of project promoters due to a lack of publicly available and unbiased information (Thies et al., 2016). The personality traits of project founders and potential investors are of high importance in the decision-making process and as well as for the funding success of a crowdfunding campaign.

Rottler et al. (2020) examined personality perceptions in a reward-based setting and found that the donor's behavior is influenced more by the perceived personality than gender or race. While in the decision-making process, the crowd concludes all dimensions of personality: inventors appearing to have a high intellect, imagination, and creativity (openness to experience) and who are perceived as very caring and structured (conscientiousness) perform exceptionally well (Rottler et al., 2020).

By analyzing crowdfunding campaigns running on Kickstarter, Thies et al. (2016) found that campaigns of project creators can signal certain personality traits through their project description and video are more likely to succeed and to be shared via social media. Favorable traits for a successful campaign in reward-based crowdfunding are openness and agreeableness; neuroticism should be avoided (Thies et al., 2016). These results are complemented by recent studies by Isaak et al. (2021) and Creek et al. (2019) on equity crowdfunding and personality. Further, a literature review on the subject (Neuhaus et al., 2022) reveals that a total of 26 recent studies have begun to examine the role of personality in crowdfunding, with comparatively large research gaps in for the equity-based crowdfunding type and for topics like sustainability.

3 Hypotheses Development

The first four of the Big Five personality traits (Goldberg, 1990) are generally seen as positive in the literature. First, openness to new experience has often been related to creativity, imagination and innovation capability (e.g., Zhao et al., 2010), factors which are clearly seen as valuable among startup investors in the crowd. Second, conscientiousness has been tied to task-orientation, systematic work, attention to detail, self-control and dependability (e.g., Almlund et al., 2011), traits which are important in project execution – carrying through a project to success. Third, extraversion, a trait related to being talkative and highly active (Barrick and Mount, 1991) has been related to people's ability to expand their social networks, a status symbol and an important capability for entrepreneurs that signals the future ability to reach new customers, develop new partnerships, etc. Finally, agreeableness, being perceived as pleasant and cooperative and therefore generating sympathy from others can be seen as important for getting along in (startup) teams and therefore for achieving social acceptance. Through the lens of implicit personality theory (Borkenau, 1992), we would expect that given limited information, investors in the crowd will be positively biased towards entrepreneurs with these traits, implicitly judging their personality based on such pre-existing and socially prevalent behavioural archetypes as a way to simplify their complex decision on investing in a given venture. Therefore, we posit that:

H1a: Positively perceived personality cues in campaign communication will lead to higher equity crowdfunding.

The fifth of the Big Five personality traits, neuroticism, or emotional instability, is associated with pessimism and a low locus of control (e.g., Almlund et al., 2011). Hence, it clearly carries strongly negative implicit associations particularly detrimental to trust. Further, equity crowdfunding is a type of crowdfunding that requires higher minimum investment amounts (typically 500-1000 USD) increasing the stakes and need to rely on the entrepreneur. Herefrom, we posit that:

H1b: Negatively perceived personality cues (neuroticism) in campaign communication will lead to less equity crowdfunding.

Hybrid ventures, while doing an important service to society, face additional hurdles. The founders need to simultaneously focus on dual missions, profitability and some form of social welfare maximization. While social and environmental goals can be intrinsically motivating, they also imply additional project risks and, simultaneously, constraints on profitability (opportunity exploitation) and therefore a lower return, since some of the earnings will flow towards sustainability goals. Most investors want businesses to focus on bottom-line profitability, i.e., they generally favor conventional commercial entrepreneurs that maximize earnings potential, as stated by Calic and Mosakowski (2016) and will therefore implicitly judge sustainable entrepreneurs as less worthy of additional funding. Therefore, we expect that:

H2a: Sustainable projects will receive less equity crowdfunding than their primarily profit-driven counterparts.

