

UNIVERSITY OF JYVÄSKYLÄ

Faculty of Humanities  
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**TOUGH CROWD**  
**Consumer acceptance of equity crowdfunding platforms**

Marketing AND  
Organizational communication & PR  
Master's thesis  
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August 2016  
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## ABSTRACT

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Title Tough crowd: Consumer acceptance of equity crowdfunding platforms	
Subject Marketing AND Organizational communication	Level Master's thesis
Time of publication August 2016	Number of pages 77+9
<p>Abstract</p> <p>Modern-day consumers living in the age of the sharing economy are witnessing an ever-changing landscape of new business models and technological innovations that they need to adapt to. One such business model and technology innovation is called equity crowdfunding, which refers to a way of raising small amounts of capital from a large number of investors to finance a business venture. Young businesses need funding to grow, and while early stage funding has typically been invested by venture capitalists or wealthy individuals, equity crowdfunding has the potential to make ordinary consumers, even ones who have never made an investment in their lives, into mini business angels investing their savings into startup companies. This access to new capital has the potential to bring tremendous change to financing of private early stage businesses and to grant access to previously unavailable investment opportunities to the masses. For this potential to be realized, consumers must first accept and start using the new technology platforms that facilitate equity crowdfunding investments. Due to the novelty of the crowdfunding phenomenon, factors affecting consumer acceptance of said platforms have yet to be thoroughly studied.</p> <p>This study attempts to contribute to the growing pool of crowdfunding and technology acceptance literature by assembling and testing a model based on the theory of planned behaviour, which revolves around the constructs of attitude, subjective norm, and behavioural control. Of particular interest for this study, due to it being grounded in the inherently collaborative and social sharing economy, are the various types of social influence that affect decision making. Furthermore, as no sustainable stakeholder relations are born without trust, the research model was seasoned with an additional factor in the form of online trust. Therefore, the goals of this study are to find out what the main factors affecting consumers' intentions of using equity crowdfunding platforms are and how social influences and online trust fare in the ranking. The empirical study is conducted with an online survey (n=100).</p> <p>The results of this study indicate that attitude is the strongest predictor of intention among the three main factors in the model. The social influence construct of subjective norm, on the other hand, is found to be a weak predictor of intention, which is consistent with the majority of research utilizing the theory of planned behaviour. Behavioural control, the third main construct, is found to have no effect on intentions. Furthermore, with indirect effects included, trust is found to be the overall strongest predictor of attitude. The results suggest that equity crowdfunding platform operators should focus on generating positive attitudes toward their platforms by communicating usefulness and ease of use, and especially by fostering trust among their stakeholders.</p>	
Keywords Crowdfunding, theory of planned behaviour, technology acceptance	
Depository University of Jyväskylä	



## ABSTRAKTI

Tiedekunta Kauppakorkeakoulu JA Humanistinen	Laitos Markkinoinnin JA Viestintätieteiden
Tekijä Mikko Savolainen	
Työn nimi Vaativa yleisö: Osakepohjaisen joukkorahoitusalojen kuluttajahyväksyntä	
Oppiaine Markkinointi JA Yhteisöviestintä	Työn laji Pro gradu -tutkielma
Aika Elokuu 2016	Sivumäärä 77+9
<p><b>Abstrakti</b></p> <p>Tämän päivän jakamistalouden kehityspyörteiden keskellä elävät kuluttajat näkevät jatkuvasti uusia liiketoimintamalleja ja teknologisia innovaatioita, joihin heidän täytyy sopeutua. Yksi tällainen malli ja innovaatio on osakepohjainen joukkorahoitus, joka viittaa yritysrahoituksen malliin, jossa pieniä määriä pääomaa kerätään suurelta joukolta sijoittajia. Nuoret yritykset tarvitsevat rahoitusta kasvaakseen, ja kun tyypillisesti tämän rahoituksen ovat tuoneet pääomasijoittajat tai varakkaat yksityishenkilöt, on osakepohjaisella joukkorahoituksella mahdollisuus tehdä tavallisista sijoittajista - sellaisistakin, jotka eivät koskaan ole tehneet sijoituksia - minienkelisijoittajia, jotka sijoittavat säästöjään startup-yrityksiin. Tällä uudella pääoman lähteellä on potentiaali tuoda merkittävää muutosta aikaisen vaiheen yksityisten yritysten rahoitukseen sekä tuoda aikaisemmin saavuttamattomissa olevia sijoituskohteita massoille. Jotta tämä potentiaali voi toteutua, tulee kuluttajien kuitenkin ensin hyväksyä ja omaksua joukkosijoituksia välittävien teknologia-alustojen käyttö. Joukkorahoituksen uutuuden vuoksi kuluttajien hyväksyntään vaikuttavia tekijöitä ei ole kattavasti tutkittu.</p> <p>Tämä tutkimus pyrkii lisäämään joukkorahoituksen ja teknologiahyväksynnän kasvavaan kirjallisuuteen kokoamalla ja testaamalla suunnitelmallisen käyttäytymisen teoriaan (TPB) pohjautuvaa mallia, jonka ydinkäsitteitä ovat asenne, subjektiivinen normi ja käytöskontrolli. Koska tämä tutkimus ponnistaa lähtökohtaisesti yhteisöllisestä jakamistaloudesta, ovat päätöksentekoon vaikuttavat sosiaaliset vaikutteet tutkimuksessa erityisen huomion kohteena. Koska kestäviä sidosryhmäsuhteita ei synny ilman luottamusta, maustettiin tutkimusmallia lisäksi verkossa tapahtuvan luottamuksen tekijä. Tutkimuksen tavoitteet ovat täten selvittää mitkä ovat tärkeimmät kuluttajien osakepohjaisen joukkorahoituksen alustojen hyväksyntään vaikuttavat tekijät sekä kuinka vahvoja sosiaaliset vaikutteet ja verkkopohjainen luottamus näiden joukossa ovat. Empiriinen tutkimus toteutetaan verkkokyselyllä (n=100).</p> <p>Tutkimuksen tulokset osoittavat, että asenne ennustaa aikomusta parhaiten mallin kolmesta päätekijästä. Sosiaalista vaikutusta kuvastava subjektiivinen normi puolestaan todetaan heikoksi aikomuksen ennustajaksi, mikä on linjassa enimmänsä suunnitelmallisen käyttäytymisen teorian tutkimuksen kanssa. Käytöskontrollilla ei löydetä olevan vaikutusta aikomuksiin. Lisäksi, kun epäsuorat vaikutukset otetaan huomioon, nousee luottamus asenteen vahvimmaksikin ennustajaksi. Tulosten mukaan osakepohjaisen joukkorahoituksen alustojen tulisi keskittyä luomaan myönteisiä asenteita alustoja kohtaan viestimällä hyödyllisyyttä ja helppokäyttöisyyttä sekä erityisesti vaalimalla luottamusta sidosryhmien kanssa.</p>	
Asiasanat Joukkorahoitus, suunnitelmallisen käyttäytymisen teoria, teknologian hyväksyntä	
Säilytyspaikka Jyväskylän yliopisto	



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## 1 INTRODUCTION

Attracting external funding is more often than not a big hurdle for early-stage businesses. With the eyes of the venture capital industry largely looking beyond seed-stage startup companies at more later-stage investments and larger transactions, an early stage startups are experiencing difficulty raising their first rounds of external funding. This is especially prominent in Europe where much of business funding typically comes from banks and where venture capital funds are on average much smaller than in the US. (Mason & Harrison 1997; EVCA 2015.) The early-stage funding stage is traditionally occupied by business angels, private individuals investing their own money and expertise in early stage companies (Mason & Harrison 1997), but angel networks lack the scale and level of organization needed to sufficiently eliminate the gap. More solutions are needed.

With the technology-driven change in consumer behaviour dubbed the sharing economy, the early-stage funding gap has seemingly started to find a new plug. The sharing economy, which is characterized by such sub-phenomena as online collaboration and peer-to-peer financing (Hamari, Sjöklint & Ukkonen 2015), has given rise to a new class of financing models referred to as crowdfunding. The phenomenon of crowdfunding, part of a broader group of financing channels often referred to as alternative finance, has experienced tremendous three-figure annual growth numbers since 2012 (Massolution 2015) – and it might just be the future of digital fundraising.

Crowdfunding is not really a new phenomenon. After all, organizations of various sizes and operations have always sought funding from the general populace, for instance by asking for donations or organizing fundraisers. Even the pedestal of the Statue of Liberty could be said to have been crowdfunded with the help of a newspaper campaign by Joseph Pulitzer and the small donations of hundreds of New Yorkers. However, in the early 2000s online crowdfunding platforms – service businesses that organize crowdfunding and act as intermediaries (Ordanini, Miceli, Pizzetti & Parasuraman 2011) – started appearing.

There are four general types of modern crowdfunding: rewards, donations, debt and equity (Mollick 2014). What all four different forms of

crowdfunding have in common is that they are forms of raising capital in which relatively large numbers of people who network and pool their money together, usually via the internet, invest relatively small sums of money to support efforts initiated by other people or organizations (Ordanini et al. 2011; Hanley & Bork 2012). The focus of this study will be on equity crowdfunding. In equity crowdfunding, contributors receive shares in the target company as compensation for their money. Thus, of the forms of crowdfunding, equity is the most similar to traditional stock investing. This form of crowdfunding has received much interest as governments worldwide have been rushing changes to their legislations to adapt to the possibility of the general populace investing in high-risk start-up companies (see e.g. Hanley & Bork 2012). The state of doubt and uncertainty stemming from unclear regulation could be seen as a major current challenge for the diffusion of equity crowdfunding.

Furthermore, with the ubiquity of the digital world and its influence on consumers' everyday lives, academic literature on technology acceptance has in recent times been increasingly focussed on online technologies. As equity crowdfunding platforms in effect function as marketplaces where visitors can shop for growth company equities, it is reasonable to see equity crowdfunding platforms as internet-based service technologies that facilitate investments in early stage companies, ergo e-commerce. Due to the novelty of the equity crowdfunding phenomenon, technology acceptance literature on this particular area of e-commerce is lacking, and therefore studies on crowdfunding platforms could have significant value for the expanding pool of knowledge on consumer behaviour in e-commerce contexts.

## **1.1 Purpose of the study and research questions**

The purpose of this research is to study the diffusion of equity crowdfunding from the perspective of consumer decision-making. More specifically the study will be looking into consumer acceptance of equity crowdfunding platforms (ECFP) and the most prominent factors affecting said acceptance. As social influence and word-of-mouth are inherently important aspects at the core of crowdfunding due to its position being one of the phenomena of the so-called sharing economy characterized by online collaboration, this study will be delving deeper into examining the effects that social influence, or subjective norm, may have on an individual's acceptance of equity crowdfunding platforms.

