

# **The Investment Triad: How Information, Sources, and Investor Traits Influence Equity Crowdfunding Decisions**

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## **Abstract**

Equity crowdfunding has emerged as an innovative financing model, offering investment opportunities for investors while providing funding for entrepreneurs. However, high information asymmetry, lack of intermediaries and the presence of non-professional investors raise concerns about the decision-making processes in this context. While previous studies have explored various informational signals impacting investment decisions, few have focused on information attributes, including argument quality, source credibility and their interplay with investor's uncertainty and trust characteristics. Drawing on the elaboration likelihood model, this study explores these effects and the underlying mechanisms leading to investment intention. Using an experimental design (N=142), our findings demonstrate that non-professional investors' perceptions of argument quality and source credibility significantly influence their investment behaviour in equity crowdfunding campaigns. The extent of this impact varies depending on the nature of the business information and the types of sources provided by equity crowdfunding ventures. The study reveals a significant interaction between information attributes and personal characteristics of investors. The findings offer implications for entrepreneurs and crowdfunding platforms, directing strategies to effectively manage and present information to enhance campaign persuasiveness and facilitate informed investment decisions.

**Keywords:** Equity crowdfunding, Non-professional investor, Elaboration likelihood model, Information processing, Trust, Ambiguity.

## **1. Introduction**

Technological advancements have reshaped the landscape of business and finance (Jiang et al., 2018), creating new opportunities for entrepreneurs and investors. One such notable innovation is equity crowdfunding (ECF), a digital financing model that allows entrepreneurs to raise capital by selling securities to a broad base of investors through online platforms (Mochkabadi & Volkmann, 2018). While the model has expanded traditional financing avenues and opened investment opportunities for a range of investors (Jo & Yang, 2020), this digital mode of financing presents some distinct challenges for entrepreneurs, investors, and platform providers. High information asymmetry is the key concern in the ECF market, where entrepreneurs often struggle to effectively convey the venture quality to potential investors (Ahlers et al., 2015). In contrast to traditional financing markets, the ECF market lacks intermediaries such as analysts, auditors, and underwriters, who typically provide independent assessments of firms and help mitigate investment risks (Agrawal et al., 2014). Initially, the market was limited to accredited investors. However, since the passage of Title III of the Jumpstart Our Business Startups (JOBS) Act in October 2015, non-professional individual investors are allowed to participate in the U.S. ECF market (Borchers & Dunham, 2022). Unlike professional investors, such as angel investors and venture capitalists, non-professional investors often lack the expertise and resources to perform rigorous due diligence (Shafi, 2019). This raises concerns about how these investors make their investment choices in this digital financing model characterised by high information asymmetry and uncertainty. Given these challenges, a deeper understanding of the decision-making process of non-professional investors in the ECF environment is required to enable entrepreneurs to manage and present information accordingly. Moreover, related insights support crowdfunding platforms to specify information needs on the platform, as well as potential investors by making them aware of potential biases.

To reduce information asymmetry and persuade potential investors, entrepreneurs typically provide detailed venture-relevant information as signals of the quality and credibility of their ventures (Schwienbacher, 2007). In this context, various information signals have been explored, including campaign characteristics, human capital, products and market potentials, which influence the likelihood of campaign success (Estrin et al., 2022; Lukkarinen et al., 2016; Nitani et al., 2019). However, these studies have concentrated predominantly on the content of the information and the mere identification of success factors. Different information attributes such as argument quality (i.e., information content attribute) and source credibility (i.e., information source attribute), as well as the underlying mechanism of how these factors influence online investment behaviour, have not been studied yet. This oversight is important, as the effectiveness of any communicated information depends on several factors, including the quality of information provided, the credibility of sources and the attributes of information receivers (Hamilton & Winchel, 2018; Pozharliev et al., 2022). Moreover, while it is commonly assumed that investors may make informed decisions by evaluating the argument of the venture information, research in behavioural finance suggests that they may not always engage in a detailed analysis of venture quality but instead rely on other stimuli related to the message (Paugam et al., 2021). For instance, investors can follow a simplifying heuristic to focus on independent and expert sources that substantiate the claims made by ventures. Additionally, uncertainty and trust preferences vary among investors and could influence related decision-making (Hamilton & Winchel, 2018; Liang et al., 2019). We thus focus on the mechanism that explains the differential impact of information attributes in the ECF decision-making environment. Correspondingly, we explore the following research questions:

RQ1: How do information attributes concerning the quality of information and credibility of information sources influence (non-professional) investors' judgement and decision-making processes?

RQ2: How do (non-professional) investors' attributes concerning trust and uncertainty affect their perception of an equity crowdfunding campaign's quality and credibility?

We use the elaboration likelihood model (ELM), a dual process theory, as our theoretical framework (Petty & Cacioppo, 1986). The ELM posits that any communicated message can influence an individual's attitudes and decisions following two routes: central routes, where individuals critically scrutinise the strength of the information, and peripheral routes, where they use simple strategies and peripheral cues related to information. However, the route differs depending on the extent of cognitive effort, or elaboration, that individuals are willing or able to invest in processing the information (Petty & Cacioppo, 1986).

In order to answer our research questions, we conduct a 2x2 experiment (N=142) in which we manipulate argument quality and credibility of sources while considering the disposition to trust and tolerance of ambiguity as moderators. Our findings indicate that non-professional investors' perceptions of argument quality and source credibility significantly influence their investment behaviour in ECF campaigns. The impact varies depending on the nature of the information and type of sources provided by ECF ventures. Moreover, a significant interaction effect emerges in relation to the personal characteristics of investors.

To the best of our knowledge, this is the first study that comprehensively examines the roles of information argument, source credibility, and attributes of non-professional investors in explaining decision-making within the ECF environment. It delves into the mechanisms that build crowd investor's trust in ECF campaigns and provides a theoretical framework, grounded in the ELM, to better understand decision-making processes in this context. The findings have implications for entrepreneurs, providing strategies to manage the influence of information attributes in ECF campaigns. Crowdfunding platforms can also leverage the insights to enhance

the presentation of relevant information, facilitating more informed investor decisions and helping entrepreneurs reduce information asymmetry more effectively.

## **2. Theoretical Background**

### **2.1 Equity Crowdfunding**

Crowdfunding has emerged as an alternative method of financing entrepreneurial projects (Moritz & Block, 2016). It is defined as an open call for financial support through online channels, either in the form of donation or by offering future products or rewards to provide support for specific initiatives (Schwienbacher & Larralde, 2010). Fund seekers use crowdfunding for different purposes, resulting in different forms of crowdfunding. Literature highlights four core types of crowdfunding: donation-based, reward-based, lending-based, and equity-based, differing according to the nature of the funding effort and context. Reward and lending crowdfunding campaigns are generally launched to raise capital for a specific purpose or to repay existing personal loan obligations, while donation crowdfunding involves the funding process for the social good without offering any rewards (Burtch et al., 2013; Donovan, 2021). The focus of our study is equity crowdfunding, where the funder's role is that of an investor who acquires equity holdings or similar benefits by participating in crowdfunding projects (Mollick, 2014). The goals and risks of funders in ECF differ from those of other types of crowdfunding and traditional modes of financing (Cholakova & Clarysse, 2015). As opposed to reward crowdfunding, where participants are particularly confined to obtaining a particular reward that is similar to a typical purchase decision (Lim & Busenitz, 2020), ECF involves the issuance of securities and is profit-oriented, leading to distinct investor preferences, and risk-return prospects (Johan & Zhang, 2020). Therefore, the current understanding of funders' funding decisions based on other forms of crowdfunding has limited applicability to equity-based crowdfunding (Hervé et al., 2019). Furthermore, compared with traditional financing, ECF investors are non-professional with little or no investment experience and face greater

information asymmetry in evaluating business potential (Ahlers et al., 2015; Bapna & Ganco, 2021), creating the need for a deeper understanding of the decision-making process in this context.

## **2.2 Trust in the Equity Crowdfunding Market**

Trust is critical to the study of online business, and it has a significant effect on individual behaviour (Lim et al., 2006). According to Mayer et al. (1995), trust is the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other party will perform a particular action important to the trustor, irrespective of their ability to monitor or control the other party. In the context of ECF, we conceptualise trust as the belief that an investor has in an ECF campaign and s/he is willing to invest in the campaign, even with the possibility of loss, based on the expectation that the venture will engage in generally acceptable practices, and it will be able to deliver the promised products or services (Mochkabadi & Volkmann, 2018). Earlier studies reveal that information that signals a trustor's benevolence, integrity, and competence is a significant predictor of trust (Mayer & Davis, 1999; McAllister, 1995; Pirson & Malhotra, 2010). Additionally, factors such as the ability of the provider, network externality, endorsements, and reputation of the provider/product have been identified as crucial in building trust (Kang et al., 2016; Kim et al., 2020). The significance of trust in crowdfunding campaigns, platforms, and fundraisers has also been documented in crowdfunding research (Kang et al., 2016; Wehnert et al., 2019). Trust is essential for early-stage ventures, particularly in ECF, where investors rely on the information disclosed by entrepreneurs and invest in an online environment (Mochkabadi & Volkmann, 2018). However, prior research in ECF mostly treated trust as an antecedent (Kang et al., 2016), with limited exploration of the process through which trust is formed. Scholars have frequently called for more research to understand the trust-building mechanism in the ECF market (Mochkabadi & Volkmann, 2018). Drawing on the ELM, we examined the non-professional investors' trust in

the ECF campaign as a process of persuasion and explored the mechanism through which different factors via the central and peripheral route of ELM influence investors' trust and, eventually, their investment behaviour.