From the above, we already expect that entrepreneurs perceived as neurotic based on their crowdfunding campaign, as well as sustainable ventures will receive lower funding. Further, social entrepreneurs are often perceived as the 'good guys'; displaying cues of neurotic communication or behavior would starkly contrast with this social stereotype likely leading to negative reactionary judgements. Finally, based on prospect theory (Kahneman and Tversky, 1974) and related behavioral and neuroeconomic experiments, we know that losses loom higher than gains for investors deciding in uncertain situations, leading to a phenomenon known as loss aversion. Therefore, if both factors (perceived neuroticism and sustainability of a venture) co-occur for a given campaign, we expect that their negative effect will be cumulative. From the above, we posit that:

H2b: Sustainable projects will receive particularly less equity crowdfunding in the presence of negatively perceived personality cues by the entrepreneur (neuroticism).

4 Methodology

To test our assertions empirically, we first extracted a total sample of 701 campaign descriptions, including comments, updates, and corresponding video pitch subtitles from the homepages of three leading equity crowdfunding platforms (StartEngine, Wefunder, and Republic) in the years 2017 through 2020. Since the habit of using certain categories of words when communicating correlates with a person's personality characteristics (Tausczik and Pennebaker, 2010), we ran the resulting text through IBM Personality Insights, which utilizes a machine-learning algorithm to predict the personality trait value of a given campaign (or pitch video) text. This process was successfully used in previous research on corporate fundraising (Gruda et al., 2021) and blogging (Yarkoni, 2010).

To categorize the sustainability of the equity crowdfunding campaigns, we made use of the tags (e.g., "Green Tech", "Social Impact", etc.) available on two out of three of the platforms, resulting in a reduced sample of 394 campaigns. All projects tagged by the platform as having a social impact were coded as 1 and the rest as false. We confirmed these predefined tags by examining the tagged campaigns to confirm these. For example, these include a cafe founded by a black minority, startups led by a female founder, a health therapeutics firm, benefit corporations ('b corp'), etc. These align well with the defined ask for inclusive sustainable development (e.g., health, gender diversity, etc.). The use of third-party (the platform's) coding of 'social impact' limits the subjectivity and therefore bias in the data. Second, using the tags provided on the platform mirrors the sustainability impressions a typical investor in the crowd is likely to receive when ascertaining the sustainability (and investment worthiness) of a campaign.

To limit the degree of omitted variable bias, we also include a number of variables suggested by the literature. Perceived project quality shapes investors' overall impression towards a crowdfunding campaign (Bi et al., 2017) and therefore, influences the effect that other signals have on crowdfunding success (Mollick, 2014). For example, the use of videos increases the borrower's perceived creditworthiness and endorsement by others (e.g., via comments) can help to validate given information (Courtney et al., 2017; Elliott et al., 2012; Wang et al., 2019). Research on this topic denotes the word count of the campaign description text, media use (e.g. pictures, videos) and the number of updates and comments as quality indicators (Bi et al., 2017; Courtney et al., 2017; Mollick, 2014; Wang et al., 2019). Based on previous literature (Barbi and Mattioli, 2019; Mollick, 2014), we also control for project size, category, security type, number of employees, company age (established company), the year, campaign duration, location (state) and word count for project descriptions and videos.

We test our hypotheses with linear regression (Wooldridge, 2002), which facilitates the interpretation of our results vis-a-vis alternatives and provides us with an actual r-square value for our models. Our dependent variable, the funding amount reached for a given campaign is non-normal according to a Shapiro-Wilk test ($p < .001$; $z: 12.04$) and is characterized by heteroskedastic errors according to a White test ($p < .001$; Chi-sq.: 256.01); therefore, in line with previous literature, we use the log-transformed variable (Block et al., 2018; Chan and Parhankangas, 2017) and report robust standard errors in our models. Our outlier analysis led us to drop one observation which was clearly above the 1,5 IQR threshold. Also, variance inflation factors (VIFs) are well below five for all our variables ($M=1.41$), suggesting that multicollinearity should not be an issue for our data.

5 Results

The results of our stepwise regression models are presented in Table 1 below. Additional descriptive statistics for our variables are provided in the Appendix.