The results of this study will primarily be of use to equity crowdfunding platforms, as they may use it to better understand their target groups and what these users want from the platforms, and thus how the platforms should communicate with these stakeholders. The study will also contribute to the literature on consumer acceptance of e-commerce services in the new and little-studied context of crowdfunding, as well as provide points of comparison to more traditional investing settings. Based on these goals, the following research questions are set:

RQ1: What is the state of consumer acceptance of equity crowdfunding platforms?

RQ2: What are the most significant factors affecting intention to use an equity crowdfunding platform?

RQ2.1: How significant is the effect of social influence?

## 2 ALTERNATIVE FINANCE AND CROWDFUNDING

We begin this chapter by introducing the concepts of alternative finance and more specifically crowdfunding. Afterwards, we will focus on equity crowdfunding as a type of e-commerce, drawing parallels and comparisons to online investing services and their characteristics. The purpose of the chapter is to provide background information and context for understanding the diffusion of equity crowdfunding services.

### 2.1 An introduction to alternative finance

Alternative finance, which refers to a range of financial instruments and distribution channels outside of the traditional, bank-centred financial system, has boomed ever since the global financial crisis of 2007–2008. (Wardrop, Zhang, Rau & Gray 2015, 3). While various forms of alternative finance have always existed, a particular characteristic of this newly burgeoning type of alternative finance is the embracing of digitisation. Online alternative finance channels range from invoice trading to peer-to-peer lending to various forms of crowdfunding, which provide scalable and diverse ways for businesses and consumers to borrow or invest money. In some instances, even the traditionally more exclusive and opaque frontiers such as venture capital and private equity have started to move online as these new services are providing them with efficient channels for managing their deal flow.

Alternative finance is an umbrella term that covers a wide range of very different models of financing. There is also a plethora of ways of categorising the different models under said umbrella. One rather comprehensive categorisation, which has emerged from industry studies in the UK and on a pan-European level, includes the following forms of alternative finance, organised in a descending order by pan-European market size: peer-to-peer consumer lending, reward-based crowdfunding, peer-to-peer business lending, equity-based crowdfunding, community shares/microfinance, donation-based crowd-

funding, invoice trading, debt-based securities, and pension-led funding (Wardrop et al. 2015; Baeck, Collins & Zhang 2014).

The first pan-European study on alternative finance conducted by University of Cambridge in co-operation with EY and 14 industry associations found that the European alternative finance market grew by 144% – from 1.2 billion euros to 2.9 billion – from 2013 to 2014 (Wardrop et al. 2015, 9). According to the study, the UK is currently the cradle of European alternative finance, with a share of 74.3% of the overall European alternative finance market.

Finance is traditionally a heavily regulated area, and it comes as no surprise that regulation poses a considerable challenge for the fledgling field of alternative finance. The European regulatory landscape is currently fragmented: some countries have adapted existing regulations to include online alternative finance, whereas some have created completely new regulations, and others are still yet to regulate alternative finance in any way. Due to the fragmented nature of local regulations and the absence of a common applicable regulation on a pan-European level, perceptions on regulation vary wildly from country to country. (Wardrop et al. 2015, 24.) For instance, of the Nordic countries only Finland has so far taken an active stance on equity crowdfunding, requiring equity crowdfunding platforms to obtain investment firm licences (Lukkarinen, Teich, Wallenius & Wallenius 2016).

## 2.2 Origins and current forms of crowdfunding

The concept of crowdfunding originally stems from the concept of crowdsourcing. The term crowdsourcing was first used by Jeff Howe (2006), and it has since been defined in various ways. One particularly comprehensive definition was created by Estellés-Arolas (2012), who defined crowdsourcing as such: “Crowdsourcing is a type of participative online activity in which an individual, an institution, a non-profit organization, or company proposes to a group of individuals of varying knowledge, heterogeneity, and number, via a flexible open call, the voluntary undertaking of a task” (9). The author also emphasizes the mutual benefit involved in crowdsourcing activities, namely the “satisfaction of a given type of need, be it economic, social recognition, self-esteem, or the development of individual skills” for the person providing the work, while the crowdsourcer receives the output of the activity carried out by the person.

Following the underlying idea of crowdsourcing, in crowdfunding a company raises external financing from a large audience, the crowd, with generally each individual member of the crowd contributing a very small amount. Crowdfunding can therefore be defined in the following way: “Crowdfunding involves an open call, mostly through the internet, for the provision of financial resources either in the form of donation or in exchange for the future product or some form of reward to support initiatives for specific purposes” (Belleflamme, Lambert & Schwienbacher 2014, 588). Additionally, an important characteristic of the crowd is that its members may be so-called

unsophisticated investors. That is, crowd investors may very well lack the expertise or resources that have typically been seen as prerequisites for being allowed to make investments of significant size risk (Lukkarinen et al. 2016). Crowdfunding thus contrasts heavily with the traditional approach to financing, where the general approach is to gather large contributions from a small group of sophisticated or professional investors of private or institutional nature.

The general objective in crowdfunding activities is to raise money from the crowd for use in the development of a project or a company. While for various social causes and projects this may not differ much from, say, church fundraisers, for companies it represents a significant change in the venture financing world. Financing of companies that are not listed on a stock exchange is traditionally an opaque process in which negotiations take place behind closed doors and are only available to a select few. Crowdfunding, in essence, turns the situation on its head by making the fundraising process public and accessible for everyone, much like stock exchanges do with listed companies. For companies looking to raise funding, crowdfunding could be seen as an alternative to traditional private equity or debt financing, providing companies with more opportunities for funding. From the perspective of the funders, the crowd, crowdfunding can be seen to democratize the funding process and open doors that were previously shut. It brings new investment opportunities, new products, and new causes available to them. In a sense, it is disintermediation: the consumer, end user, or small-time investor can have a say in what companies or products end up on the market and which causes succeed, without venture capital companies, publishers, and other intermediaries making the decision for them.

Crowdfunding is a fragmented field. Conceptually, it is generally split into four categories: rewards, donations, debt, and equity. In *reward-based crowdfunding*, the person giving the money is essentially either pre-ordering a product or receiving other tangible rewards in exchange for their monetary contribution. This model was popularized by the crowdfunding platform Kickstarter since 2009. An example of a reward-based crowdfunding campaign would be a band pre-selling their next album, perhaps using the money raised with their campaign to actually fund the making of the album. In *donation-based crowdfunding*, no rewards are given to the supporters, instead the contribution is more of an act of charity or support often based on emotional motivations. *Debt-based crowdfunding* can be split into two categories based on the parties raising funding. In peer-to-peer lending, private individuals express interest in taking a loan, which is then granted by other private individuals in return for interest. In the other form of debt crowdfunding, the party taking the loan is a company. *Equity-based crowdfunding* is the most similar of the models of crowdfunding to more traditional private equity. In this form of crowdfunding, a company organizes a public share offering in which virtually anyone can subscribe shares, thus becoming shareholders in the company. While the underlying crowdsourcing ideology is the same in all four, they differ significantly from each other in terms of target groups, terminology, operating models and contributor motivations.



One way to segment the different types of crowdfunding would be to split them into a “soft” side and a “hard” side on the basis of investor motivations and type of value sought. The soft side, which would include reward-based and donation crowdfunding, is characterized by emotional motivations and intrinsic value. On the hard side, where you have debt- and equity-based crowdfunding, the investors are mainly driven by the potential for financial value, although emotions and other forms of intrinsic value may also be present in decision-making. The hard side could also be called the crowd investing side due to this potential for financial returns and emphasis on financial instruments in the place of more general rewards.

But what or who exactly constitutes this “crowd”? In general, two different crowds could be seen in any crowdfunding round. One is the target company’s own extended network of stakeholders, whose importance in fundraising is generally agreed to be considerable (Lukkarinen et al. 2016). The second is the larger, more or less faceless mass of potential stakeholders currently unknown to the company. The crowd does not necessarily consist only of individuals, as it is also possible for businesses to invest as members of the crowd.

In general, many of the general benefits of crowdsourcing can also be applied to crowdfunding. For instance, companies can use crowdfunding to combine fundraising with market research and marketing (De Buysere et al. 2012, 9). The market research function can refer to, for example, a business test marketing a new product idea to see if there is demand for it. It has also been argued that the main advantage of crowdfunding is in fact its marketing aspect: the funders of a project or business are also its ambassadors, who can market the project through their own networks (De Buysere et al. 2012, 9). These views suggest that financing may be but one possible benefit of a crowdfunding campaign.

From here on, this study will focus solely on equity crowdfunding, thus usage of the word crowdfunding will from here on refer to the accumulation of small investments in individual businesses by a large number of individuals with the use of online tools (Ingram & Teigland 2013; Ordanini et al. 2011; Hanley & Bork 2012).

### **2.3 Crowdfunding platforms**

Crowdfunding transactions are facilitated by intermediaries. These are companies that operate online portals more commonly known as crowdfunding platforms. Echoing the JOBS Act statute, Hanley and Bork (2012, 47) defined a crowdfunding portal as “an intermediary in a crowdfunding transaction that does not offer investment advice or recommendations; solicit purchases, sales or offers for securities displayed on its website; compensate employees, agents or others for solicitation or for sale of said securities; or hold, manage or otherwise handle investor funds or securities”. Therefore, according

to this definition, crowdfunding portals are not brokerages, but rather platforms that make it technically possible for businesses to raise funding from a relatively large audience of people and for people to find said businesses and invest in them. It has also been noted that crowdfunding platforms often prefer to position themselves as mere matchmakers instead of, for example, marketplaces, due to the latter being more regulated (Ingram & Teigland 2013, 15). In any case, from the crowd's point of view, crowdfunding platforms are B2C e-commerce services.

However, the JOBS Act cited by Hanley and Bork does not extend to European crowdfunding platforms, therefore the list of traits may not be applicable in Europe. Indeed, the maturing European equity crowdfunding industry has already witnessed the UK-based CrowdCube launching its own venture fund, SyndicateRoom partnering with the London Stock Exchange to act as a retail channel for initial public offerings, and Finnish Invesdor also hosting initial public offerings on its platform. As the industry matures, competitors will be looking to diversify their offerings. The result of this diversification may eventually lead to blurring of the definition of a crowdfunding platform. Equity crowdfunding is currently a very dynamic, fast-moving space, and it is likely that the definitions of crowdfunding platforms will have to be rewritten several times in the coming years. In any case, the technical platform will remain as the basis and the common defining trait of crowdfunding companies' operations and of the investor experience. It is therefore justified to limit the scope of this study and only focus on the platforms themselves. However, on a general level as forms of e-commerce, the similarities between equity crowdfunding platforms and online brokerage or investing services are significant enough to warrant comparison.