### **2.3 Impact of Information on Investment Decisions**

To reduce information asymmetry and induce potential investors, entrepreneurs send observable signals to investors about venture quality and future performance (Connelly et al., 2010; Schwienbacher, 2007). A significant amount of information provided to investors by ventures involves persuasion with an effort to modify or change the behaviour of individuals (Hamilton & Winchel, 2018). An implicit underlying assumption is that investors exercise rational judgment following the argument of information when selecting investment opportunities (Surowiecki, 2005). Past studies on the assumption of an investor's rational decision process have identified various criteria used by ECF investors, including aspects of the venture's team, products, market, and financials (Ahlers et al., 2015). However, instead of using a parsimonious set of criteria, investors may often use peripheral cues related to meta-information about the message, such as the cues related to information sources (Maxwell et al., 2011; Zhou et al., 2018). While many peripheral cues, including source credibility, source likeability and number of sources, are suggested in the literature, source credibility appears to be one of the more frequently referenced cues (Bhattacharjee & Sanford, 2006). Research shows that individuals tend to place significant importance on the credibility of information sources, and they are more likely to act on information if it is certain and comes from a reliable source (Karmarkar & Tormala, 2010; Winter & Krämer, 2014). However, investors can use both arguments of information and other peripheral cues simultaneously. All of these criteria may have independent and interdependent impacts on judgements and decision-making, depending on a number of mutable factors (Chaiken, 1980). Moreover, research indicates that the value placed on information in investment decisions varies according to the individual



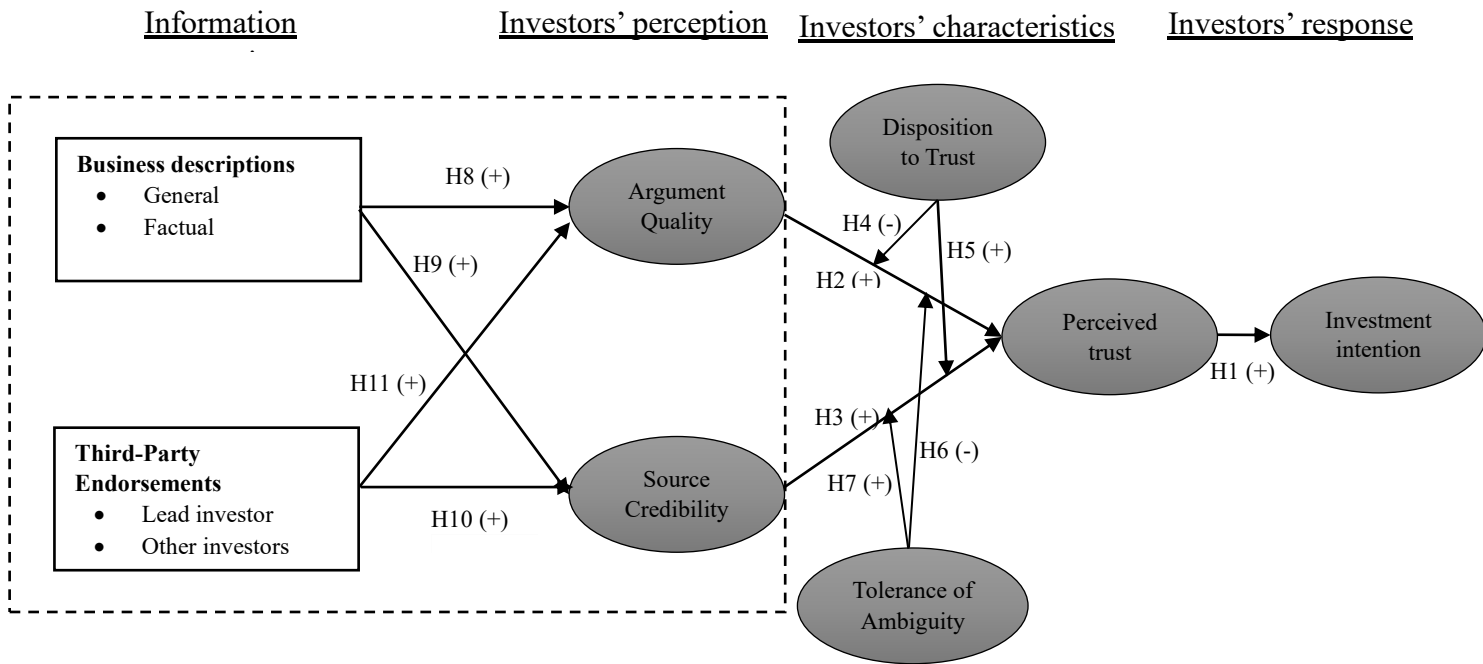
attributes and types of investors. For instance, Coram (2010) found that non-professional investors respond differently to positive non-financial disclosures compared to professional investors. Similarly, Mikhail et al. (2007) demonstrated that sophisticated investors are influenced by the detailed information in analysts' reports, whereas smaller, less experienced investors are more likely to be swayed by the presence of a recommendation alone. These outcomes highlight the complex interplay of information processing and decision-making behaviours among different investor segments.

## **2.4 Elaboration Likelihood Model**

This study employs the elaboration likelihood model (ELM) of dual-process theories (Petty & Cacioppo, 1986) as its theoretical framework to understand investors' trust in ECF campaigns and their investment intentions. ELM suggests that persuasion outcomes, such as changes in investors' trusting beliefs, are influenced by three main factors: (1) the strength of the content, (2) peripheral cues (e.g., non-content stimuli, such as source credibility), and (3) the likelihood of elaboration. According to the ELM, the change in attitude among individuals may be caused by two "routes" of influence, the central route and the peripheral route, which differ in the amount of thoughtful information processing or elaboration demanded of the individual subjects (Petty & Cacioppo, 1986). Individuals who are motivated and able to process information follow the central route. They are more likely to engage in critical evaluation of issue-relevant arguments in the communicative message, and they scrutinise the relative merits and relevance of those arguments prior to forming an informed judgment. This route highlights how arguments in a persuasive message are comprehended and processed cognitively by the argument recipient. In the context of ECF, such arguments might pertain to the details of the venture, including the quality of the founders, products, and/or the market potential (Allison et al., 2017). The quality of these business narratives becomes a critical factor in influencing investment decisions. Alternatively, the peripheral route is characterised by a lower level of

cognitive involvement. Here, decision-makers are more likely to rely on simple cues rather than engaging in a thorough analysis of the argument itself. In ECF, non-professional investors who are unwilling to critically evaluate business narratives may rely on peripheral cues, for instance, the credibility of external endorsements or reputational cues related to campaigns. Moreover, ELM suggests that when the message is personally relevant, the likelihood of elaboration is relatively high, and message recipients are more likely to consider the issue at hand (Petty & Cacioppo, 1986). However, investors can simultaneously use arguments of information and other peripheral cues. The processing of information following two routes can have independent and interdependent impacts on judgements and decision-making, contingent on a number of mutable factors (Chaiken, 1980).

The ELM has been utilised in marketing, advertising, social media, and information technology adoption research (Angst & Agarwal, 2009; Lee et al., 2018; Zha et al., 2018). It is also used to model persuasive influence in reward-based crowdfunding (Bi et al., 2017) and lending crowdfunding (Moradi & Badrinarayanan, 2021). However, existing equity crowdfunding research has limited exploration of the ELM's information processing mechanism, particularly the interplay between arguments, source credibility, and receiver attributes. In this study, we leverage ELM to examine the mechanism of how the argument quality related to venture business description, source credibility derived from third parties and investors' attributes such as their disposition to trust and tolerance of ambiguity impact ECF investor's trust and their investment intention. The corresponding research model is presented in Figure 1.



**Figure 1. Research Model**

### 3. Hypotheses Development

#### 3.1 Effect of Trust

Trust plays a pivotal role in the financial environment, where inherent risks of economic transactions might impede activities (McKnight et al., 1998). Perceived trust is defined as an emotional state that encourages one to trust another entity based on the satisfactory behaviour of the other (Singh & Sinha, 2020). The relationship between trust and investment decisions is well-documented in traditional financing, where trust influences crucial financial choices, including portfolio allocation and stock market engagement (Guiso et al., 2008). The significance of trust extends to the crowdfunding market, where most information remains unverified, and relationships between entrepreneurs and potential investors are marked by substantial information asymmetries (Ahlers et al., 2015; Moysidou & Hausberg, 2020). Research has shown that an individual's perceived trust substantially shapes their behavioural intentions (Lim et al., 2006). Therefore, we posit that investors' perceived trust in ECF campaigns determines their intention to invest in the campaign.

H1. Investors' perceived trust has a positive impact on their investment intention in an ECF campaign.

### **3.2 Effects of Argument Quality**

Building trust with potential investors is crucial for entrepreneurs seeking funding through ECF (Moysidou & Hausberg, 2020). Information is identified as a significant predictor of individual perception of trust (Mayer & Davis, 1999). The theoretical tenets of ELM and findings from past research in different contexts suggest that argument quality and source credibility are the key determinants of persuasion outcomes (Angst & Agarwal, 2009; Bhattacharjee & Sanford, 2006).