DV: Fund. Amount(ln)	(1)	S.E.	(2)	S.E.	(3)	S.E.	(4)	S.E.
Project Size	.125**	(.05)	.127***	(.048)	.126***	(.048)	.132***	(.049)
Category	-.001	(.004)	.001	(.004)	.001	(.004)	.001	(.004)
Campaign Duration	.001	(.001)	.001	(.001)	.001	(.001)	.001*	(.001)
Mult. Visible Speakers	.028	(.089)	.072	(.089)	.07	(.09)	.062	(.089)
Word Count	.178***	(.057)	.177***	(.054)	.176***	(.054)	.178***	(.052)
Video Duration (Sec.)	.001	(.001)	.001	(.001)	.001	(.001)	.001	(.001)
# of Images	.005**	(.002)	.006***	(.002)	.006***	(.002)	.006***	(.002)
# of comments (ln)	.652***	(.053)	.63***	(.052)	.629***	(.052)	.632***	(.053)
# of updates (ln)	-.028	(.047)	.008	(.047)	.007	(.047)	.008	(.047)
Crowdf. Experience	.163	(.2)	.197	(.196)	.196	(.196)	.18	(.192)
# of Employees	.004***	(.002)	.004**	(.002)	.004**	(.002)	.004***	(.002)
Jurisdiction (State)	.001	(.003)	.001	(.003)	.001	(.003)	.002	(.003)
Established Comp.	.154	(.097)	.119	(.092)	.119	(.092)	.135	(.091)
Openness			-.046	(.68)	-.026	(.682)	-.114	(.674)
Conscientiousness			.307	(.466)	.287	(.475)	.341	(.472)
Extraversion			-.442	(.319)	-.453	(.321)	-.522	(.32)
Agreeableness			-.523	(.586)	-.484	(.613)	-.51	(.607)
Neuroticism			-1.83***	(.443)	-1.841***	(.443)	-1.454***	(.477)
Social Impact					-.041	(.128)	.184	(.162)
Social Impact # Neurot.							-2.224**	(.932)
Year Dummies Included	Yes		Yes		Yes		Yes	
Observations	361		361		361		361	
Adj. R-squared	.383		.410		.410		.416	
F-stat	22.534***		20.351***		19.559***		19.014***	
RMSE	.757		.742		.741		.736	
Log-l.	-401.932		-391.056		-390.994		-388.254	
<i>Robust standard errors are in parentheses, constant not shown, *** $p < .01$, ** $p < .05$, * $p < .1$</i>								

Table 1. OLS Regression models of Personality, Sustainability and Funding Level.

Model 1 regresses the control variables related to the hard facts of the campaign (e.g., campaign category and duration) and campaign communication (e.g., word count, # of updates and comments, etc.) against our dependent variable the final funding amount achieved by the campaign. Among the hard facts, project size and the number of employees of the startup behind a given campaign are significant across all models ($p < .05$), while the campaign year is significant in most models. Regarding the campaign communication controls, we find a significant effect of the word count and the number of comments and images of the campaign ($p < .01$), while the number of updates does not reach significance ($p = .18$ in Models 2-4). Model 2 adds the perceived personality traits. Here we can see that only perceived neuroticism has a significantly negative effect on the amount funded ($\beta = -1.83$, $p = .018$). Model 3 introduces the variable social impact and shows that its main effect is negative but insignificant. Finally, Model 4 adds the interaction between social impact and neuroticism which is significant. Probing this interaction reveals that the effect of the continuous variable perceived neuroticism indeed has a different slope for campaigns designated as having a social impact (1) vs. those that are not (0). Also, the interaction model explains additional variation in funding success (for a total of 41,6%), which is likely to rise further when expanding the sample.

6 Discussion and Implications

The purpose of this paper is to contribute to the literature on the role of individual-level factors in venture finance by examining the interplay between entrepreneurs' perceived personality traits and sustainability orientation in crowdfunding through the lens of implicit personality and prospect theory. While it has recently been shown that perceived personality traits of the entrepreneur can impact crowdfunding success (e.g., Neuhaus et al., 2022), so far, little is known about which personality components drive or hinder funding success on such platforms for ventures perceived as sustainable. Therefore, this study aims to bridge literature streams and to add to our knowledge of the interplay of personality and sustainability to advance building a more sustainable society while using the transformative power of IS in the form of equity crowdfunding.