Due to the non-soliciting nature of the operations of most equity crowdfunding platforms, consumers in the equity crowdfunding context can be classified as do-it-yourself (DIY) investors. According to Konana and Balasubramanian (2005) DIY investing services have been provided since the middle of the 1970s. The guiding principle behind these services has been that investors capable of making their own investment decisions should be empowered to execute their transactions independently, thus paying lower commission fees. Due to digitization, this form of investing has grown rapidly, as DIY investing has become more easily accessible to anyone and everyone. Although anyone can with but a few clicks now make investments online, not everyone may be capable of making educated investment decisions. As the responsibility for searching information and making transactions has shifted from experienced brokers to the consumer (Konana & Balasubramanian 2005, 507) and as many inexperienced investors have entered the market, much room in the investment process has been made for psychological biases that can affect investor beliefs, investing behaviour and evaluation of economic returns. (Barber & Odean 2001; Konana & Balasubramanian 2005.) This has been reported as often leading to very active, overconfident, speculative and reckless behaviour, which can hurt all investors on the market (Barber & Odean 2001; Barber & Odean 2002).

In the context of equity crowdfunding, this knowledge has resulted in investor protection issues being raised. This is an issue mainly due to the large amount of unsophisticated, inexperienced investors that crowdfunding may attract and the investors' limited ability to carry out meaningful due diligence processes. CFPs can, however, protect investors and prevent fraud by taking responsibility of conducting due diligence on the investment targets they host. (Hanley & Bork 2012.)

### **3 E-COMMERCE SERVICE ADOPTION**

In the previous chapter, which focused on crowdfunding as a form of online investing, we noted that approaching equity crowdfunding as e-commerce services is justified, and that significant similarities can be drawn between equity crowdfunding and online investing. Studies on consumer acceptance of e-commerce services have commonly utilized the findings of the technology acceptance literature, which itself has drawn inspiration from attitude theories, or intention-based models, of social psychology. The literature on technology acceptance is somewhat dominated by these intention-based models of human decision-making, which a multitude of authors have then modified with concepts from the field of information technology to make them applicable to technology acceptance contexts.

The purposes of this chapter are to cast a glimpse into the theoretical framework commonly associated with e-commerce service adoption and to arrive at a conclusion as to how this framework might best be utilized to predict consumer acceptance of equity crowdfunding services. An investment decision is often an intricate one, all the aspects of which can be difficult to capture. However, the framework covered in this chapter is built on several validated and rigorously tested models and theories, and it should thus provide reliable tools for the purposes of this study.

#### **3.1 Intention-based models of acceptance and decision-making**

From the consumer point of view, B2C e-commerce services can be viewed as innovative information system (IS) services (Parthasaraty & Bhattacharjee 1998). According to Bhattacharjee (2000), the literature on information system acceptance has primarily been influenced by two streams of research: the innovation diffusion theory and intention-based models. Similarly, Venkatesh, Morris, Davis, and Davis (2003) see the influences primarily stemming from research using intention or usage as a dependent variable. According to them, this research has been complemented by additional streams that have focused

on information system implementation on the organisational level (Leonard-Barton & Deschamps 1988) and task-technology fit (Goodhue 1995; Goodhue & Thompson 1995), among others. While the innovation diffusion theory describes innovation attributes as well as communication patterns that influence innovation acceptance, intention-based models, such as the theory of reasoned action (TRA), the theory of planned behaviour (TPB), the technology acceptance model (TAM), and the unified theory of acceptance and use of technology (UTAUT) (Venkatesh, Morris, Davis & Davis 2003), view behaviour as being determined by behavioural intention, which in turn is determined by several belief structures concerning the intended behaviour (Bhattacharjee 2000). A strong correlation between intentions and behaviours has been empirically validated in information system usage contexts (e.g. Davis, Bagozzi & Warshaw 1989), which has led to the intention-behaviour link becoming taken for granted and more emphasis being placed on understanding the predictors of intention (Parthasarathy & Bhattacharjee 1998).

Other models and theories of individual acceptance include the motivational theory, the social cognitive theory, and the model of PC utilization. The first two theories have been widely studied in psychology and have also been applied to the context of technology utilization. (Venkatesh et al. 2003.) According to Venkatesh et al. (2003) the model of PC utilization (Thompson, Higgins & Howell 1991), which seeks to predict usage behaviour rather than intention, is a competing alternative to TRA and TPB. The literature on information system acceptance has also been seen to be applicable to e-commerce services (Konana & Balasubramanian 2005; Bhattacharjee 2000; Pavlou 2003). Despite the competing alternatives, consumer adoption of e-commerce platforms, including online investing services, has been widely studied using variations of the intention-based models TAM and TPB. Due to the extensive research conducted using these intention-based models and theories, they could be seen as a fairly safe choice for someone looking to study consumer acceptance of e-commerce services.

In order to choose a theoretical framework that best fits the purposes of this study, a brief review of the major models of intention-based decision-making is in place. The main elements of the comparison are presented in Table 1.

TABLE 1 Intention-based models of technology acceptance and their core constructs (adapted from Venkatesh et al. 2003).

<b>Theory/Model</b>	<b>Core constructs</b>	<b>Definition</b>
Theory of reasoned action (TRA)	Attitude toward behaviour	“Positive or negative feelings about performing the target behaviour (Fishbein & Ajzen 1975, 216).
	Subjective norm	“The person’s perception that most people who are important to him think he should or should not perform the behaviour in question (Fishbein & Ajzen 1975, 302).
Technology acceptance model (TAM/TAM2)	Perceived usefulness	“The degree to which a person believes that using a particular system would enhance his or her job performance” (Davis 1989, 320).

	Perceived ease of use	"The degree to which a person believes that using a particular system would be free of effort" (Davis 1989, 320).
	Subjective norm	Adapted from TRA. Only included in TAM2.
Theory of planned behaviour (TPB)	Attitude toward behaviour	Adapted from TRA.
	Subjective norm	Adapted from TRA.
	Perceived behavioural control	"The perceived ease or difficulty of performing the behaviour" (Ajzen 1991, 188).
Unified theory of acceptance and use of technology (UTAUT)	Performance expectancy	"The degree to which an individual believes that using the system will help him or her attain gains in job performance" (Venkatesh et al. 2003, 447).
	Effort expectancy	"The degree of ease associated with the use of the system" (Venkatesh et al. 2003, 450).
	Social influence	"The degree to which an individual perceives that important others believe he or she should use the new system" (Venkatesh et al. 2003, 451).
	Facilitating conditions	"The degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system" (Venkatesh et al. 2003, 453).

One of the most widely studied theories of human behaviour and the forerunner for many of the following intention-based models is the *Theory of Reasoned Action* (TRA) by Fishbein and Ajzen (1975). The basis for the TRA is the behavioural intention, which is seen to predict the performance of any voluntary act. Behavioural intention is influenced by attitude – defined as the “positive or negative feelings about performing the target behaviour” (Fishbein & Ajzen 1975, 216) – and subjective norm – defined as “the person’s perception that most people who are important to him think he should or should not perform the behaviour in question” (Fishbein & Ajzen 1975, 302) – and their respective antecedents; beliefs and evaluations for attitude and normative beliefs and motivation for subjective norm.

In their meta-analysis of the TRA, Sheppard, Hartwick, and Warshaw (1988) found several situations in which the TRA was often applied beyond its capabilities. The first of these was applying the model to situations in which the target behaviour was not completely under the actor’s volitional control, which was later taken into consideration by Ajzen (1991) in the TPB. Additionally, the TRA was often used as a general model in situations involving a choice problem that Fishbein and Ajzen didn’t originally address and in situations where the subjects or actors were not able to have all the information necessary for forming a confident intention. However, despite the TRA seemingly having been used beyond its original intended situations, it has been found to have significant predictive utility even beyond its original boundaries. (Sheppard, Hartwick & Warshaw 1988.) The TRA had thus become a widely accepted basis for the study of attitudes and intention-based decision making, with subsequent research spawning several extended and improved models.

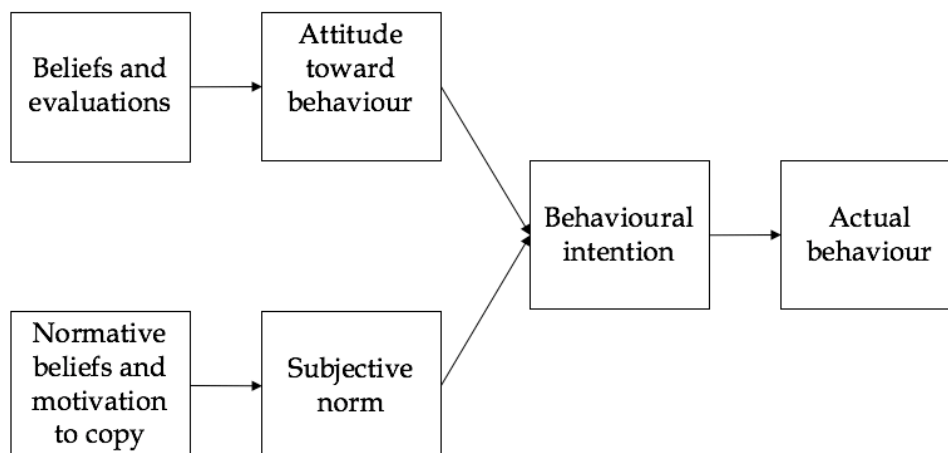


FIGURE 1 The Theory of Reasoned Action (Fishbein & Ajzen 1975).