Argument quality, the persuasive strength of arguments embedded in an informational message (Bhattacharjee & Sanford, 2006), plays a significant role in building trust with investors following the central route of ELM. High-quality arguments can support and validate existing beliefs about a venture's potential (Lin & Huang, 2021; Zhou, 2011). When users perceive an argument to be strong, they are more likely to find the information useful and adopt it (Sussman & Siegal, 2003). Argument quality supports and rationalises investors' assessment by improving or reinforcing their extant beliefs regarding the positivity of information (Bhattacharjee & Sanford, 2006). In the context of ECF, a strong, well-supported argument embedded in communicated information can create a positive attitude towards the venture's competence and potential, thereby positively affecting investors' trust in the campaign. Accordingly, we hypothesise-

H2. Investors' perceived argument quality has a positive impact on their perceived trust in the ECF campaign.

### **3.3 Effect of Source Credibility**

Source credibility refers to the extent to which sources of information are perceived to be competent, trustworthy, and reputable (Bhattacharjee & Sanford, 2006). Research consistently demonstrates that an individual's perceived credibility of sources can affect their beliefs, attitudes, and behaviours (Yang et al., 2006; Zhou et al., 2016). Highly credible sources are more effective in influencing attitudes and building trust compared to less credible ones (Trumbo & McComas, 2003). In the context of ECF, leveraging credible sources can persuade potential investors. When investors perceive the campaign information as stemming from reliable sources or when experts or any independent third parties support it, they are more likely to trust the campaign's claims and perceive the venture potential more favourably. This situation could foster investors' trust and translate into greater investment intention. Existing research supports the positive influence of competent and reliable sources of relevant information on building individuals' trust and attitudes (Zhou et al., 2016). Credible sources, following the peripheral route of ELM, can establish investors' confidence in the accuracy and reliability of information (Chaiken & Maheswaran, 1994). This positive reinforcement can strengthen trust. Accordingly, we hypothesise:

H3. Investors' perceived source credibility has a positive impact on their perceived trust in the ECF campaign.

### **3.4 Effects of Investors' Characteristics**

ELM theory suggests that the evaluation of information is influenced by individuals' likelihood of elaboration, such as their motivation and ability to process information. Systematic differences in individual investors (such as personal relevance, knowledge, and thinking disposition) can determine whether or not the investor is adequately motivated to process the communicated message (Hamilton & Winchel, 2018). Drawing on previous ELM research, we examine trust and uncertainty attributes of investors- investors' disposition to trust and

tolerance of ambiguity, which relates to individuals' information processing and decision-making behaviours (Liang et al., 2019; Lu & Gursoy, 2015). Disposition to trust is the tendency to be willing to trust others (McKnight et al., 2002). Individuals with a low disposition to trust are inclined to be sceptical, do not easily accept new products or services, and they consider the processing of argument necessary in their decision-making. Therefore, these individuals will critically evaluate information, and their trust perception is more likely to form based on arguments of information (Liang et al., 2019). Conversely, those with a high disposition to trust easily trust others and they are more likely to regard other people as reliable. These users are less motivated to monitor and evaluate information, and they may instead rely on source credibility to shape their attitudes and perceptions of trust. Therefore, we propose that,

H4. Investors' disposition to trust negatively moderates the impact of perceived argument quality on perceived trust.

H5. Investors' disposition to trust positively moderates the impact of perceived source credibility on perceived trust.

Tolerance of ambiguity refers to people's ability to respond to stimuli that are ambiguous (Furnham & Ribchester, 1995). A person with a high tolerance for ambiguity is confident about decisions made in an ambiguous environment without attempting to seek more information (Teoh & Foo, 1997). Alternatively, investors with a low tolerance for ambiguity are concerned about the uncertainty and ambiguity of the ECF market and they are more inclined to scrutinise the argument of the venture. Prior research also identified that individuals' difference in tolerance of ambiguity influences their information processing and decision-making behaviour. For example, Zhu et al. (2012) observed that consumers with a low tolerance for ambiguity place greater emphasis on the content of messages when forming their purchase intentions compared to those with a higher tolerance for ambiguity. Similarly, Wang and Wang (2010)

demonstrated that tolerance of ambiguity moderates the relationship between word of mouth (WOM) and purchase decision. Accordingly, in this study, we hypothesise that,

H6. Investors' tolerance of ambiguity negatively moderates the impact of perceived argument quality on perceived trust.

H7. Investors' tolerance of ambiguity positively moderates the impact of perceived source credibility on perceived trust.

### **3.5 Effects of Business Description**

Entrepreneurs in the ECF campaigns typically provide a description of the venture, including the details of venture products, team compositions and market potentials. These business narratives are crafted to persuade potential investors by clearly communicating the venture's strength and future potential (Colombo et al., 2015). Thus, a business narrative that provides a compelling overview of the venture is essential for attracting investor interest. Crowd investors who engage in informed decision-making are likely to analyse the key aspects of the venture, such as the credentials of the founder, the viability of the product, or the robustness of the business model, to find supportive arguments.

ELM suggests that individuals carefully evaluate the argument of information following the central route of ELM (Allison et al., 2017). However, ELM does not specify what constitutes strong content, or the specific characteristics of a quality argument (Kim & Benbasat, 2009). Recognising this, past research on information systems and decision-making contexts uses Toulmin's model of argumentation (Toulmin, 2003), which provides a framework for evaluating the quality of argument (Mun et al., 2013; Wang & Doong, 2010). In this study, we also use Toulmin's argumentation framework to examine the argument quality of venture business description. According to Toulmin (2003), a better argument quality can be created by providing a stronger and more supporting justification for the claim offered. Toulmin's model

highlights the two key components in developing arguments, often used in entrepreneurial pitches: Claim and factual grounds (van Werven et al., 2019). The claim or conclusion refers to any assertion put forward publicly for general acceptance. For example, if a person tries to convince others to do regular exercise, the claim will be “regular exercise improves mental health”. The data or factual grounds for the argument refer to the statement specifying particular facts about a situation to support the claim (Toulmin, 2003). In line with the above example, the claim can be supported by the following data - “research suggests that individuals engaging in regular physical activity report a 30% reduction in symptoms of depression and anxiety”.

Prior studies highlighted the importance of these components in strengthening the argument of a persuasive message in different contexts, such as online purchase decisions (Mun et al., 2013; Racherla et al., 2012; Wang & Doong, 2010), entrepreneurial narratives (van Werven et al., 2019) and web-based health information (Mun et al., 2013). Research also showed that claims that are supported with specific evidence are seen as more plausible by investors (Elliott et al., 2015). In this study, we assess the strength of the argument quality of the business description, differentiating between general description (claim only) and factual description (claim supported with objective data). We assume that factual business descriptions with supporting data demonstrate stronger argument quality and are perceived as more convincing than general business descriptions. Therefore, we hypothesise:

H8. Perceived argument quality will be greater for factual business descriptions compared to general business descriptions.

The credibility of information is crucial in the online transaction (Flanagin et al., 2014). Research in online communication and marketing has demonstrated that credibility can be enhanced by providing evidence and justification on how the system is developed and why customers should trust the information (Wang & Benbasat, 2007). The presence of strong



arguments leads people to have more confidence in the communicator and the perception of expert knowledge regarding the products or ventures (Shan, 2016). Wang and Doong (2010) revealed that customers' perceptions of source credibility vary across different forms of arguments. Ye and Johnson (1995) further supported this assertion by showing that the more detailed the explanation, the higher the user's belief in the online recommendation agent.

In the context of ECF, we argue that detailed descriptions of ventures, supported by specific data on their potential success, are likely to be attributed to a more credible source. Consider an ECF campaign claiming, "Our company is growing rapidly, and it has substantial future potential." This claim can be supported with evidence such as, "Our company has experienced a 25% increase in revenue this year from our innovative product line." Such objective data can enhance investors' perceptions of the source's credibility as they provide additional justification for the venture's claims. Following this argument, this study suggests that source credibility perception is more influenced by factual business descriptions that are detailed and supported by sufficient evidence.

H9. Perceived source credibility will be greater for factual business descriptions compared to general business descriptions.

### **3.6 Effects of Third-Party Endorsements**

In an environment of high information asymmetry, entrepreneurs face difficulties in ensuring the credibility of information to acquire external financing, while investors may struggle to process information and make informed decisions (Pollock & Gulati, 2007). Research in entrepreneurship has demonstrated that third-party support for a venture can significantly reduce information asymmetry around the venture by acting as a source of credibility for ventures (Stuart et al., 1999).

ECF campaigns are often supported by investors, including lead investors, who share their opinions and investment rationalisation about the campaign. Lead investors are experienced investors or recognised experts in specific areas who play a significant role in influencing the obtaining of external financing (Kamalnath & Lin, 2019). These investors perform due diligence and take the initiative to invest in a project they believe has potential, thereby signalling the project's credibility to other potential investors (Shen et al., 2020). Furthermore, while a large number of investors in ECF markets may be part of the general crowd, experienced investors or experts often exert a disproportionate influence (Kim & Viswanathan, 2018). Therefore, endorsements by lead investors, known for their expertise and thorough due diligence, serve as a credibility signal to other potential investors. Given this context, our study proposes that campaigns endorsed by lead investors, acting as third-party endorsers, are perceived as more credible. We hypothesise:

H10. Perceived source credibility will be greater for ECF campaigns endorsed by lead investors compared to campaigns endorsed by other investors.