First, our findings for the positively connotated Big Five traits do not reach significance, leading us to reject H1a. Similarly, while the main effect of social impact (sustainability-orientation) is negative as expected, but not significant leading us to reject H2a for now. We expect that these results are partly due to the sample size. Currently, the study entails only a moderately sized sample of 394 crowdfunding projects from two major U.S.-based equity platforms, Wefunder and Republic. That being said, we can already confirm two of our main hypotheses (H1b and H2b) leading us to believe that the already challenging information environment for investors in the crowd in equity crowdfunding is indeed accentuated by the presence of negatively perceived personality cues and the decision-making context of social projects. When founders have a dual mission, the perceived risk of investors is likely to be higher because of the higher information asymmetry this invokes; that is, investors face additional unknowns regarding the entrepreneur's future behavior. Further, purely profit-driven ventures will have an easier time focusing on the bottom line. Yet, investors in the crowd only seem to reward 'pure profit' ventures with higher funding if additional negative 'soft' information cues are present, in this case, perceived neuroticism. This result seems to partly align with Vismara's (2019) study, which finds that sustainable ventures do not attract significantly more investors.

Filling an important gap in extant studies, our paper contributes to research on the role of perceived personality in crowdfunding by showing that not only can negatively perceived personality cues increase perceived investor uncertainty but that the framing of the project as sustainable can amplify such perceived risks. While we conducted and argued our study through the lens of information asymmetry, we also indirectly contribute to research on signaling in crowdfunding and the interaction between signals (e.g., Courtney et al., 2017). Signaling is quite essential in crowdfunding as it can contribute to the overall quality of a campaign and high-quality campaigns have been found to be more resilient and less affected by the "market of lemons" than low-quality campaigns (Geva et al., 2015). Plus, in hindsight, campaign creators might also benefit from a successful project as signaling crowdfunding success can provide a trustworthy signal of product quality. Wehnert et al. (2019) argue that such signs

are particularly relevant for sustainability-oriented products as sustainable attributes are often not directly accessible to potential consumers.

The study also has practical implications. For instance, the results imply that in equity crowdfunding, entrepreneurs perceived as neurotic will have a harder time gathering funding and an even harder time when this is for a sustainable venture. This means they may need to make an extra effort to convince risk-sensitive investors in equity crowdfunding, e.g., by providing additional information on the business case. Considering different types of potential investors and how to communicate with them is valuable knowledge especially since the right choice of campaign communication is an important factor in sustainability-conscious surroundings (Gimpel et al., 2020). The study also has practical implications for equity crowdfunding platforms that can use them to improve risk (pre-)screening, which plays a particular role in equity crowdfunding.

Finally, our paper also has limitations. First, our sample size is not yet particularly large (with 36 projects tagged as sustainable), yet represents over 10% of U.S.-based equity crowdfunding projects (under regulation C) during the time-period observed (2016 through 2020). But we expect to collect additional data on campaigns from 2021 by December to facilitate a more detailed examination of potential interaction effects. Second, we focus on U.S.-based platforms, discounting potential cross-national variation in our analysis. Third, given the particular nature of equity crowdfunding (e.g., long-term commitment to the venture, larger investment amounts) which implies a higher sensitivity to risk, our results may not fully generalize to other forms of crowdfunding that typically involve short-term one-shot interactions (e.g., pre-purchases, donations). Further, in equity crowdfunding, market logic plays a stronger role, which also implies that fully sustainability-oriented projects or those with extremely pro-social narratives may not enter the crowdfunding process and we are more likely to observe projects with a ‘moderate’ level of sustainability-orientation. Finally, we cannot fully rule out greenwashing, but based on our knowledge of the data do not believe this to have occurred among the sample studied here.