The *Theory of Planned Behaviour* is perhaps the most widely covered improvement upon the original TRA. Essentially, it is an extension of the TRA that includes measures of control beliefs and perceived behavioural control. In TPB, intentions are defined in terms of three belief structures: attitude (defined as the predisposition toward the action that subsequently becomes the actual behaviour), subjective norm (perceptions about social forces or pressure that influence the behaviour), and behavioural control (perceptions of constraints, be they internal or external, that affect the behaviour). The antecedents of these three main constructs are three sets of corresponding beliefs. (Armitage & Conner 2001.) Ajzen (1991) made the extension to the TRA after the variable of perceived behavioural control had received much attention in various social cognition models. The reasoning behind the addition of the perceived behavioural control was that while the TRA could be used to predict simple behaviours that were under volitional control, it could not predict behaviours that were not under complete volitional control. Or more concretely, the formation of an intention would not sufficiently predict behaviour if the actor perceived there to be constraints on the action. Thus the inclusion of the perceived behavioural control could explain why intentions do not always predict behaviour. In the TPB, the perceived behavioural control is also seen to affect both intention and behaviour. (Armitage & Conner 2001.) According to Ajzen (1991), the relative importance of attitude, subjective norm, and perceived behavioural control can vary across behaviours and situations. According to Armitage and Conner's (2001) meta-analysis on the TPB, some concerns that have been raised in relation to the TPB include reliance on bias-prone self-reports for data, blurry distinction between the perceived behavioural control and self-efficacy, lacking measurement of intentions, and general weakness of the subjective norm. Typical applications of the TPB in information system acceptance contexts have viewed subjective norm as including only normative

influence, while informational influence has been largely excluded (Bhattacharjee 2000).

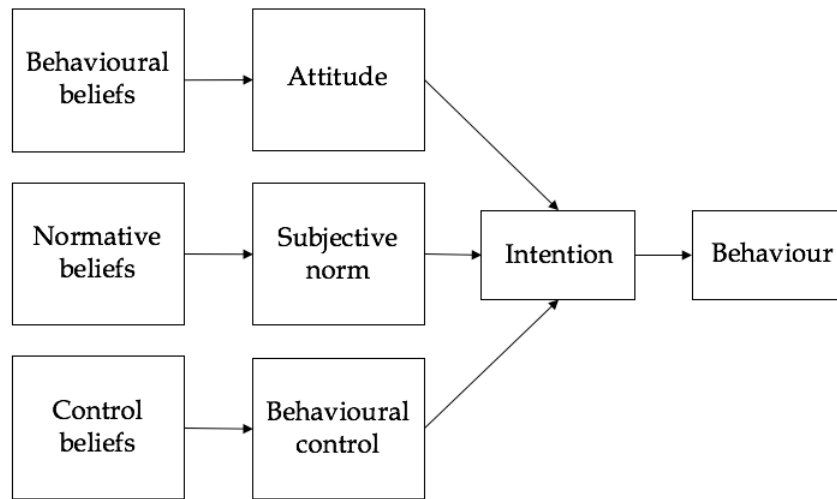


FIGURE 2 The Theory of Planned Behaviour (Ajzen 1991).

Prior to the Ajzen's publishing the TPB and it being applied to the context of information technology acceptance, models based on the TRA and tailored specifically to the technology context were already being developed. One of the most widely spread models in the technology context was authored by Davis (1989), whose model became known as the *Technology Acceptance Model*. The TAM proposes that an individual's behavioural intention to use an information technology system is determined by two beliefs: perceived usefulness, defined as "the extent to which a person believes that using the system will enhance his or her job performance", and perceived ease of use, defined as "the extent to which a person believes that using the system will be free of effort" (Venkatesh & Davis 2000, 187). Thus the TAM depicts the antecedents of attitude as specific behavioural beliefs, namely perceived usefulness and perceived ease of use of a technology. Empirical tests have consistently found perceived usefulness to be a strong determinant of usage intentions, while perceived ease of use has exhibited a less consistent effect on intention. (Venkatesh & Davis 2000.)

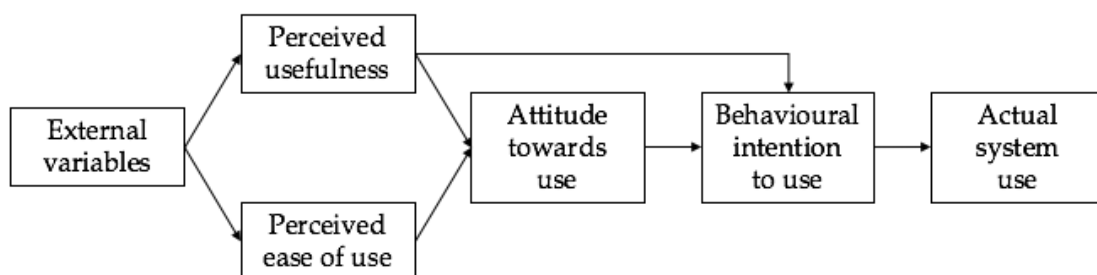


FIGURE 3 The Technology Acceptance Model (Davis 1989).



The *TAM2*, an extension to the Technology Acceptance Model, was developed by Venkatesh and Davis (2000). With the extension the authors sought to include additional determinants of perceived usefulness and usage intention constructs so as to mould the model into a form that may better explain the effect of social influence processes and cognitive instrumental processes on technology acceptance intentions. In light of these goals, the authors also included the construct of the subjective norm from the TRA, but also two other social forces: voluntariness and image. In Venkatesh and Davis' (2000) definitions, subjective norm was likened to the internalisation mechanism of social influence, defined as "the process by which, when one perceives that an important referent thinks one should use a system, one incorporates the referent's belief into one's own belief structure", which can be seen as informational social influence (189). With TAM2 the authors also theorized that subjective norm would positively influence image - defined as "the degree to which use of an innovation is perceived to enhance one's status in one's social system" (Moore & Benbasat 1991, 195) - based on the social influence mechanism of identification. TAM2 further posits that identification and internalisation will occur regardless of whether the acceptance setting is voluntary or mandatory, but compliance will only occur in a significant manner in mandatory settings.

According to Davis, Bagozzi, and Warshaw (1989), the subjective norm of the TRA was excluded from the first TAM due to the subjective norm's scale being particularly weak from a psychometric standpoint. In essence, the direct effects of subjective norm on behavioural intentions were too difficult to disentangle from the indirect effects via attitude. They claim that subjective norm may influence behavioural intention indirectly via attitude, due to internalisation and identification, or directly via compliance. Thus, a noteworthy matter regarding social influence in TAM2 is the fact that Venkatesh and Davis (2000) see subjective norm as encompassing only the internalisation mechanism of social influence, while they perceive image to contain the identification mechanism. This splitting of social influence into two constructs could be seen as a useful method for operationalizing the concepts, but it could also result in difficulties for comparison to other models. This is due to the view supported by some other authors that subjective norm is the aggregate concept of social influence - therefore including all three types of social influence: internalisation, identification, and compliance - whereas Venkatesh and Davis see subjective norm in a much narrower frame, only encompassing internalisation.

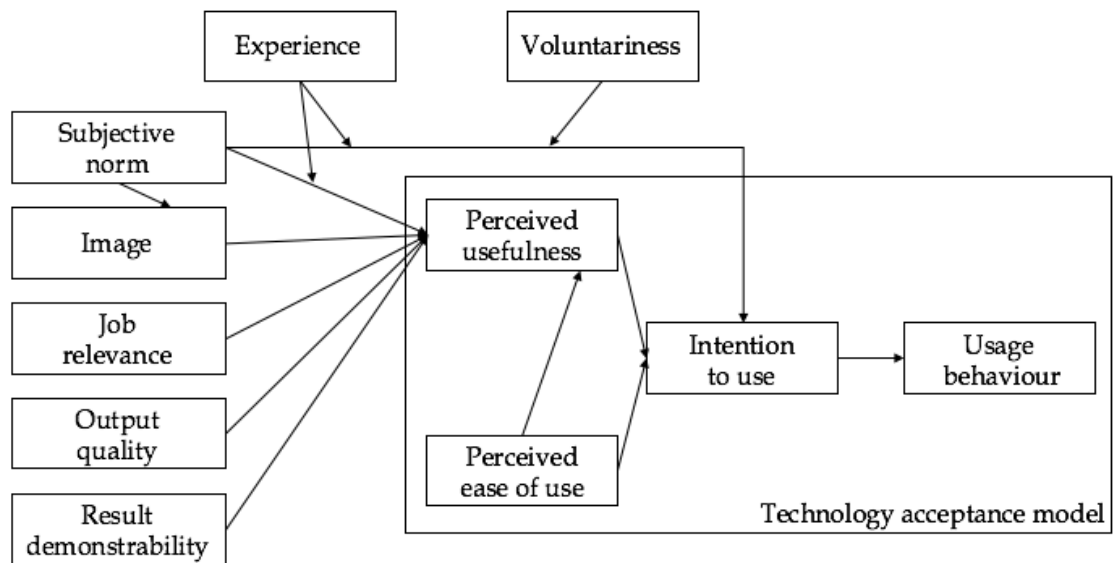


FIGURE 4 The TAM2 (Venkatesh & Davis 2000).

As this chapter has shown, there are many competing alternatives for researchers looking to study technology acceptance, ranging from models rooted in information systems to psychology to sociology. Many of these models consistently explain over 40% of the variance in individual intention to use a technology with no model being clearly superior to the others. Thus choosing a model is a difficult task that often leads to researchers mixing and matching concepts from different models or choosing a favoured model while ignoring the contributions of the alternatives. Venkatesh, Morris, Davis, and Davis (2003) thus saw the need for a synthesis to provide a more unified view of individuals' technology acceptance. Their answer was the *Unified Theory of Acceptance and Use of Technology* (UTAUT) which is based on a review of eight existing models of user acceptance of technologies. The authors theorized behavioural intention to be determined by performance expectancy, effort expectancy, social influence, and facilitating conditions. The effects of these four constructs are further modified by gender, age, experience, and voluntariness of use. The operationalization of the concepts in the UTAUT was made with organizational settings in mind. In such settings the goal of technology adoption is to boost job performance. Due to the focus on organizations, employees and job performance – a context where the adoption behaviour is not entirely voluntary – it is difficult to see UTAUT being directly applicable to the context of consumer acceptance of equity crowdfunding platforms.