Credibility and expertise of information sources are key factors for shaping perceptions of information quality (Mun et al., 2013). As suggested by Zhang et al. (2014), the more credible the source, the greater the possibility of a better argument. Credible sources enhance the perceived validity of information in messages, leading to greater persuasion (Fragale & Heath, 2004). Source expertise can impact persuasion by motivating recipients to pay closer attention to information content, particularly when it comes from an authoritative source (Mun et al., 2013). For instance, messages from an expert can lead people to expect those messages to contain more valid arguments compared to messages from non-experts (Chaiken & Maheswaran, 1994). Stoltenberg and Davis (1988) demonstrated that argument quality had a greater impact on attitudes and behaviours when participants encountered a highly credible source compared to a less credible one. Similarly, Wang and Doong (2010) examined how

different types of spokespersons in advertising could influence perceptions of argument quality. Building on this foundation, we posit that ECF campaigns endorsed by lead investors, following a due diligence process, signal a higher degree of confidence in the arguments presented and they are perceived as a form of validation. This situation, in turn, can lead to a greater perception of argument quality among potential investors.

H11. Perceived argument quality will be greater for ECF campaigns endorsed by lead investors compared to campaigns endorsed by other investors.

## **4. Method**

We conducted an experiment (i.e., with random group assignment) using a  $2 \times 2$  between-subjects design. The experimental approach has several advantages. Most notably, subjects can be allocated to experimental scenarios in a controlled manner, which helps to decrease the confounding effects (Liang et al., 2019). To examine the impact on perceived argument quality and source credibility, we designed the experiment with 2 levels of business description (general, factual) and 2 levels of third-party endorsement (lead investor, other investors). Participants were randomly assigned to one of the four experimental conditions.

### **4.1 Participants**

The target participants for this study are non-professional investors from the U.S. Non-professional investors are individuals who use information for personal investment purposes. They are not securities broker-dealers, registered representatives, investment advisors, investment bankers, commodity trading advisors, or members of the Securities Exchange or Association or Futures Contract market (Yao et al., 2024). The U.S. ECF market provides a unique setting to examine the decision-making processes of non-professional investors. The implementation of Title III of the JOBS Act by the Securities and Exchange Commission (SEC) in 2015 made the ECF market accessible to the general public (SEC, 2015). This legislation

opened the door for less sophisticated investors to invest in U.S.-based startups, facilitating a substantial expansion of the U.S. ECF market (Borchers & Dunham, 2022). We recruited participants through Prolific, that is an increasingly recognised platform for collecting data in social and economic science research (Palan & Schitter, 2018). The platform is used in various disciplines, including economics (Marreiros et al., 2017), accounting (Chen et al., 2022; Yao et al., 2021), psychology (Callan et al., 2017), and entrepreneurship (Engel et al., 2021). To be eligible, participants were required to be at or above 18 years old, resident in the U.S. and non-professional investors. To ensure participants are non-professional and they have the necessary knowledge and experience to complete the tasks, we selected the following screening questions for the Prolific participants: (i) participants have previously invested in the common stock of a company, (ii) Participants are not professional investors (i.e., they are not registered financial professionals, also known as registered representatives or stockbrokers, investment advisors, or financial planners).

In total, 212 participants were recruited. We removed 26 participants who identified themselves as professional investors. Forty (40) participants were removed for failing the manipulation check of third-party endorsements. Manipulation checks prove that an experimental manipulation has been successful and strengthens the internal validity (Kotzian et al., 2020). To ensure participants were engaged in the task, our experimental instrument contained an attention check question. We removed two (2) participants for failing the attention check question. An additional two (2) participants were excluded for their consistent response based on the standard deviation of response value of 0 (Dunn et al., 2018). The final sample consisted of 142 participants for the analysis.

Demographic information is collected at the beginning of the survey and presented in Table 1. Of the total participants, 55 percent (79) were male and 41 percent (58) female, with 4 percent (5) nominating as non-binary. The average age of the participants was 41.82, with most

participants between ages 30 and 39 (32.39 percent), followed by those over 50 (27.46 percent). The sample was highly educated, with 88 percent holding either bachelor's, Master's, or Doctorate degrees. Of the total participants, 36 participants (25 percent) have prior experience by investing in at least one crowdfunding campaign.

**Table 1 Participants Demographics**

Participants	Number	Percentage
Gender		
Men	79	55.63
Women	58	40.84
Non-binary	5	3.52
Age		
Between 18 and 24	10	7.04
Between 25 and 29	19	13.38
Between 30 and 39	46	32.39
Between 40 and 49	28	19.72
Over 50	39	27.46
Education		
No schooling completed	0	0
High school graduate	23	16.20
Diploma or the equivalent	3	2.11
Trade/Technical/Vocational training	7	4.93
Bachelor's degree	67	47.18
Master's degree	18	12.7
Professional Degree	21	14.79
Doctorate degree	3	2.11
Crowdfunding experience		
Invested in crowdfunding	36	25.35
Not invested in crowdfunding	106	74.65

## 4.2 Development of Stimuli

*Argument Quality:* To examine the strength of the argument, we manipulated the business description of the ECF campaign. Following Toulmin's' model of argumentation (Toulmin,

2003), we developed two types of content: general business description, aligning with a claim-only approach and factual business description, consisting of a claim supported by data argument.

We conducted an online pretest to evaluate whether the two manipulations represented a sufficient difference between the argument qualities. To test the argument quality, the pretest randomly presented participants with general and factual business descriptions generated for a hypothetical ECF campaign and asked them to rate their level of agreement in terms of the following questions: “To what extent do you think that the business description provided evidence to support its claim.”. The results of the independent sample t-test confirmed a significant difference between the argument quality of the business description, with a lower mean value for the general business description (mean= 3.417) compared to the factual business description (mean=5.364).

*Source credibility:* In our study, we manipulated various forms of third-party endorsements to assess their impact on the perceived credibility of information sources. Manipulation of third-party endorsements was accomplished by distinguishing them as either endorsements by “lead investors” or by “other investors.” This differentiation reflects the practice of actual ECF campaigns where different types of investors provide their support and share their opinions about the venture. In our research design, we enclosed the certification statement by investors in quotation marks, specifying the information source. For example, in the lead investor condition, the source was explicitly identified as a lead investor, including a definition to clarify the term. Alternatively, in “other investor” conditions, all statements were described as provided by “other investors.” To improve credibility, elements such as the investor’s title, their sequence, and a standard certification statement remained consistent across both scenarios.

### **4.3 Procedure**

We conducted an online experiment using Qualtrics. Participants received general instructions on the experiment's procedures. They were informed that the presented case is a hypothetical ECF venture called CoffeeCraft, and they were to assume the role of potential investors. Additionally, a brief description of the purpose of the ECF campaign was provided.

Participants first answered some demographic information followed by questions related to their experience in ECF, their disposition to trust, tolerance of ambiguity, and perception of risks. Then, they were presented with a hypothetical ECF campaign. To examine the impact of the effect of quality of the argument in the business description and endorsement by different types of investors, we designed four variations of the ECF campaign for a Coffee Company called CoffeeCraft and randomly assigned participants to one of these four experimental conditions: i) general business description with lead investor; ii) general business description with other investors; iii) factual business description with lead investor; and, iv) factual business description with other investors.

The hypothetical ECF campaigns were modelled based on coffee company campaigns in Wefunder (a leading US-based crowdfunding platform). In line with the actual ECF campaign, we designed campaigns that included detailed offer information, fundraising goals, and visual elements. The information across all four experimental conditions was consistent to ensure comparability. Participants were randomly assigned to each manipulation group, and after evaluating the ECF campaign, they were asked to rate their intention to invest in the campaign. They also responded to questions related to their perceived trust in the campaign, the quality of the argument presented, and the credibility of the information source. Participants finished the experiment by answering manipulation check and attention check questions. On average, it

took 11 minutes to complete the experiment, and participants were provided with a financial incentive of £1.60<sup>1</sup>.

#### **4.4 Measures**

We utilised measurement instruments from well-established constructs in the literature. All of the constructs were measured on 7-point Likert scales. Further details of all constructs are presented in Appendix A. Furthermore, we checked the manipulation of the argument of business description and types of third-party endorsements in our research design. For the business description, participants answered two manipulation check questions (6-point scale): (1) The business description of CoffeeCraft provided data or evidence to support its claim. (2) How would you rate the business description of CoffeeCraft, from 'General' to 'Factual'? The independent sample t-test results show significant differences in argument quality across the two groups for both manipulation check questions. For question 1, the factual condition (mean = 4.08) was rated significantly higher than the general condition (mean = 2.86). The t-test for equality of means showed a significant difference between the two conditions ( $t = -5.445$ ,  $p < .001$ ). For question 2, the factual condition (mean = 3.57) was also rated higher than the general condition (mean = 2.30), with a significant difference between the two conditions ( $t = -5.667$ ,  $p < .001$ ). As regards manipulation of third-party endorsements, each subject was asked to choose one answer (yes/no) to indicate whether the campaign is supported by a lead investor or not. Participants who did not answer correctly were removed from the analysis.

#### **5. Data Analysis**

The data analysis employs three methods: (1) A structural equation modelling (SEM) approach using SmartPLS 4 to examine the causal paths of the model in relation to hypotheses 1–7. (2) Multivariate analysis of variance (MANOVA) using IBM SPSS 29.0 to examine the group

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<sup>1</sup>Prolific applies a standard rate of £9 per hour for participant compensation.



differences of the experimental condition and test hypotheses 8–11 (3) A PLS multi-group analysis (MGA) using SmartPLS 4 to assess the differences in the path coefficients across manipulation groups.