Appendix

Variable	Obs.	Mean	Std. Dev.	Min	Max
Total Funding Amount (USD)	361	300480.14	322669.15	13966	2188466
Total Investors (count)	361	590.266	925.787	20	8551
Project size (categorical)	394	2.921	.963	1	4
Campaign Category	361	23.695	10.508	1	39
Campaign Duration	394	92.152	57.741	0	425
Multiple Visible Speakers	394	.294	.456	0	1
Word Count (homepage & pitch)	361	6245.825	3162.882	736	30830
Video Duration (sec.)	394	138.381	139.444	0	1736
# of Images	394	37.201	21.45	0	159
# of Comments	361	48.343	35.333	2	264
# of Updates	361	11.114	11.024	0	96
Prev. Crowdfunding Experience	394	.038	.192	0	1
# of Employees	394	6.571	16.602	0	225
Jurisdiction (state)	394	31.188	11.245	1	62
Established Company (>5 yrs.)	394	.198	.399	0	1
Year (of campaign)	394	2018.234	1.064	2016	2020
Openness	361	.914	.075	.615	.998
Conscientiousness	361	.751	.104	.478	.969
Extraversion	361	.688	.156	.144	.951
Agreeableness	361	.097	.082	.001	.573
Neuroticism	361	.096	.106	0	.584
Social Impact (yes/no)	394	.132	.339	0	1

Note: 33 Campaigns were withdrawn; for these the final funding amount is unknowable

Table 2: Summary Statistics for Variables.

References

- Almlund, M., Duckworth, A. L., Heckman, J., and Kautz, T. (2011). *Personality Psychology and Economics*. In E. A. Hanushek, S. Machin and L. Woessmann (Eds.), (Vol. 4, pp. 1–181). Elsevier. Handbook of The Economics of Education. DOI: 10.1016/B978-0-444-53444-6.00001-8.
- Allison, T. H., Davis, B. C., Short, J. C. and Webb, J. W. (2015). Crowdfunding in a Prosocial Microlending Environment: Examining the Role of Intrinsic versus Extrinsic Cues. *Entrepreneurship Theory and Practice*, 39 (1), 53–73. DOI: 10.1111/etap.12108.
- Barbi, M. and Mattioli, S. (2019). *Human Capital, Investor Trust, and Equity Crowdfunding*. Research in International Business and Finance, 49, 1–12. DOI: 10.1016/j.ribaf.2019.02.005.
- Bargh, J. A. and Chartrand, T. L. (1999). The unbearable automaticity of being. *American psychologist*, 54(7), 462. DOI: 10.1037/0003-066X.54.7.462.
- Barrick, M. R. and Mount, M. K. (1991). The big five personality dimensions and job performance: a meta-analysis. *Personnel psychology*, 44(1), 1-26. Doi:10.1111/j.1744-6570.1991.tb00688.x.
- Barrick, M. R., Mount, M. K. and Judge, T. A. (2001). Personality and performance at the beginning of the new millennium: What do we know and where do we go next? *International Journal of Selection and assessment*, 9(1-2), 9-30. DOI: 10.1111/1468-2389.00160.