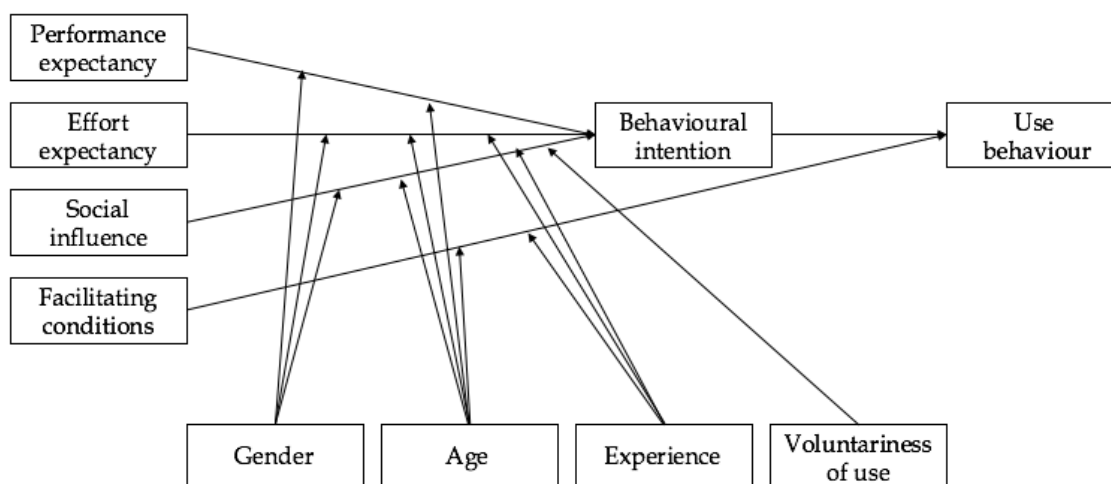


FIGURE 5 The Unified theory of acceptance and use of technology (UTAUT) (Venkatesh, Morris, Davis & Davis 2003).

### 3.2 Model suitability to the equity crowdfunding context

It is worth noting that, in the context of technology, all of the four models presented here have been most commonly adapted to studying acceptance of productized technologies or technical products. However, equity crowdfunding platforms are most fittingly likened to e-commerce services, such as online shops. As e-commerce services, the way consumers accept and adopt them is likely to differ from the way they do information systems related products, such as office software. Differences in acceptance behaviour may stem from the fundamental characteristics of services - intangibility, inseparability, perishability, and heterogeneity (Zeithaml, Parasuraman & Berry 1985) - that separate services from products, a view that has been widely covered in the services marketing literature (Fisk, Brown & Bitner 1993). Intangibility of services has been explained as meaning that services cannot be seen or felt like goods can because services are performances. Inseparability refers to the fact that most services are produced and consumed simultaneously, whereas goods are produced first and consumed later. With heterogeneity, services marketing scholars have referred to the high variability in the performance of services, or as Zeithaml et al. (1985) put it: "the quality and essence of a service (a medical examination, car rental, restaurant meal) can vary from producer to producer, from customer to customer, and from day to day". Finally, perishability means that services cannot be stored or saved for later use. (Zeithaml et al. 1985.)

The sensible choice for studying equity crowdfunding platform acceptance could be seen to be either the TPB or the TAM2, mainly due to the extensive amount of testing that has validated them as the leading models of their field. While the UTAUT is also theoretically on a solid basis and could be a valid choice for the purposes of this study, we feel it has yet to reach a sufficient level of diffusion and usage in contexts relevant to this study to be considered

over the TPB or the TAM2. Furthermore, the UTAUT was crafted more specifically to organisational settings, in which the acceptance situation is employees adopting a new system to boost their productivity and job performance, which makes applying it to a consumer acceptance setting such as that of ECFPs unwise.

The choice between the TPB and the TAM2, however, is not an obvious one. Due to the TAM having been extended to include social influence in TAM2, a clear labelling of TPB as a fairly in-depth model for a variety of situations and the TAM2 as a more general-purpose tool for a specialized context is no longer as straightforward as it once may have been. However, the TPB does not specify belief sets relevant to specific contexts, such as information system or e-commerce service acceptance, which makes the TPB difficult to utilize accurately and increases the difficulty of comparing relevant beliefs across contexts (Bhattacharjee 2000). This may result in vagueness in operationalization, which can compromise the explanatory power of the model. Individually, however, both models have been rigorously tested and found to predict intention to use an information system quite accurately.

In fact, a choice between the two might not be necessary, as the two could be used together very effectively (Mathieson 1991). Bhattacharjee's (2000) model of e-commerce service acceptance extended the TPB by including additional constructs from the TAM when these constructs were deemed to have enough explanatory power in the context of e-commerce service acceptance. While the author considered other constructs from the Innovation Diffusion Theory, they were excluded due to lacking explanatory power in the information system acceptance context, which he used as the basis for the e-commerce service context. Bhattacharjee's model of e-commerce acceptance is based on the standard TPB format: attitude, subjective norm, and behavioural control directly affecting intention. However, the author mixed and matched the antecedents for these constructs from prior research to arrive at a model that he saw would best fit the e-commerce service context.

For the determinants of attitude, he adopted perceived usefulness and perceived ease of use from the technology acceptance models. These more specific belief sets were seen to better integrate the model into the information system acceptance context. For the antecedents of subjective norm, the author chose interpersonal influence and external influence, which were perceived as providing a more comprehensive view on the effect of social influence, including both normative and informative types of social influence instead of only examining the normative influence side of the subjective norm, which he saw was typical among TPB studies in the IS acceptance context. Bhattacharjee's take on the subjective norm thus includes all three mechanisms of social influence: internalisation in the form of informational influence as well as identification and compliance in the form of normative influence. This could be seen as a competing view on social influence to the view presented in Venkatesh and Davis' (2000) TAM2, which sees the construct of subjective norm as representing internalisation - together with voluntariness as a moderator to distinguish between mandatory and voluntary settings - and the construct of

image to represent identification. The important takeaway is that both models cover the entire range of social influence instead of oversimplifying the concept. For the antecedents of behavioural control, Bhattacharjee picked self-efficacy and facilitating conditions. Self-efficacy was defined as “an individual’s self-confidence in skills or ability to perform the intended behaviour” (413), and it serves as an internal constraint affecting e-commerce acceptance. On the other hand, facilitating conditions is an external constraint, which Taylor and Todd (1995) divided into resources, such as time and money, and technology compatibility. Bhattacharjee deemed technology compatibility inapplicable to the e-commerce context due to e-commerce being based on open systems and TCP/IP protocols, which are compatible across various hardware and platforms. Therefore, in his model of e-commerce acceptance, the construct of facilitating conditions consists of resource availability, with such matters as access to computers and the internet seen as resources.

Bhattacharjee also decided to exclude TPB’s intention-behaviour link due to three reasons. Firstly, with there being overwhelming empirical support in favour of the link he saw no need to need to retest the obvious. Secondly, he saw that in B2C e-commerce scenarios, unlike in organizational or workplace settings, adopters would not be forced to act against their intentions. This may also carry implications for the significance of behavioural control. Thirdly, his subject sample consisted of individuals who had already accepted e-commerce services – and he was asking his respondents to actually recall back to the time prior to acceptance – ergo there would be no variance on behaviour. Measuring acceptance intentions retroactively, perhaps several years after the original acceptance had occurred, could be seen as a challenge for the validity of the study. We feel that the specific focus of Bhattacharjee’s model on e-commerce acceptance and the basis on such a robust model as the TPB make it the best fit for the purposes of studying ECFP acceptance intentions. Bhattacharjee’s model was thus chosen as the basis for the research model of this study.

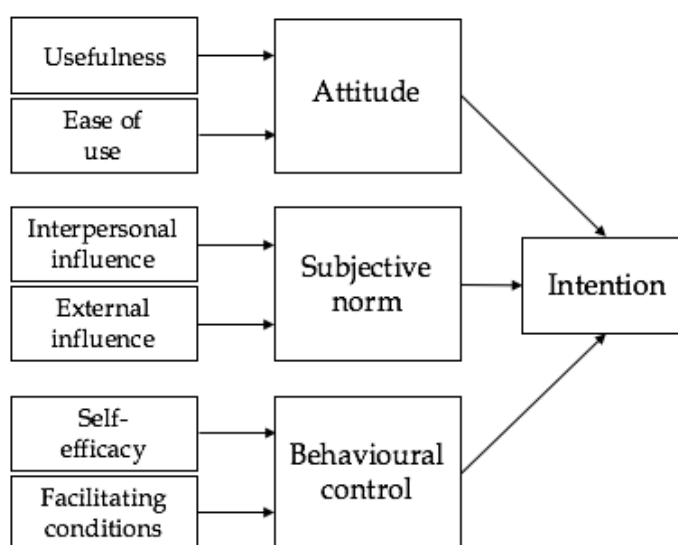


FIGURE 6 TPB-based model of e-commerce acceptance (Bhattacharjee 2000).

## 4 SOCIAL INFLUENCE

Crowdfunding is a phenomenon of the sharing economy in which people are collectively, with their peers, funding a wide variety of projects and/or companies that they are passionate about. Therefore, looking at an individual's decision making outside of this collective setting, where social influences can significantly affect an individual's choices, is not sufficient for the purposes of this study. For this reason, this study will be delving into the effects that social influence can have on an individual's acceptance intentions, especially in the technology context.

### 4.1 Social influence in situations of acceptance

Social influence has been found to be one possible factor affecting technology adoption and acceptance intentions (López-Nicolás, Molina-Castillo & Bouwman 2008, 360; Bhattacharjee 2000, 413; Venkatesh et al. 2003, 451). Other oft-used terms for social influence are subjective norm and normative or social pressure (López-Nicolás et al. 2008, 360).

Venkatesh et al. (2003, 451) defined social influence in the context of technology acceptance as "the degree to which an individual perceives that his or her important others believe that the individual should use the technology in question". In intention-based models of decision making, social influence is represented as the subjective norm, which is used to refer to an individual's perception of general social pressure either to perform or to not perform an action (Armitage & Conner 2001). In the innovation diffusion model social influence is represented as the construct of image, which is defined as "the degree to which use of an innovation is perceived to enhance one's image or status in one's social system" (Moore & Benbasat 1991, 195). In the model of PC utilization, social influence is represented by the construct of social norms or social factors, which were defined as "the individual's internalisation of the reference groups' subjective culture, and specific interpersonal agreements that the individual has made with others, in specific social situations" (Triandis 1980, 210 as cited in Thompson, Higgins & Howell 1991, 126). Venkatesh et al.

(2003, 451) state that each of these constructs contains the notion that the way in which an individual believes others will view them as a result of using a technology influences the individual's actual behaviour.

Social influence has an impact on individual behaviour through three mechanisms: internalisation, identification, and compliance (Kelman 1958). The internalisation mechanism refers to the altering of an individual's belief structure based on acquired information due to the information or influence being intrinsically rewarding. Secondly, the identification mechanism refers to causing the individual to respond to potential social status gains, such as being viewed as being similar to a desired referent group. Thirdly, the compliance mechanism refers to the individual altering their intentions in response to social pressure, rewards or punishments. (Kelman 1958; Venkatesh et al. 2003; Bhattacharjee 2000.)