## **5.1 PLS Results**

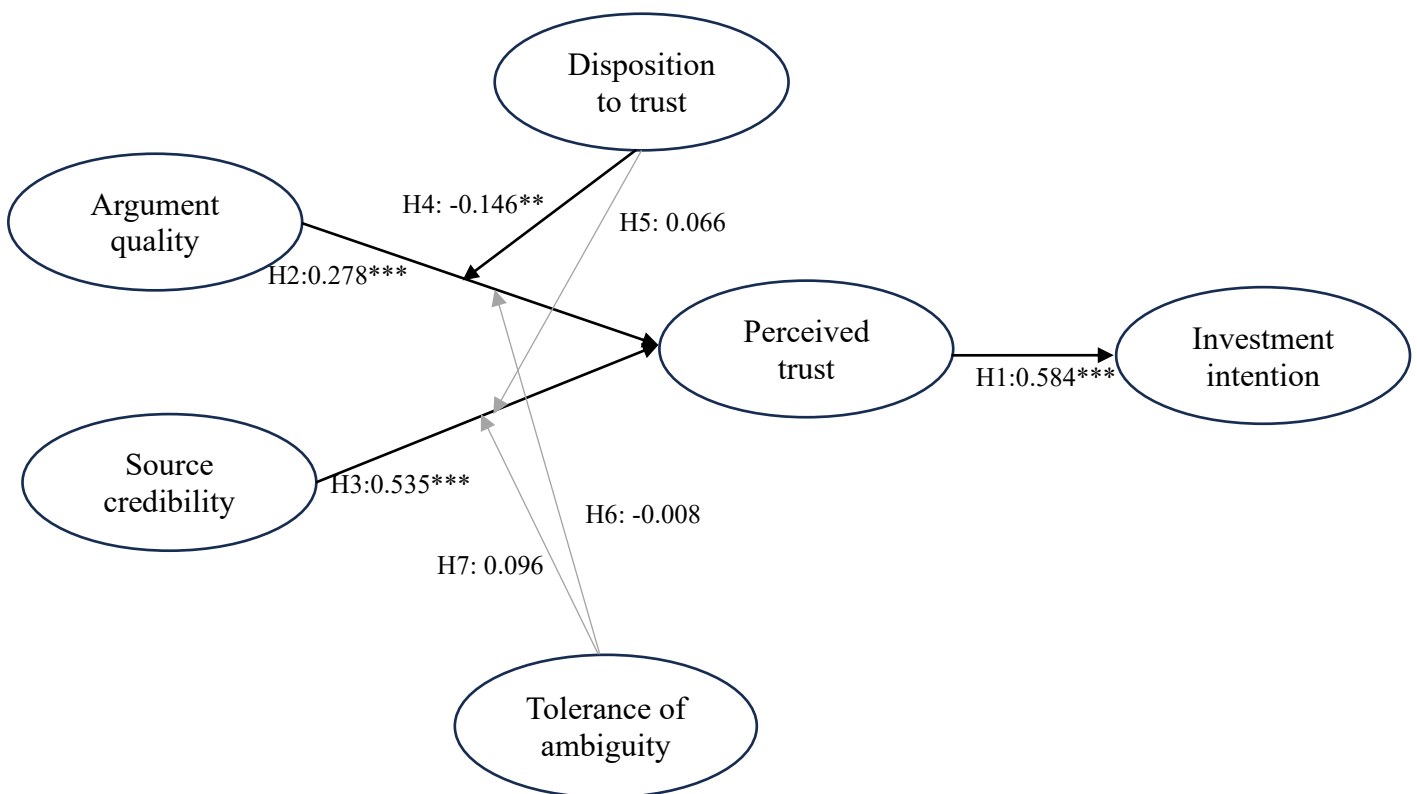
### **5.1.1 Measurement Model**

We assessed the quality of our measurement model by examining indicator reliability, internal consistency, and convergent and discriminant validity (Hair et al., 2012; Kummer et al., 2021). Indicator reliability was assessed through factor loadings, with acceptable values at 0.7 or higher, while loadings below 0.5 were excluded from the model (Chin, 2010). In our model, with the exception of one indicator for tolerance of ambiguity (TOA5 - 0.67), all factor loadings exceeded the 0.7 threshold (Appendix B). Additionally, indicator reliability was supported by low cross-loadings (less than 0.7) across all indicators. As a result, the constructs demonstrate satisfactory reliability.

We measured Cronbach's alpha and composite reliability to assess the internal consistency of the model (Hair et al., 2012). The data showed strong internal consistency, with both Cronbach's alpha and composite reliability values exceeding 0.80, well above the recommended threshold of 0.7. Convergent validity was confirmed as the average variance extracted (AVE) for all constructs was greater than 0.5. Discriminant validity was established through multiple criteria: the cross-loading of the constructs was lower than the loadings on the main constructs (Appendix B), the correlations between latent variables did not exceed the square root of the AVE values according to the Fornell-Larcker criterion (Appendix C) (Fornell & Larcker, 1981), and the heterotrait-monotrait ratio of correlations (HTMT) for all constructs remained below the conservative threshold of 0.85 (Appendix D) (Efron & Tibshirani, 1994). All of these results consistently provide evidence of the discriminant validity of the model.

### 5.1.2 Structural Model for Hypothesis Testing

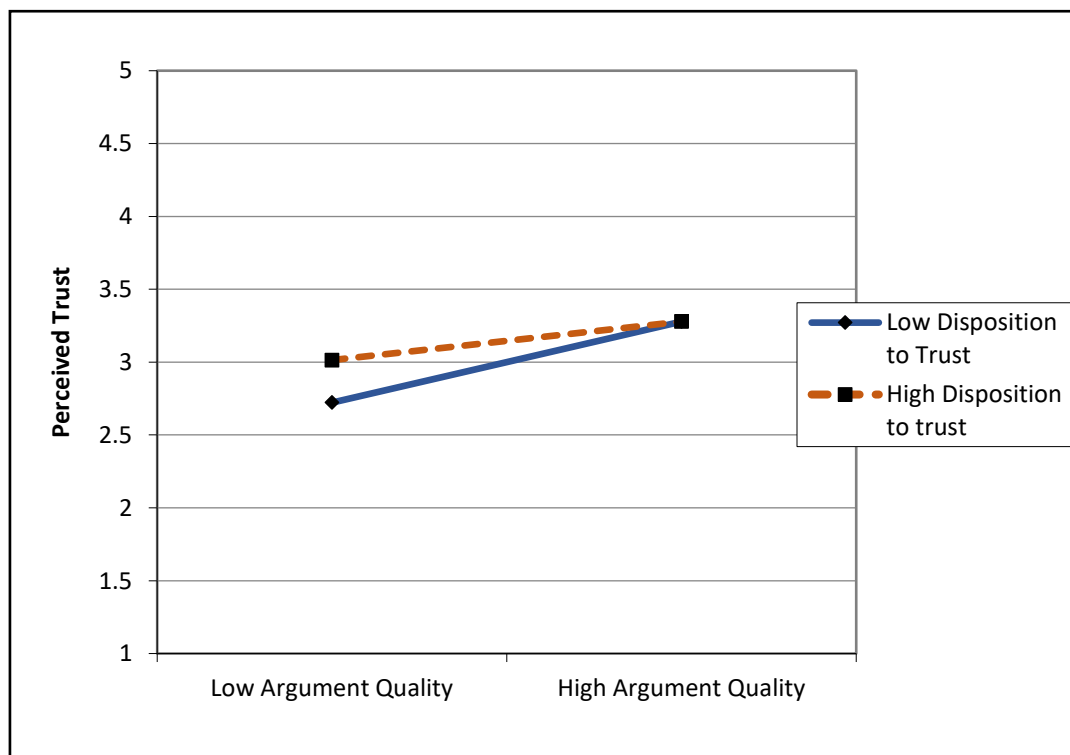
We estimated the structural model to examine the causal paths of our research model in terms of the significance of hypotheses H1 to H7 and the explained variance for each dependent variable. We used bootstrapping (5000 iterations) to test the significance of the paths. First, we examined the main effects specified in H1 through H3 and later the moderating effects of H4 to H7. Figure 2 summarises the results of PLS structural model testing. The analysis reveals a significant positive impact of perceived trust on investment intention ( $\beta = .584$ ,  $p < 0.001$ ), supporting H1. Consistent with ELM, perceived argument quality ( $\beta = 0.278$ ,  $p < 0.001$ ) and perceived source credibility ( $\beta = .535$ ,  $p < 0.001$ ) both have a significant positive impact on perceived trust, therefore confirming our H2 and H3. Argument quality and source credibility jointly explained 57 percent of the variance in perceived trust in the ECF campaign.



**Figure 2. Results of Structural Model (\*\*p<.01; \*\*P < .05; P\* < .10)**

Regarding moderating variables, the results show that investors' disposition to trust significantly negatively moderates the relationship between argument quality and perceived

trust ( $\beta = -.146$ ,  $p < 0.05$ ). A plot of moderation effects in Figure 3 illustrates the impact of argument quality (x-axis) on perceived trust (y-axis) at high or low disposition to trust (dashed and solid lines, respectively). Examining the plot analysis (Figure 3), we found that for non-professional investors with a low disposition to trust, perceived trust is initially low but increases more sharply with an increase in argument quality compared to those with a high disposition to trust. This outcome suggests that the impact of argument quality on perceived trust is stronger for investors with a low disposition to trust than those with a high disposition to trust, thereby confirming our hypothesis H4. However, the impact of source credibility on perceived trust in the presence of a disposition to trust is positive, although the effect is not significant, therefore causing us to reject hypothesis H5. Additionally, the results indicate no significant moderating effect of investor tolerance of ambiguity on the relationship between perceived argument quality and perceived trust or between perceived source credibility and perceived trust, as hypothesised in H6 and H7, respectively. Overall, our research model explains 34 percent of the variance in investment intention.