- Bento, N., Gianfrate, G. and Thoni, M. H. (2019). Crowdfunding for sustainability ventures. *Journal of Cleaner Production*, 237, 117751. DOI: 10.1016/j.jclepro.2019.117751.
- Bi, S., Liu, Z. and Usman, K. (2017). The influence of online information on investing decisions of reward-based crowdfunding. *Journal of Business Research*, 71, 10–18. DOI: 10.1016/j.jbusres.2016.10.001.
- Block, J., Fisch, C., Obschonka, M. and Sandner, P. (2018). A Personality Perspective on Business Angel Syndication. *Journal of Banking and Finance*, 23(6), 1-22. DOI: 10.1016/j.jbankfin.2018.10.006.
- Borkenau, P. (1992). Implicit personality theory and the five-factor model. *Journal of personality*, 60(2), 295-327. DOI: 10.1111/j.1467-6494.1992.tb00975.x.
- Bretschneider, U., Knaub, K. and Wieck, E. (2014). Motivations for Crowdfunding: What Drives the Crowd to Invest in Start-Ups?. *Proceedings of the 22th European Conference on Information Systems (ECIS)*, Tel Aviv, Israel.
- Butticè, V. and Vismara, S. (2022). Inclusive digital finance: the industry of equity crowdfunding. *The Journal of Technology Transfer*, 47(4), 1224–1241. DOI: 10.1007/s10961-021-09875-0.
- Calic, G. and Mosakowski, E. (2016). Kicking Off Social Entrepreneurship: How A Sustainability Orientation Influences Crowdfunding Success. *Journal of Management Studies*, 53 (5), 738–767. DOI: 10.1111/joms.12201.
- Chan, C. S. R. and Parhankangas, A. (2017). Crowdfunding Innovative Ideas: How Incremental and Radical Innovativeness Influence Funding Outcomes. *Entrepreneurship Theory and Practice*, 41(2), 237-263. DOI: 10.1111/etap.12268.
- Cholakova, M. and Clarysse, B. (2015). Does the Possibility to Make Equity Investments in Crowdfunding Projects Crowd Out Reward-Based Investments? *Entrepreneurship Theory and Practice*, 39(1), 145–172. DOI: 10.1111/etap.12139.
- Courtney, C., Dutta, S. and Li, Y. (2017). Resolving information asymmetry: Signaling, endorsement, and crowdfunding success. *Entrepreneurship Theory and Practice*, 41(2), 265-290. DOI: 10.1111/etap.12267.
- Creek, S., Allison, T. H., Sahaym, A., Hmieleski, K. and Maurer, J. (2019). The dark triad and entrepreneurial crowdfunding: A comparison of rewards-based vs equity campaigns. In *Academy of Management Proceedings* (Vol. 2019, No. 1, p. 15932). Briarcliff Manor, NY: Academy of Management.
- Elliott, W. B., Hodge, F. D. and Sedor, L. M. (2012). Using Online Video to Announce a Restatement: Influences on Investment Decisions and the Mediating Role of Trust. *The Accounting Review*, 87(2), 513–535. DOI: 10.2308/accr-10202.