In the social psychology literature, it is also argued by many that the subjective norm is the weakest component of the TRA and the TPB. However, the weakness of the subjective norm may very well often be caused by inadequate measurement, such as the usage of single item measures. (Armitage & Conner 2001.) In the technology acceptance context, subjective norm has been largely plagued by the same inconsistency than it has met in the social psychology literature (Bhattacharjee 2000). For instance, subjective norm was excluded from the first rendition of the TAM due to its uncertain theoretical and psychometric status. Essentially, it was too difficult to make a distinction between the direct effects of subjective norm on intention through compliance and indirect effects via attitude through internalisation and identification. (Davis, Bagozzi & Warshaw 1989.) Subjective norm was later re-introduced in the TAM2 by Venkatesh and Davis (2000). However, they only found it having a direct effect on intention in mandatory usage settings, therefore through the mechanism of compliance. According to Venkatesh et al. (2003, 469), other work has also found social influence to be significant only in mandatory settings (Hartwick & Barki 1994), while some have found it to be more significant among women in early stages of experience (Venkatesh & Morris 2000), and others among older adopters (Morris & Venkatesh 2000). Venkatesh et al. (2003) suggest that social influence does indeed influence an individual's acceptance intentions, but that it is more likely to be more salient to adopters with the characteristics mentioned above. This means that social influence would be most influential to older women with little experience, especially in mandatory settings.

Based on existing literature, there seem to be two major underlying reasons for the mixed findings regarding subjective norm. The first one is lacking measurement, which Malhotra and Galletta (1999) claim can be alleviated by conceptualising subjective norm using Kelman's (1958) three processes of social influence - internalisation, identification, and compliance - to provide a stronger psychometric basis for measuring subjective norm in comparison to scales used in TRA. This approach is also present in TAM2 - albeit used in a somewhat different way, associating subjective norm only with the internalisation effect and creating new concepts for the remaining two processes - and Bhattacharjee's (2000) model of e-commerce acceptance, which

in the previous chapters were chosen as the two most relevant frameworks for this study. The second major reason for mixed findings on the subjective norm would seem to be the extent of voluntariness of the action, as identified by Hartwick and Barki (1994). The authors found subjective norm to have a significant effect on intention in mandatory settings but not in voluntary ones. Venkatesh and Davis (2000) further claim that the direct relationship between subjective norm and intention in TRA and TPB is based solely on this compliance effect. Venkatesh and Davis theorize that the direct compliance effect of subjective norm on intention should generally work when an individual perceives that a social actor wants them to perform a specific behaviour, and the social actor can reward the behaviour and punish the non-behaviour. Additionally, even in mandatory settings, usage intentions may vary due to some adopters' unwillingness to comply. (Venkatesh & Davis 2000.)

In light of these previous results and as the usage of equity crowdfunding platforms is unlikely to be mandatory for adopters, the subjective norm might not have a significant effect on intentions to use ECFPs if it was operationalized based solely on the compliance aspect. However, the early stage of ECFP usage and low levels of experience among adopters may contribute to subjective norm standing out more if operationalized properly to take into account the internalisation and identification mechanisms. In fact, when operationalized in this way, Bhattacharjee (2000) found subjective norm to have a significant effect in explaining acceptance intentions in the context of online brokerage service usage, while also noting that it largely runs contrary to the existing literature on information system acceptance. Konana and Balasubramanian (2005, 507) also describe social pressure as a major cause for many investors' adoption of online investing, which may further support Bhattacharjee's results. This view is further backed by the service marketing literature, which suggests that information gathered from outside sources, i.e. word-of-mouth or mass media, is used by the adopters to compensate for the lack of cognitive beliefs, e.g. usefulness, when forming an attitude-based judgment of a service is difficult (Bhattacharjee 2000). However, early adopters can also often be largely motivated by social recognition and status gains (Bandura 2009), which can be seen as characteristics of the identification mechanism.

In general, findings surrounding the subjective norm in intention-based models are somewhat conflicting. It seems apparent that social influence has a complex role in decisions related to technology acceptance and that this role is also subject to many contingent influences (Venkatesh et al. 2003). As Armitage and Conner (2001) emphasized, in TPB studies one apparent weakness of the subjective norm is often attributable to weak measurement, and that the component therefore requires further empirical attention.

The different variations of social influence constructs used in intention-based models of decision making are summarized in Table 2.

TABLE 2 Primary social influence constructs in models and theories of technology acceptance.

<b>Theory/Model</b>	<b>Social influence</b>	<b>Definition</b>
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Theory of reasoned action (TRA)	Subjective norm	"The person's perception that most people who are important to him think he should or should not perform the behaviour in question" (Fishbein & Ajzen 1975, 302).
Theory of planned behaviour (TPB)	Subjective norm	Adapted from TRA.
Technology acceptance model 2 (TAM2)	Subjective norm	Adapted from TRA/TPB.
Model of PC utilization (MPCU)	Social factors	"The individual's internalisation of the reference group's subjective culture, and specific interpersonal agreements that the individual has made with others, in specific social situations" (Thompson et al. 1991).
Innovation diffusion theory (IDT)	Image	"The degree to which use of an innovation is perceived to enhance one's image or status in one's social system" (Moore & Bebensat 1991).
Unified theory of acceptance and use of technology (UTAUT)	Social influence	"The degree to which an individual perceives that important others believe he or she should use the new system" (Venkatesh et al. 2003, 451).

## 4.2 Informational and normative influence

Deutsch and Gerard (1955 as cited in Burnkrant & Cousineau 1975, 206) originally made the distinction between two different types of social influence. The first is informational influence, which refers to individuals accepting information as evidence of reality. The second type is normative influence, which refers to individuals conforming to expectations of others. Many applications of TPB in the context of information system acceptance have examined only the normative influence side of subjective norm while excluding informational influence (Bhattacharjee 2000). This may partially explain the non-significant relationship between subjective norm and intention that has fairly often been found in TPB-based research.

In his study on online brokerage acceptance, Bhattacharjee (2000, 413) modelled informational influence as consisting of external messages such as "mass media reports, expert opinions, and other non-personal information considered by the adopters in making a 'rational' acceptance decision". Therefore, the behaviour-altering mechanism related to informational influence is internalisation. Normative influence, then, consists of "word-of-mouth influence by friends, colleagues, superiors, and other prior adopters known to the potential adopters", while the mechanisms generally corresponding to this kind of influence are identification and compliance.

This driver of normative influence, word-of-mouth (WOM) communication, is often regarded as one of the most credible and effective forms of marketing communications. WOM communication, which refers to informal exchange of information about products and services among consumers, has become particularly important with the rise of interactive media and the subsequent culture of sharing (Stewart & Pavlou 2009, 376). However, the extent to which a source of word-of-mouth must be known to the potential adopters can be questioned in the online era, as advances in information technology and social networking sites have enabled WOM communication to move beyond its conventional interpersonal boundaries to become a much farther-reaching and less personal phenomenon (Bhattacharjee 2000). Duan, Gu, and Whinston (2008, 233) aptly described this change as transformation from “fleeting WOM targeted to one or a few friends” into “enduring messages visible to the entire world”.

While normative influence and word-of-mouth may be strong, the innovation diffusion literature claims that external influences, e.g. mass media, are generally more dominant in the early stages of the adoption of an innovation due to the lack of prior adopters for word-of-mouth purposes (Rogers 2003, 211). Theories of mass communication support this view, as they have commonly assumed that influences operate through a two-step diffusion process: influential people pick up new ideas from the media and pass them on to their followers through personal influence. However, things are seldom this simple, as most behaviour is the product of several factors, and the relative contribution of any single factor in a pattern of influences can change depending on the circumstances. This means that depending on the quality and coexistence of other factors, the relative strength of media influences can vary. In addition to the socially mediated diffusion path described above, media can also be seen as directly promoting acceptance of a behaviour by informing, enabling, and guiding potential adopters. There is, therefore, no single pattern of external social influence, as sources of external influence can implant ideas either directly or through early adopters. (Bandura 2009.)

It has also been argued that interpersonal sources of information, i.e. conventional WOM, are not necessarily more persuasive than media effects, and that the relative importance of the two depends largely on their accessibility and the likelihood that they will provide the kinds of information sought by the individual (Chaffee 1982 as cited in Bandura 2009, 112). The relative importance of interpersonal and media sources of information in initiating an adoption process has also been seen to vary for different activities, and even for the same activity at different stages of the adoption process (Pelz 1983 as cited in Bandura 2009, 112). Many communication technologies have made it increasingly easy for consumers to respond to marketing communication messages sent by organizations or even initiate communication with the organization (Stewart & Pavlou 2009, 363). This could be seen bringing the two types of social influence closer to each other and blurring the distinction between them.

Finally, a particularly important notion affecting the effect that external influence will have on an individual's acceptance intentions is the perceived

credibility or trustworthiness of the medium via which the messages are conveyed. This is especially true for interactive media. (Shimp 1990 as cited in Stewart & Pavlou 2009, 367.) Where there is little trust, there is little influence.

## 5 THE ROLE OF TRUST IN E-COMMERCE ACCEPTANCE

One thing that has been missing from many prior studies on decision making in technology acceptance situations is the inclusion of trust as a variable. Even if general attitudes, subjective norms and issues of behavioural control have been taken into account, taking that final step into a decision of trying out something new requires trust. It is therefore important to understand how trust affects acceptance decision making in equity crowdfunding, where the users are not only buying products or services, but investing their hard-earned money with the possibility of losing it all.

This chapter is dedicated to laying out the basics of trust in the context of e-commerce acceptance, starting out with definitions of trust in general and moving onto online trust and different types of trust and their antecedents.

### 5.1 What is trust?

Humans have a need to reduce uncertainty by controlling and predicting their social environment. When social uncertainty cannot sufficiently be reduced through rules and customs and when properly understanding the complex social world becomes impossible, people resort to trust. (Gefen & Straub 2004.) Generally speaking, trust can be defined as “reliance upon the characteristics of an object, or the occurrence of an event, or the behaviour of a person in order to achieve a desired but uncertain objective in a risky situation” (Giffin 1967, 105).

Trust has also long been recognized as a significant element in consumer–marketer relationships, especially in situations where uncertainty is present. This is due to the notion that trust reduces the effects that risk, fear, and complexity have on exchange situations (Corritore, Kracher & Wiedenbeck 2003, 738). Indeed, putting one’s trust in a company can be a considerable leap of faith for a consumer, especially in the online environment characterized by anonymity. This is reflected in Pavlou’s (2003, 74) definition of trust in B2C e-

commerce: “the belief that allows consumers to willingly become vulnerable to web retailers after having taken the retailers’ characteristics into consideration”.