**Figure 3. Interaction between Disposition to Trust to Argument Quality**

## 5.2 Results of MANOVA

The study conducted a MANOVA analysis to examine the experimental effect of the nature of business description and types of third-party endorsement on the perceived argument quality and source credibility in relation to Hypotheses 8-11. Hypothesis 8 proposed that factual business descriptions will lead to greater perceived argument quality compared to general business descriptions. Results in Table 2 indicate that both the main effect of different forms of business description (Wilks'  $\lambda = 0.89$ ,  $F(2, 137) = 8.673$ ,  $p < .001$ ) and types of third-party endorsement (Wilks'  $\lambda = .937$ ,  $F(2, 137) = 4.596$ ,  $p < .05$ ) have a significant impact on the dependent variables, Argument quality and Source credibility. However, no significant interaction effect is found between the business description and third-party endorsement conditions (Wilks'  $\lambda = .996$ ,  $F(2, 137) = 0.257$ ,  $p = .774$ ). Follow-up analyses of variance (ANOVA) provide more specific information about the effects of business description and third-party endorsement on each dependent variable separately. The results in Table 2 show that factual business description has a significant effect on argument quality ( $F(1, 138) = 17.403$ ,  $p < .001$ ) and source credibility ( $F(1, 138) = 7.088$ ,  $p = .009$ ). This result indicates that participants exposed to ECF campaigns with factual business descriptions have a higher perception of argument quality and source credibility than those exposed to campaigns with general business descriptions. Therefore, our hypotheses H8 and H9 appear to be supported. For the third-party endorsement types, the result shows that a 'lead investor' condition has a significant effect on source credibility ( $F(1, 138) = 4.629$ ,  $p = .033$ ). This result confirms our H10 that ECF campaigns supported by lead investors lead to perceptions of higher source credibility than those supported by other investors. However, we do not find any significant difference in perceived argument quality ( $F(1, 138) = 0.009$ ,  $p = .924$ ) between the 'lead investor' and 'other investors' conditions. Thus, H11 is not supported. The interaction is not significant in any of these ANOVA tests.

**Table 2 Summary of MANOVA Results**

Source	MANOVA	Dependent Variables	Effect testing
Business description	Wilks' $\lambda = 0.89$ , $F(2, 137) = 8.673$ , $p < .001$	Argument quality	$F=17.403$ $P<.001$
		Source Credibility	$F=7.088$ $P=.009$
Third-party endorsement	Wilks' $\lambda = .937$ , $F(2, 137) = 4.596$ , $p = .012$	Argument quality	$F=.009$ $P=.924$
		Source Credibility	$F=4.629$ $P=.033$
Business description* Third-party endorsement	Wilks' $\lambda = .996$ , $F(2, 137) = 0.257$ , $p = .774$	Argument quality	$F=.130$ $P=.719$
		Source Credibility	$F=.491$ $P=.485$

### 5.3 Post-hoc PLS Multi-Group Comparison

To gain further insights into the structural model (i.e., the PLS model), we conducted a PLS multi-group analysis (PLS-MGA). The data was categorised into four groups based on four manipulation conditions: factual business description with lead investors, factual business description with other investors, general business description with lead investors, and general business description with other investors. We then performed multi-group analyses for these groups and compared the path coefficients of the structural model (Table 3).

Our multi-group analysis revealed that the perceived quality of the argument has a significant positive impact on perceived trust, but only when the business description is factual, and the impact is much stronger for factual business descriptions with other investors ( $\beta = 0.533$ ,  $p < 0.05$ ) compared to factual business descriptions with lead investors ( $\beta = 0.282$ ,  $p < 0.10$ ). Conversely, in the group with general business descriptions endorsed by other investors, argument quality does not have a significant impact; instead, source credibility has a significant

positive effect on perceived trust. Therefore, applying the ELM, the findings suggest that a detailed factual business description containing strong arguments leads to a perception of higher argument quality following the central route of ELM and, subsequently, enhances trust in the ECF campaign. Conversely, for general business descriptions lacking detailed arguments, perceived trust appears to be driven by the peripheral route through source credibility. In these cases, mere endorsement from other investors fosters trust based on the perception of source credibility.

**Table 3 Results of PLS-MGA**

	Path coefficient (Factual with other investors)	Path coefficient (General with other investors)	Path coefficient (Factual with lead investor)	Path coefficient (General with lead investors)
AG -> PT	0.533**	0.078	0.282*	0.316
PT -> INV	0.516***	0.69***	0.382***	0.704***
SC -> PT	0.221	0.706**	0.57***	0.508***
TOA x SC -> PT	0.372	-0.213	-0.082	-0.006
DT x AG -> PT	0.309	-0.429	0.019	-0.106
DT x SC -> PT	-0.495	0.401	0.052	-0.02
TOA x AG -> PT	-0.056	0.44	0.081	0.023
***p<.01; **p < .05; *p<.10				
AG-Argument quality; SC- Source credibility; PT-Perceived Trust; INV-Investment Intention; DT- Disposition to Trust; TOA-Tolerance of Ambiguity				

For the group with general business descriptions and lead investor endorsement, no significant relationship between perceived argument quality and perceived trust was observed. Additionally, when the campaign is endorsed by a lead investor, a significant impact of perceived source credibility on perceived trust is found for both general and factual business descriptions. This result further indicates that investors place a high value on endorsements from lead investors, potentially leading them to rely more on the peripheral route of ELM in

these situations. In all four conditions, there was a significant effect of perceived trust on investment intention.

## **6. Discussion**

This research aims to understand the mechanism of non-professional investors' decision-making process in the ECF environment by considering information attributes including argument quality of business information, credibility of sources and their interaction with investors' trust and uncertainty features. To explore the objective, this paper presents and empirically tests a theory-driven framework based on the ELM that explains the dual impact of information in building crowd investors' trust and their decision to invest in the ECF campaign.

Our empirical findings demonstrate that non-professional investors' perceived trust in ECF campaigns is a significant predictor of their investment intentions. This result is consistent with previous research that has emphasised the crucial role of trust in consumer online purchasing (Racherla et al., 2012; Zhou et al., 2016). This study further corroborates the importance of trust within the ECF environment, which is confronted with high information asymmetry and uncertainty (Klement & Teubner, 2019). While prior ECF research has examined various factors influencing campaign success, our findings highlight the mediating role of perceived trust in the relationship between information attributes and investment decisions. With further exploration of the ECF investors' decision-making process, our analysis reveals that non-professional investors' trust perception is developed from the argument of communicated message and credibility of the source, followed by the central and peripheral route of ELM, respectively. It suggests that both the central route and peripheral route are viable ways to influence investors' trust in ECF campaigns, as prescribed in the ELM model. In the central route, investors are involved in the critical evaluation of the argument of venture information to form their beliefs and decisions. On the other hand, in the peripheral route, they merely

attend cues such as expertise and credibility of information source. These influencing mechanisms shape crowd investors' investment intention by modifying trust perception salient to investment. The findings further demonstrate that non-professional investors in the ECF ecosystem are not only involved in rational decisions based on the argument of venture information, but they also employ simplifying strategies and peripheral cues that assist in reducing uncertainty and building trust.

By applying the dual route mechanism of ELM, we are able to explain further what motivates investors to use the information arguments and peripheral cues of the two routes. This elucidates the contextual influence of argument quality and source credibility on perceived trust depending on investors' likelihood of elaboration. The findings related to the negative moderating effect of disposition to trust between argument quality and perceived trust suggest that non-professional investors with low disposition to trust valued the argument of the information, and their trust belief is formed via the central route. These investors, who tend to be more sceptical, require strong evidence before trusting the investment opportunity, engaging in high elaboration and thorough evaluation of the arguments presented in ECF campaigns. However, disposition to trust does not moderate the effect of source credibility on perceived trust. The possible reason could be that credible sources play a critical role in forming investors' trust within the ECF market; thereby, individual differences in disposition to trust appear to be less influential. Our results revealed no significant moderating impact of investors' tolerance of ambiguity on the relationship between perceived argument quality and perceived trust or between source credibility and perceived trust. The potential explanation for this finding is the possibility of limited variability in the tolerance of ambiguity score within our sample. Tolerance for ambiguity is primarily an individual personality trait, and the population within a single country is likely to show a distribution of tolerance for ambiguity scores (Bušljeta Banks & De Pelsmacker, 2014).



With further exploration of the crowd investors' decision-making process, this research conducted an experiment and identified factors that drive investors' perceptions of argument quality and source credibility. While previous research has established the significance of these constructs in judgment and decision-making in the online environment (Bhattacharjee & Sanford, 2006; Mun et al., 2013), this study offers novel insights into the factors that shape their argument quality and source credibility perception within the ECF context. Our findings indicate that crowd investors place a greater emphasis on factual business narratives supported by evidence compared to a general, claim-based business description. This result suggests that ECF non-professional investors are concerned about the uncertainty related to the venture's future, and they seek to mitigate those uncertainties by scrutinising the factuality of information presented in the ECF pitch. These results align with Anderson's concept of "mingling of fact and fiction" in entrepreneurial narratives (Anderson, 2005), emphasising the importance of grounding claims with factual evidence. Furthermore, the findings underscore the significance of third-party endorsements, with campaigns endorsed by lead investors eliciting higher perceptions of source credibility compared to those supported by other investors. These results demonstrate that in the nascent and online ECF market, expert endorsement serves as a credibility signal for non-professional investors, aligning with previous research that revealed the importance of source credibility in decision-making (Cheung et al., 2012; Clark & Evans, 2014). However, we did not find any impact of third-party endorsements, whether from lead investors or other investors, on the perception of argument quality. This suggests that non-professional investors may not differentiate between sources when evaluating the argument of business narratives.