- Forbes, (2018). *5 Things Great Social Entrepreneurs Do Differently*, Retrieved from <https://www.forbes.com/sites/toriutley/2018/02/27/5-things-great-social-entrepreneurs-do-differently/?sh=5fcdc60242cd>.
- Forbes, (2017). *Five Essential Qualities For Social Enterprise Success*, Retrieved from <https://www.forbes.com/sites/forbesbusinessdevelopmentcouncil/2017/10/24/five-essential-qualities-for-social-enterprise-success/?sh=5490baa83e16>.
- Geva, H., Barzilay, O. and Oestreicher-Singer, G. (2016). *A potato salad with a lemon twist: Using a supply-side shock to study the impact of opportunistic behavior on crowdfunding platforms*. Retrieved from <https://ssrn.com/abstract=2777474>.
- Gimpel, H., Graf-Drasch, V., Kammerer, A., Keller, M. and Zheng, X. (2020). When does it pay off to integrate sustainability in the business model?—A game-theoretic analysis. *Electronic Markets*, 30(4), 699–716. DOI: 10.1007/s12525-019-00361-y.
- Goldberg, L. R. (1990). An alternative "description of personality": The Big-Five factor structure. *Journal of Personality and Social Psychology*, 59 (6), 1216–1229. DOI: 10.1037/0022-3514.59.6.1216.
- Gruda, D., McCleskey, J., Karanatsiou, D. and Vakali, A. (2021). I'm simply the best, better than all the rest: Narcissistic leaders and corporate fundraising success. *Personality and Individual Differences* (168). DOI: 10.1016/j.paid.2020.110317.
- Hong, Y., Hu, Y. and Burtch, G. (2018). Embeddedness, pro-sociality, and social influence: Evidence from online crowdfunding. *MIS Quarterly*, Forthcoming.
- Hörisch, J. and Tenner, I. (2020). How environmental and social orientations influence the funding success of investment-based crowdfunding: The mediating role of the number of funders and the average funding amount. *Technological Forecasting and Social Change*, 161, 120311. DOI: 10.1016/j.techfore.2020.120311.
- Isaak, A. J., Neuhaus, J. and Bostandzic, D. (2021). Success Lies in the Eye of the Beholder: Personality Traits, Negativity Bias and Equity Crowdfunding. In *Academy of Management Proceedings* (Vol. 2021, No. 1, p. 11151). Briarcliff Manor, NY: Academy of Management.
- Judge, T. A., Higgins, C. A., Thoresen, C. J. and Barrick, M. R. (1999). The big five personality traits, general mental ability, and career success across the life span. *Personnel psychology*, 52(3), 621–652.
- Kahneman, D. and Tversky, A. (1974). Judgment under uncertainty: Heuristics and biases. *Science*, 185, 1124–1131. DOI: 10.1126/science.185.4157.1124.
- Kassin, S. (2003). *Psychology*. USA: Prentice-Hall, Inc.
- Lehner, O. M. (2013): Crowdfunding social ventures: A model and research agenda. *Venture Capital*, 15 (4), 289–311. DOI: 10.1080/13691066.2013.782624.
- Mairesse, F., Walker, M. A., Mehl, M. R. and Moore, R. K. (2007). Using linguistic cues for the automatic recognition of personality in conversation and text. *Journal of artificial intelligence research*, 30, 457–500. DOI: 10.1613/jair.2349.
- Mollick, E. (2014). The dynamics of crowdfunding: An exploratory study. *Journal of business venturing*, 29(1), 1–16. DOI: 10.1016/j.jbusvent.2013.06.005.
- Neuhaus, J.; Isaak, A. and Bostandzic, D. (2021). Implicit Personality and Big Five Traits in Equity Crowdfunding. In: *Proceedings of the International Conference on Information Systems (ICIS)*. <https://aisel.aisnet.org/icis2021/fintech/fintech/4/>
- Neuhaus, J., Isaak, A. and Bostandzic, D. (2022). Million dollar personality: A systematic literature review on personality in crowdfunding. *Management Review Quarterly*, 1–37. DOI: 10.1007/s11301-021-00242-9.
- Nevin, S., Gleasure, R., O'Reilly, P., Feller, J., Li, S. and Christoforo, J. (2017). Large Crowds or Large Investments? How Social Identity Influences the Commitment of the Crowd. *Proceedings of the 25th European Conference on Information Systems (ECIS)*, Guimarães, Portugal.
- Pacheco, D. F., Dean, T. J. and Payne, D. S. (2010). Escaping the green prison: Entrepreneurship and the creation of opportunities for sustainable development. *Journal of Business Venturing*, 25(5), 464–480. DOI: 10.1016/j.jbusvent.2009.07.006.