It has been argued that consumers perceive a particularly high degree of uncertainty in situations of e-commerce due to the inherently high uncertainty associated with online transactions. Pavlou (2003, 77) aptly described this uncertainty as stemming from “the distant and impersonal nature of the online environment” and making transactions in “a global open infrastructure”. Koufaris and Hampton-Sosa (2004) echo this by noting that web-based companies have to rely on websites as the means of communicating their trustworthiness. The importance of trust is further emphasized in e-commerce settings due to low switching costs for new customers. (Koufaris & Hampton-Sosa 2004.) Indeed, trust may very well be an important precondition for e-commerce due to trust’s effect of making people willing to engage in activities where the person is exposed to risks and is unable to control the related behaviour of others and due to its importance in successful adoption of new technology (Gefen 2000).

From the perspective of consumer decision-making, the primary effect of trust is to reduce negative perceptions, including uncertainty and complexity (Corritore et al. 2003), which the consumer can associate with, for example, a transaction, the consumer’s relationship with a marketer, a product, or a service. This reduction in uncertainty, in turn, can affect a consumer’s behavioural intentions to engage in the transaction (Pavlou 2003). In addition to reducing negative perceptions, trust can also contribute to the formation of positive ones toward the marketer, which also contributes to a reduction in uncertainty and leads to increased transaction intentions (Pavlou 2003). In addition to affecting behavioural intention through attitudes, trust can also reduce perceived uncertainty regarding the actions of the marketer. Consequently, trust has been found to be an important factor affecting consumer acceptance of e-commerce and even “key to successful transactions and long-term relationships” (Koehn 1996 as cited in Corritore et al. 2003, 738).

From a consumer’s point of view, the context of equity crowdfunding – where consumers invest their money in non-listed, high-risk growth companies in exchange for the companies’ shares – could be seen as a very uncertain and complex environment, in which trust can potentially play a particularly crucial role. There are several elements that can be seen as contributing towards high uncertainty and complexity in investing via an equity crowdfunding service. These elements include matters such as potentially high monetary commitments, uncertainty of the actions and intents of the target company and the company operating the crowdfunding service, lack of access to complete and transparent information, and uncertainty in the security and functionality of the technology utilized by the crowdfunding service. These risks largely correspond to general risks perceived by consumers in the B2C e-commerce context, which include monetary loss, reliance on incomplete information, and loss of privacy (Pavlou 2003). As risks in the context of consumer behaviour are difficult to measure objectively, the concept of perceived risk is generally used instead. Perceived risk can be defined as a “consumer’s subjective belief of suffering a loss in pursuit of a desired outcome” (Bauer 1960 as cited in Pavlou

2003, 77). Generally, perceived risk will negatively affect a consumer's intentions to engage in a transaction, while trust will mitigate perceived risk (Pavlou 2003).

In addition to trust, people also reduce uncertainty by familiarity. Familiarity can be defined as an understanding based on previous experiences. It is distinctly different from trust, but it complements trust as a method of complexity-reduction. (Gefen 2000.) Familiarity is said to reduce uncertainty by establishing a structure, while trust reduces uncertainty by providing people with relatively reliable expectations. Trust should also be more important than familiarity in situations where the actor may perceive high risks involved with the action. This is due to trust relating to the unknown future actions of others, which are inherently dynamic and complex. (Luhmann 1979.) Therefore, while familiarity with equity crowdfunding would likely affect the attitudes and perhaps increase intentions to invest through an ECFP, trust may still play a more important part due to the high-risk nature of the transaction. However, familiarity is also described as the precondition for trust (Luhmann 1979), and can thus be considered an antecedent of trust.

Another antecedent for the formation of trust, one that is not built gradually over ongoing interactions, is a person's disposition to trust. According to McKnight, Cummings, and Chervany (1998, 477), "a person exhibits a disposition to trust to the extent that she or he demonstrates a consistent tendency to be willing to depend on others across a broad spectrum of situations and persons". McKnight, Cummings, and Chervany further distinguish between two types of disposition to trust: faith in humanity and trusting stance. They define faith in humanity as belief in that others are typically well-meaning and reliable, while trusting stance refers to one's beliefs that, regardless of whether other people are actually reliable and well-meaning or not, one will obtain better interpersonal outcomes by dealing with people as though they were indeed reliable and well-meaning. However, studies have found mixed results when using disposition to trust to predict actual trust. (McKnight, Cummings & Chervany 1998.)

## 5.2 The basics of online trust

There are both similarities and differences in the development of trust in offline and online environments. However, the offline and online environments in which trust takes place have several common characteristics, such as the situation of exchange and the rules of social interaction, suggesting that the research literature on offline trust could be largely applicable to the online environment (Corritore et al. 2003).

Therefore, it can be inferred that from the viewpoint of an individual's decision-making online trust develops based on similar basic mechanisms as offline trust. Corritore et al. (2003) modelled the formation of online trust at an abstract level, while McKnight, Choudhury, and Kacmar (2002) modelled the

formation of initial trust. In the former model, online trust is seen to be a result of the individual's perception of credibility, ease of use, and risk in addition to other external factors surrounding the situation. In the latter, the authors viewed trust as resulting from trust in the web at an institutional level – i.e. its security and legitimacy – in combination with vendor-specific reputation and website quality. While similarities can be drawn between the concepts of credibility and reputation, and ease of use and website quality, the two models have quite little in common. This is most likely a result of different points of view: McKnight et al. focusing on initial trust based on limited information, while Corritore et al. sought a more abstract, general modelling of online trust. Both models thus give valuable views from two different viewpoints on how online trust is formed.

An important note to be made about the models is that McKnight, Choudhury, and Kacmar's model explicitly takes into account trust in the underlying internet technology as a major contributor to trust felt towards individual online vendors, which was also emphasized by Pavlou (2003) in his studies on trust in e-commerce. In the model of Corritore et al., this uncertainty towards internet technology could be inferred to be included in the construct of risk, but the authors do not explicitly state this. However, seeing as how security concerns are still commonly raised on the internet and in e-commerce, this is bound to be an important consideration.

Trust is formed in relationships, which are exchange situations. Thus, it is important to define the trustee – the entity that the consumer or investor perceives trust towards – also in the crowd investing process. Adapting the offline definitions used by Corritore et al. (2003, 739), the trustor-trustee relationship in equity crowdfunding would generally be an individual-group relationship, in which the individual consumer or investor is the trustor and an organization is the trustee. In fact, there are likely to be at least two trustees: the company that operates the equity crowdfunding service and the company in which the consumer is looking to invest.

In the more specific literature of online trust, there appear to be two general approaches to defining the trustor-trustee relationship and the role of technology in it. The first approach sees technology as mediating the relationships between individuals (Olson & Olson 2000 as cited in Corritore et al. 2003, 739), while the other approaches technology as the actual object of trust, or trustee. (Corritore et al. 2003, 739.) Considering both approaches, Corritore et al. (740) defined online trust as the “trust that occurs for an individual person towards a specific transactional or informational website”. The authors specified that the website as the object of trust can refer to “the underlying internet technology, the interactive user experience with the website, and/or the people behind the website”. Therefore, by this definition, the website would refer to the equity crowdfunding service and/or the company and people operating it. However, the crowdfunding-specific characteristic that this definition does not take into account is the presence of a potential second trustee in the target company.

Trust has been suggested to influence transaction intentions in e-commerce contexts through four effects: a direct positive effect on transaction

intentions (Järvenpää, Tractinsky & Saarinen 1999), positive effects mediated by perceived usefulness and perceived ease of use (Chircu, Davis & Kauffman 2000), as well as an effect by lowering the effect of perceived risk on transaction intentions (Lewis & Weigert 1985). This is a TAM-specific classification of the antecedents of trust, and thus also readily adaptable for the purposes of this study.

### 5.3 Slow trust versus fast trust

Trust is often seen to develop over periods of time, and indeed research on trust in many domains has focused on trust that builds gradually through ongoing interactions. Through these ongoing interactions, people acquire beliefs regarding the ability, integrity, and intentions of trustees. These beliefs subsequently affect the strength of the trust being experienced. (Gefen 2000.) However, the online environment provides a poor setting for this kind of slowly building trust, as interactions are swift and not necessarily taking place between two people, but instead a person and a technical user interface or, in some advanced cases, a customer service bot. Online transactions can also be one-off events, which leave no room for the development of a longer-term relationship. Moreover, equity crowdfunding services are a new phenomenon, which is why it may not be worthwhile to examine the slowly developing kind of trust in this context, as the majority of the existing relationships are young and consumers are still quite unfamiliar with the services. Nevertheless, considering the significance of trust in consumers' e-commerce decision making, it is reasonable to assume that it would also be a significant factor affecting decision making in equity crowdfunding situations. This is why the concept of swift or initial trust, as opposed to slow trust, may be more appropriate for the purposes of this study.

The distinction between slow and swift trust has been made in the literature of offline trust research (Meyerson, Weick & Kramer 1996). Swift trust is the kind of trust that is specific to relationships that "are quickly created and then quickly cease to exist" (Corritore et al. 2003, 743). Koufaris and Hampton-Sosa (2004) defined initial trust as the "willingness to rely on a third party after the first interaction with that party" (378). McKnight et al. (2002, 299) have argued that swift trust often initially develops based on "signals or symbols or whatever information trustors have". Ergo, in the absence of a longer-term relationship, consumers use whatever information they have available – especially the visual appearance of the website and the reputation of the marketer – to develop swift trust or distrust towards an e-vendor, or in our case an equity crowdfunding platform. A well designed and visually pleasing website is seen to communicate good and careful management while reputation communicates the experiences of others, thus setting initial expectations and reducing uncertainty. (McKnight et al. 2002.)



In the equity crowdfunding context, slow trust could be seen to play a role in two instances: first, in the event of an existing relationship between the consumer and the crowdfunding service, in which slow trust has accumulated from repeat visits to and use of the crowdfunding service, and secondly in the event of an already existing, longer-term relationship between the consumer and the target company, i.e. the one in which the investments are to be made. If there is no prior relationship between the consumer and the target company or the crowdfunding service, there is no possibility of slow trust existing, therefore any trust affecting the consumer's decision making would be of the swift variety. Because target companies and their funding rounds are only visible on equity crowdfunding services for a limited time – often just one month – slow trust rarely has time to develop unless the consumer is actively interacting with the target company. Swift trust can thus be inferred to be a more relevant form of trust to research in the current state of equity crowdfunding. Slow trust should still not be ignored, but it can be hypothesized to have a lesser effect relative to swift trust.