Finally, our PLS multigroup analysis provides further insights into the dynamics of the ECF investors' trust-building mechanism via the dual route of ELM. The findings indicate that trusting beliefs are formed via the central route of ELM across both factual business

descriptions with lead investors and other investor conditions. This result indicates that when non-professional investors are presented with factual narratives, their decision process follows the central route, which is more enduring, as suggested by the ELM (Petty & Cacioppo, 1986). This outcome further confirms the importance of evidence-based information in fostering non-professional investor confidence. However, this relationship depends on the information environment. When confronted with claim-based business descriptions, non-professional investors appear to rely more heavily on peripheral cues (i.e. endorsement by third parties), with source credibility emerging as the primary driver of trust. This shift highlights that non-professional crowd investors perceive third-party endorsement as a credible source when detailed information is lacking. By delineating the contexts under which argument quality and source credibility exert differential influences, our study offers a more nuanced understanding of the decision-making behaviour of non-professional investors in the ECF environment.

## **7. Conclusion**

### **7.1 Summary of Results**

We set out to study eleven hypotheses about trust and investment intention in the ECF campaign, the influence of perceived argument quality and sourced credibility, and the related factors leading to the perception of argument quality and source credibility.

Table 4 summarises the results of testing based on our hypotheses. First, the results show that investors' perception of argument quality (H2) and source credibility (H3 ) positively impact their perceived trust, and perceived trust affects their investment intention (H1). Second, the results reveal that the impact of perceived argument quality on perceived trust is moderated by investors' trust disposition (H4). However, we do not find any significant moderating influence of tolerance of ambiguity. Third, investors' perception of argument quality (H8) and source credibility (H9) differs for different forms of business narratives (factual and general). Fourth, although different types of third-party endorsements (lead investor and other investors)

generated significantly different perceptions of source credibility (H10), endorsement by third parties did not impact investors' perception of argument quality (H11). Our additional PLS-MGA analysis shows that the investors' trust in the campaign derives from both the perception of argument quality and source credibility depending on different combinations of business description and third-party endorsements.

**Table 4 Summary of Hypotheses**

No.	Hypotheses	Results
H1	Investors' perceived trust has a positive impact on their investment intention in the ECF campaign.	Supported
H2	Investors perceived argument quality has a positive impact on their perceived trust in the ECF campaign.	Supported
H3	Investors perceived source credibility has a positive impact on their perceived trust in the ECF campaign.	Supported
H4	Investors' disposition to trust negatively moderates the impact of perceived argument quality on perceived trust.	Supported
H5	Investors' disposition to trust positively moderates the impact of perceived source credibility on perceived trust.	Rejected
H6	Investors' tolerance of ambiguity negatively moderates the impact of perceived argument quality on perceived trust.	Rejected
H7	Investors' tolerance of ambiguity positively moderates the impact of perceived source credibility on perceived trust.	Rejected
H8	Perceived argument quality will be greater for factual business descriptions compared to general business descriptions.	Supported
H9	Perceived source credibility will be greater for factual business descriptions compared to general business descriptions.	Supported
H10	Perceived source credibility will be greater for ECF campaigns endorsed by lead investors compared to campaigns endorsed by other investors.	Supported
H11	Perceived argument quality will be greater for ECF campaigns endorsed by lead investors compared to campaigns endorsed by other investors is positively related to perceived source credibility.	Rejected

## **7.2 Implications for Research**

This study contributes to the existing equity crowdfunding literature in several ways. First, the study extends the knowledge of non-professional investors' investment behaviour by exploring the process through which information attributes are used in building investors' trust and investment intention. To the best of our knowledge, this study is the first to analyse the ECF investor decision-making process by incorporating three key aspects: information quality (i.e., information content attribute), source credibility (i.e., information source attribute), and investor characteristics. Our study extends beyond previous ECF research that mostly focused on information contents as signals of the ECF campaign success (Block et al., 2018; Bogdani et al., 2022; Lukkarinen et al., 2016) by demonstrating the underlying mechanism of processing information to build investors' perceptions. Our research moves beyond the mere identification of the success factors and allows for a nuanced understanding of the dynamic impact of different forms of business arguments and types of third-party endorsements across various types of investors on forming trust that leads to investment decisions.

Second, this study offers a theoretical contribution by developing and empirically validating a theory-driven model of investment intention within the ECF context. While prior literature used ELM to explain the persuasion process in online purchase decisions (Cheung et al., 2012; Wang & Doong, 2010), this research extends its application to ECF investment behaviours, incorporating all three core ELM constructs (Kim & Benbasat, 2009). Predominantly, crowdfunding research relies on signalling theory (Cummings et al., 2019; Mochkabadi & Volkmann, 2018), which often provides limited perspectives on the information processing behaviours of ECF investors, particularly those with less investment experience and greater reliance on online information. Crowdfunding scholars have frequently called for more research to explore the evaluation process of crowd investors from alternate theoretical perspectives departing from traditional signalling theory (Cummings et al., 2019; Mochkabadi

& Volkmann, 2018). Our study echoes this call, and using ELM, it offers a multi-dimensional perspective on understanding the complexities inherent in the ECF landscape. Overall, we found considerable support for ELM in the ECF domain. Our findings demonstrate that both the central route and peripheral route are viable ways to influence investors' trust and investment decisions generated from the perception of argument quality and source credibility, respectively, consistent with the findings of past studies on purchase intention (Mun et al., 2013; Zhou et al., 2016). While prior crowdfunding research using signalling theory reveals that information provided in the ECF campaign acts as signals to influence investment decisions, do not clarify what aspects of investors' perceptions are influenced by the communicated message. Our findings, in the lens of ELM, reveal that information in the ECF campaign influences investors' perception of argument quality and source credibility to form their trusting belief. Moreover, the findings related to the moderating impact of disposition to trust supports the notion of ELM that individuals' information processing behaviour depend on their likelihood of elaboration or personal relevance. While prior research suggests that different information may have different impact on investors, our research contributes to this understanding by explaining why, through the lens of ELM. Specifically, the findings demonstrate that non-professional investors' trust preference, such as disposition to trust, act as a motivational factor that drives them toward processing either argument or source of information within the ELM framework.

Third, the study sheds light on the ECF literature, which frequently examines the success factors of ECF campaigns by exploring factors that strengthen the perception of argument quality, source credibility and, subsequently, investors' investment intention. Our results reveal that investors' perceptions of argument quality and source credibility varied for different forms of business description (general vs factual), providing evidence that investors value business narratives supported by additional justification instead of only claims about the business or

venture potential. Moreover, the presence of a strong argument appears to enhance investors' confidence in the information source or the communicator, thus developing a positive attitude toward the ventures. The findings also hold theoretical implications. While the ELM posits that the strength of the argument influences persuasion, it does not specify factors that enhance argument quality. By applying Toulmin's model of argumentation, this research offers a theory-based approach to understanding how to strengthen arguments of entrepreneurial narratives for ECF campaigns and contributes to the literature on entrepreneurial narratives. Additionally, our results provide empirical evidence that varied third-party endorsements (lead investor vs other investors) generate significantly different levels of source credibility. Notably, the evidence of the impact of the lead investor contributes to the ongoing debate surrounding the efficacy of the lead investor's role in forming trust and facilitating capital formation within the U.S. ECF market relative to traditional financing models such as venture capital and angel investing (Nows, 2022). The additional post hoc analysis provides further insights into the mix of business descriptions and third-party types that would best strengthen the perceived argument quality and source credibility in the persuasion process.

Finally, the study brings light to the trust-building mechanism involved in an investor's decision of whether to trust the campaign from the breadth of argument quality and source credibility. Most ECF studies analyse the direct effects of informational signals to shape investment behaviour and ignore the transitivity of perceptions. This research provides evidence of the mediating role of trust between information attributes and investment judgment. Moreover, the findings of the research enrich the existing body of knowledge by allowing the contextual influence of information to form ECF investors' trust perceptions. Our findings uphold the expectation of ELM-based research on trust formation that non-professional investor trust stems from both the perceived quality of arguments and the credibility of information sources in the ECF market. (Mun et al., 2013; Yang et al., 2006). Furthermore, the evidence of different

combinations of business descriptions and third-party endorsements better explains the trust-building mechanism in the ECF environment. This situation is crucial in the sense that in an environment of high information asymmetry and uncertainty like ECF, trust is a critical determinant in explaining non-professional investors' financial decisions or investment intentions.