- Pangriya, R. (2019). Hidden aspects of social entrepreneurs' life: a content analysis. *Journal of Global Entrepreneurship Research*, 9 (1), 1–19. DOI: 10.1186/s40497-019-0199-6.
- Pedersen, D. M. (1965). The measurement of individual differences in perceived personality-trait relationships and their relation to certain determinants. *The Journal of Social Psychology*, 65(2), 233-258. DOI: 10.1080/00224545.1965.9919603.
- Pollack, J. M., Maula, M., Allison, T. H., Renko, M. and Günther, C. C. (2021). Making a contribution to entrepreneurship research by studying crowd-funded entrepreneurial opportunities. *Entrepreneurship Theory and Practice*, 45(2), 247-262. DOI: 10.1177/1042258719888640.
- Raab, M., Friedrich, T., Schlauderer, S. and Overhage, S. (2017). Understanding the Role of Social Presence in Crowdfunding: Evidence from Leading U.S. and German Platforms. *Proceedings of the 25th European Conference on Information Systems (ECIS)*, Guimarães, Portugal.
- Rottler, M., Helmig, B. and Ahrens, J. P. (2020). The biased crowd? Personality perceptions in crowdfunding. *Proceedings of Forty-First International Conference on Information Systems (ICIS)*, India.
- Schaltegger, S. and Wagner, M. (2011). Sustainable entrepreneurship and sustainability innovation: categories and interactions. *Business strategy and the environment*, 20(4), 222-237. DOI: 10.1002/bse.682.
- Schwienbacher, A. and Larralde, B. (2010). Crowdfunding of Small Entrepreneurial Ventures. *SSRN Electronic Journal*. DOI: 10.2139/ssrn.1699183.
- Shepherd, D. A. and Patzelt, H. (2011). The new field of sustainable entrepreneurship: Studying entrepreneurial action linking “what is to be sustained” with “what is to be developed”. *Entrepreneurship theory and practice*, 35(1), 137-163. DOI: 10.1111/j.1540-6520.2010.00426.x.
- Smith, R., Bell, R. and Watts, H. (2014). Personality trait differences between traditional and social entrepreneurs. *Social Enterprise Journal*, 10 (3), 200–221. DOI: 10.1108/SEJ-08-2013-0033.
- Srivastava, S., Guglielmo, S. and Beer, J. S. (2010). Perceiving others' personalities: Examining the dimensionality, assumed similarity to the self, and stability of perceiver effects. *Journal of personality and social psychology*, 98(3), 520. DOI:10.1037/a0017057.
- Stinchcombe, A. (1965). Organization-creating organizations. *Society* 2 (2), 34–35. DOI: 10.1007/BF03180801.
- Tausczik, Y. R. and Pennebaker, J. W. (2010). The Psychological Meaning of Words: LIWC and Computerized Text Analysis Methods. *Journal of Language and Social Psychology*, 29 (1), 24–54. DOI: 10.1177/0261927X09351676.
- Thies, F., Wessel, M., Rudolph, J. and Benlian, A. (2016). Personality Matters: How Signaling Personality Traits can Influence the Adoption and diffusion of Crowdfunding Campaigns. *ECIS*.
- Vismara, S. (2019): Sustainability in equity crowdfunding. *Technological Forecasting and Social Change*, 141, 98–106. DOI: 10.1016/j.techfore.2018.07.014.
- Vu, F. (2021). *Equity Crowdfunding Shows More Growth Than Venture Capital*. KingsCrowd. Retrieved from <https://kingscrowd.com/equity-crowdfunding-shows-more-growth-than-venture-capital/>.
- Wang, H., Yu, M. and Zhang, L. (2019). Seeing is important: the usefulness of video information in P2P. *Accounting & Finance*, 59 (S2), 2073–2103. DOI: 10.1111/acfi.12530.
- Watson, R. T., Boudreau, M. C. and Chen, A. J. (2010). Information systems and environmentally sustainable development: energy informatics and new directions for the IS community. *MIS quarterly*, 23-38. DOI:10.2307/20721413.
- WCED (1987). *Report of the World Commission on Environment and Development: Our Common Future*, Retrieved from <https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf>.
- Wehnert, P., Baccarella, C. V. and Beckmann, M. (2019). In crowdfunding we trust? Investigating crowdfunding success as a signal for enhancing trust in sustainable product features. *Technological Forecasting and Social Change*, 141, 128–137. DOI: 10.1016/j.techfore.2018.06.036.
- Wooldridge, J. (2002). *Econometric Analysis of Cross Section and Panel Data*. MIT Press: Cambridge, MA.

- Yarkoni, T. (2010). Personality in 100,000 Words: A large-scale analysis of personality and word use among bloggers. *Journal of Research in Personality*, 44(3), 363-373. DOI: 10.1016/j.jrp.2010.04.001.
- Zhao, H., Seibert, S. E. and Lumpkin, G. T. (2010). The Relationship of Personality to Entrepreneurial Intentions and Performance: A Meta-Analytic Review, *Journal of Management*, 36(2), 381-404. DOI: 10.1177/0149206309335187.