### **7.3 Implications for Practice**

This study's findings offer several insights to entrepreneurs who are seeking to build an effective strategy to enhance the persuasiveness of their campaign. Firstly, the findings offer guidance to entrepreneurs on how to develop a compelling business narrative for their campaigns. As the results suggest that investors value factual business descriptions, ECF entrepreneurs could use both qualitative and/or quantitative data to support their claims and make their business narratives more compelling to investors. Secondly, the research findings underscore the significance of third-party endorsements, particularly from the lead investors, who are perceived as highly credible. By securing endorsements from lead investors, entrepreneurs can strengthen the reliability of their campaigns. In the ECF market, where intermediaries such as financial analysts are often absent, endorsements from lead investors can offer potential investors greater confidence in their investment decisions. Thirdly, the results can inform entrepreneurs to craft their campaign pitches that strategically integrate diverse forms of business descriptions with third-party endorsements. For instance, entrepreneurs of early-stage ventures lacking substantial factual evidence to support their business propositions can leverage endorsements by third parties to signal trustworthiness. For ventures in the growth stage and with sufficient factual evidence, entrepreneurs may opt to persuade investors through the central route of the ELM by crafting compelling business narratives. Given that trust formed via the central route tends to be more enduring (Petty & Cacioppo, 1986), entrepreneurs of a growth-stage venture can prioritise this approach. Finally,

the results could be utilised to enhance the trust-building model for various investor clusters. In particular, our findings related to the varying impact of argument quality and source credibility across trust attributes of investors could direct the strategic behaviour of entrepreneurs in customising pitches for specific clusters of non-professional investors.

The findings of this study offer valuable insights for equity crowdfunding platforms seeking to enhance their operations and better serve both investors and entrepreneurs. By enhancing the presentation of relevant information, platforms can facilitate more informed decision-making by investors while helping entrepreneurs reduce information asymmetry. For instance, ECF platforms could use more structured formats to present business narratives, ensuring that factual claims are clearly outlined and easy to evaluate. This would help investors with an improved understanding of venture quality and make more informed investment decisions. Additionally, platforms could differentiate the presentation of third-party endorsements by categorically displaying certifications from lead investors apart from those of other investors. As only a handful of the U.S. equity crowdfunding platforms (i.e., Wefunder) have implemented strategies to include lead investors in their portal, this initiative could be beneficial for other platforms. All of these approaches can also contribute to increasing the campaign's appeal and the platform's overall attractiveness to potential investors.

#### **7.4 Limitations and Future Research**

The results of this study should be interpreted considering its limitations, which provide avenues for future research. First, we only focus on the business description, not the entire campaign information and examine two types of endorsements (lead and other investors). Future research could explore the impact of full campaign information and diverse third-party endorsements, such as endorsements by a celebrity or reputed organisations, to understand further investment behaviour. Second, we have examined two forms of business narratives



using Toulmin's model of argumentation (Toulmin, 2003). Future studies could expand this by incorporating additional argumentation frameworks, such as the Pragma-Dialectical Argument Scheme (Schellens et al., 2017). Additionally, utilising eye-tracking technology could offer valuable insights into how investors search for and process information within a campaign. Third, the study uses investment intentions as an indicator of actual behaviour. However, intentions may not always align with the actual behaviour or action. Fourth, our participants recruited from Prolific may not fully represent the sample of non-professional investors worldwide, which could weaken the generalisability of our results. Future studies could explore recruiting from more diverse platforms or employing additional demographic controls to enhance the representativeness of the sample. Additionally, investigating a broader range of investor characteristics could offer deeper insights into individual differences in information processing through the central and peripheral routes of the ELM framework. Overall, this study hopes to pave the way for future research, contributing to the knowledge base on the influence process of argument and sources of information in investment decision-making.

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## Appendices

### Appendix A. Measurement Instrument

Constructs	Items	References
Investment Intention	<ol style="list-style-type: none"> <li>1. How certain are you to invest in this equity crowdfunding campaign?</li> <li>2. How likely are you to invest in this equity crowdfunding campaign?</li> <li>3. How definite are you to invest in this equity crowdfunding campaign?</li> </ol>	Dabholkar and Bagozzi (2002); Liang et al. (2019)
Perceived Trust	<ol style="list-style-type: none"> <li>1. This equity crowdfunding campaign is trustworthy.</li> <li>2. I believe that this campaign keeps its promises and commitments.</li> <li>3. I trust that this campaign keeps investors' best interests in mind.</li> <li>4. Even if not monitored, I would trust that this campaign can do the job well.</li> </ol>	Liang et al. (2019); Lim et al. (2006)
Argument Quality	<ol style="list-style-type: none"> <li>1. The information provided in this equity crowdfunding campaign is informative.</li> <li>2. The information provided in this equity crowdfunding campaign is helpful.</li> <li>3. The information provided in this equity crowdfunding campaign is valuable.</li> <li>4. The information provided in this equity crowdfunding campaign is persuasive.</li> </ol>	Bhattacharjee and Sanford (2006)
Source Credibility	<ol style="list-style-type: none"> <li>1. The investors who are supporting this equity crowdfunding campaign are knowledgeable.</li> <li>2. The investors who are supporting this equity crowdfunding campaign are credible.</li> <li>3. The investors who are supporting this equity crowdfunding campaign are reliable.</li> </ol>	Bhattacharjee and Sanford (2006)

	4. The investors supporting this equity crowdfunding campaign appeared to be experts.	
Disposition to Trust	<ol style="list-style-type: none"> <li>1. I generally trust other people.</li> <li>2. I generally have faith in humanity.</li> <li>3. I feel that people are generally reliable.</li> <li>4. I generally trust other people unless they give me a reason not to trust them.</li> </ol>	Gefen (2000)
Tolerance of ambiguity	<ol style="list-style-type: none"> <li>1. I try to avoid situations that are ambiguous.</li> <li>2. I prefer familiar situations to new ones.</li> <li>3. I am tolerant of ambiguous situations.</li> <li>4. I enjoy tackling problems that are complex enough to be ambiguous.</li> <li>5. I generally prefer novelty to familiarity.</li> <li>6. I dislike ambiguous situations.</li> <li>7. I prefer a situation in which there is some ambiguity.</li> </ol>	Hazen et al. (2012); McLain (2009)
Manipulation check of argument quality	<ol style="list-style-type: none"> <li>1. The business description of CoffeeCraft provided data or evidence to support its claim.</li> <li>2. How would you rate the business description of CoffeeCraft, from 'General' to 'Factual'?  Note that 'General' indicates an overview of business without facts, data, or evidence, and 'Factual' means a business overview supported by facts, data, or evidence.</li> </ol>	
Manipulation check of Source Credibility	<ol style="list-style-type: none"> <li>1. Did CoffeeCraft's equity crowdfunding campaign have a lead investor?</li> </ol>	

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## Appendix B. Cross Loading

	AG	DT	INV	PT	SC	TOA
AG1	0.937	0.197	0.551	0.621	0.653	0.042
AG2	0.943	0.226	0.578	0.593	0.606	0.101
AG3	0.953	0.228	0.623	0.65	0.65	0.078
AG4	0.907	0.19	0.688	0.664	0.682	0.104
DT1	0.223	0.94	0.201	0.272	0.152	0.139
DT2	0.199	0.911	0.19	0.294	0.148	0.139
DT3	0.221	0.927	0.186	0.258	0.194	0.14
DT4	0.184	0.911	0.162	0.224	0.152	0.162
INV1	0.657	0.199	0.965	0.59	0.536	0.131
INV2	0.626	0.178	0.973	0.56	0.477	0.141
INV3	0.62	0.209	0.973	0.548	0.481	0.161
PT1	0.578	0.247	0.51	0.895	0.63	0.213
PT2	0.571	0.235	0.539	0.898	0.617	0.11
PT3	0.648	0.259	0.569	0.916	0.636	0.156
PT4	0.617	0.281	0.46	0.858	0.655	0.079
SC1	0.65	0.134	0.47	0.651	0.926	0.223
SC2	0.632	0.157	0.485	0.678	0.947	0.272
SC3	0.643	0.223	0.48	0.716	0.945	0.226
SC4	0.666	0.128	0.482	0.599	0.909	0.176
TOA1	0.099	0.034	0.134	0.155	0.21	0.782
TOA2	0.05	0.074	0.055	0.106	0.198	0.757
TOA3	0.112	0.192	0.185	0.136	0.236	0.764
TOA4	-0.02	0.189	0.079	0.032	0.163	0.721
TOA5	-0.009	0.054	0.131	0.074	0.156	0.67
TOA6	0.032	0.282	0.051	0.093	0.156	0.799
TOA7	0.083	0.091	0.108	0.14	0.142	0.804

AG-Argument quality; SC- Source credibility; PT-Perceived Trust; INV-Investment Intention; DT- Disposition to Trust; TOA-Tolerance of Ambiguity

**Appendix C. Fornell Larcker Criterion (construct correlation and square root AVE score)**

	AG	DT	INV	PT	SC	TOA
AG	0.935					
DT	0.224	0.922				
INV	0.654	0.201	0.97			
PT	0.677	0.286	0.584	0.892		
SC	0.694	0.174	0.514	0.712	0.932	
TOA	0.087	0.156	0.148	0.157	0.242	0.758

AG- Argument quality; SC- Source credibility; PT-Perceived Trust; INV-Investment Intention; DT-Disposition to Trust; TOA-Tolerance of Ambiguity

**Appendix D. Heterotrait-Monotrait Ratio of Correlations (HTMT)**

	AG	DT	INV	PT	SC
DT	0.237				
INV	0.678	0.21			
PT	0.724	0.306	0.619		
SC	0.73	0.183	0.535	0.762	
TOA	0.091	0.188	0.15	0.16	0.256

AG-Argument quality; SC- Source credibility; PT-Perceived Trust; INV-Investment Intention; DT- Disposition to Trust; TOA-Tolerance of Ambiguity