Trust can also be split into cognitive and emotional trust (Lewis & Weigert 1985). The former is often prevalent in larger, impersonal settings, while the latter is more typical to “close-knit” situations. However, the two are not mutually exclusive; they are, in fact, often intertwined. (Corritore et al. 2003, 743.) As equity crowdfunding is still new, most of the existing relationships between consumers and the equity crowdfunding services are bound to be young and not yet very developed. It could therefore be hypothesized that cognitive trust is more prevalent than emotional trust in the current stage of the development of equity crowdfunding.

## 6 RESEARCH MODEL AND SUMMARY OF THEORETICAL FRAMEWORK

As covered in the previous chapters, the theoretical framework of this study is provided by literature on human decision making in technology acceptance contexts, especially on research utilizing the Theory of Planned Behaviour. This framework is further complemented by additions from research literature on online trust. The full research model and hypotheses are presented in Figure 7.

The basis for the research model was derived from Bhattacharjee's (2000) modified TPB. The primary reason for choosing this particular model was the fact that it had been successfully used for studying acceptance of online brokerages, a context most similar to equity crowdfunding, and due to the TPB being deemed the most comprehensive of the intention-based models of decision making. Moreover, the TPB was chosen over the TRA due to the former being an extension to the latter, while also being better suited for this study. Other robust models were not chosen due to their focus and prior utilization in fairly narrow-scope contexts which do not fully capture the psychological aspects of investment decision making nor the heterogeneity of the crowdfunding setting and the investors involved in it. More specifically, the UTAUT was deemed too focused on organizational contexts for use in this study and the TAM too focused on the technical specifics of the technology, i.e. the website and online platform in the case of equity crowdfunding.

As the research model is based on the TPB, an intention-based model of acceptance, its premise is the direct positive link from intention to behaviour. Because the strong correlation between intention and behaviour is well documented in various contexts (Armitage & Conner 2001; Bhattacharjee 2000), it will be assumed to also be present in the ECFP acceptance context and will therefore not be included in the hypotheses to be tested. On the basis of prior well documented TPB literature (Armitage & Conner 2001), the research model also suggests that attitude, subjective norm, and behavioural control each have a direct positive effect on intention. Therefore, the following hypotheses set the basis for the research model:

H1. Attitude has a direct positive effect on intention.

H2. Subjective norm has a direct positive effect on intention.

H3. Behavioural control has a direct positive effect on intention.

The constructs of attitude, subjective norm, and behavioural control are seen to consist of the antecedent pairs of usefulness and ease of use, interpersonal and external influence, and self-efficacy and facilitating conditions, respectively. As shown by TAM studies (e.g. Davis 1989), usefulness and ease of use are hypothesised to have a positive effect on attitude:

H4. Usefulness has a direct positive effect on attitude.

H5. Ease of use has a direct positive effect on attitude.

Following Bhattacharjee's (2000) example, this study views subjective norm as consisting of two types of social influence: interpersonal and external. These types of social influence are operationalized with marketing communications concepts, such as word-of-mouth and reference groups for interpersonal social influence, and mass media and advertising for external social influence. The innovation diffusion theory (e.g. Rogers 2003) posits that these sub-constructs have a direct positive effect on their respective main constructs, like so:

H6. Interpersonal influence has a direct positive effect on subjective norm.

H7. External influence has a direct positive effect on subjective norm.

Moreover, based on Ajzen's (1991) discussion on the construct of behavioural control and on Bhattacharjee's (2000) research, self-efficacy and facilitating conditions are hypothesised to affect perceived behavioural control positively:

H8. Self-efficacy has a direct positive effect on behavioural control.

H9. Facilitating conditions have a direct positive effect on behavioural control.

As an addition to the foundation set by Bhattacharjee's modified TPB, the research model of this study includes trust as a new main construct. The construct of trust was adapted to the model based on research conducted by Pavlou (2003). On first glance, it would appear that Pavlou and Bhattacharjee have somewhat differing views on the role of attitude in intention-based models of decision making, as Pavlou models not only trust, but also usefulness and ease of use as having positive effects on intentions. The main difference is in Pavlou's exclusion of attitude as a variable of its own, whereas Bhattacharjee sees it as one of the three main variables affecting intentions, as is traditional in TPB literature. However, Pavlou does not entirely exclude attitude; instead it is present in his adaption of TRA, albeit implicitly, as he does state that "through attitude, trust is likely to influence favourably transaction intentions" (107). Thus on closer inspection, there appears to be no major conflict between Pavlou

and Bhattacharjee's models. Therefore, the two models were partially combined for this study, with the basis for the model being Bhattacharjee's modified TPB, and trust, as adapted to the intention-based context by Pavlou, added as a variable of its own. Drawing from Pavlou's findings, trust is seen to have a direct positive effect on attitude as well as further positive effects on attitude via mediation by perceived usefulness and perceived ease of use. Thus we can draw the following hypotheses:

H10. Trust has a direct positive effect on attitude.

H11. Trust has a direct positive effect on usefulness.

H12. Trust has a direct positive effect on ease of use.

While Pavlou's modelling of trust was deemed compatible with Bhattacharjee's TPB-based research model, Pavlou himself did not delve very deep into the concept of trust and its antecedents. Because we want to emphasize trust more in this study, we turn to a third source for more comprehensive measures for trust. In order to ensure compatibility, the article by Kim, Xu, and Koh (2004) was carefully selected from the online trust literature, more specifically trust in e-commerce, as the main reference. The reasoning behind the selection was the authors' comprehensive synthesis and combination of several credible measures of trust. In order to keep our survey compact and efficient, the construct of structural assurance was excluded due to the authors' finding it insignificant in their study. Based on Kim, Xu, and Koh's suggestion, the following hypotheses are made:

H13. Information quality has a direct positive effect on trust.

H14. Reputation has a direct positive effect on trust.

H15. System quality has a direct positive effect on trust.

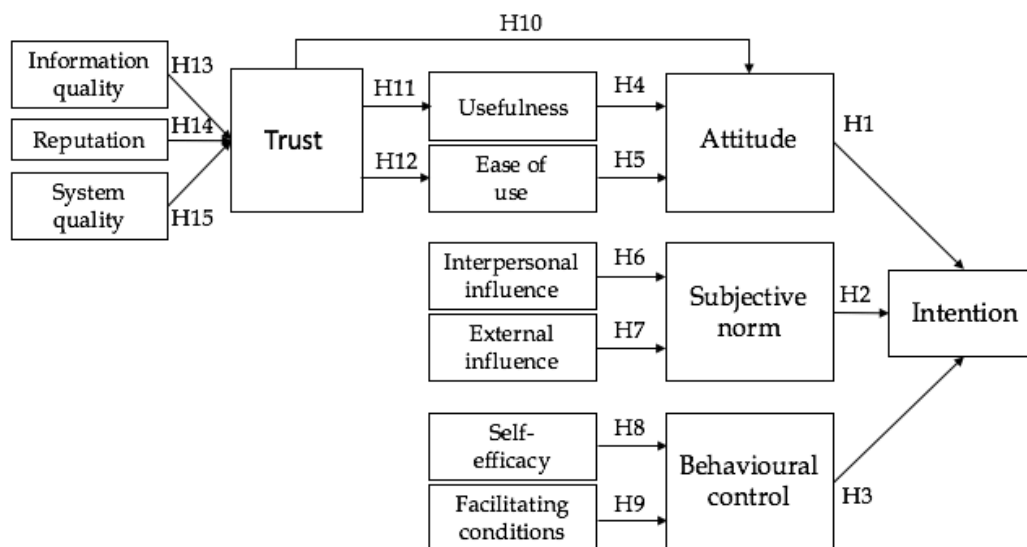


FIGURE 7 Research model and hypotheses.

## 7 METHODOLOGY

The research approach of this study is that of a quantitative survey study. Common characteristics of quantitative research are the use conclusions from prior studies, prior theories, hypotheses, concept definitions, numerical measurement, and statistical analysis (Hirsjärvi, Remes & Sajavaara 1997, 138). Furthermore, objectives of research can generally be divided into explorative, explanatory, descriptive, and predictive approaches (Hirsjärvi et al. 1997, 136). The approach taken in this study is explanatory, in which the goal of the study is to explain the phenomena in question by finding causal relationships between the studied constructs.

The goal of this chapter is to further present the research approach taken in this study, to walk the reader through the instrument construction and data collection processes, and to explain how the data was analysed.

### 7.1 Data collection

The data used in this study was collected using an online survey based on the Webropol 2.0 survey platform. While surveys are a modern way to collect data, they do have their disadvantages. According to Hirsjärvi et al. (1997, 191), it can be difficult to know whether respondents have been careful and honest with their responses, if the respondents have found the questions well posed, or if the respondents have been familiar with the subject in general. Furthermore, non-response rates can be very high with online surveys.

While there is no knowing if a respondent has been honest, measures were taken to try and combat the other disadvantages. First of all, the issue of question formulation was somewhat tackled by utilizing and adapting existing, tested survey items and keeping item wording as similar to the originals as possible. Moreover, the issue of respondent familiarity with the theme was taken into consideration in survey distribution by selecting channels through which relatively crowdfunding-savvy respondents could be reached.

Over a span of three months, the survey was distributed online through crowdfunding related discussion forums and groups, including such platforms

as Reddit, LinkedIn, and Facebook, as well as through the email list of Finnish equity crowdfunding platform Invesdor. As the concept of crowdfunding is built on the concept of anyone being a potential investor, the target group for the survey was fairly large and loosely defined: anyone with knowledge of the concept of crowdfunding was seen as a qualified respondent, even if they had no actual prior experience of using crowdfunding services.

## 7.2 Questionnaire structure

A total of 16 constructs were included in the questionnaire. All items were measured using 7-point Likert scales ranging from “strongly disagree” to “strongly agree”. The measures used in the questionnaire are detailed in Appendix 1.

The items for the TPB part of the questionnaire were adapted from Bhattacharjee (2000). Of the adapted TPB constructs, attitude was measured using four claims (AT1-AT4), subjective norm with three (SN1-SN3), and behavioural control also with three (BC1-BC3). Of the antecedents of attitude, usefulness was measured with four items (USS1-USS4) and ease of use also with four items (EU1-EU4). Subjective norm’s antecedents, interpersonal influence and external influence, were both measured using three claims each (II1-II3 and EI1-EI3, respectively). Behavioural control’s antecedents, facilitating conditions and self-efficacy, were also measured using three claims (FC1-FC3 and SE1-SE3, respectively). Intention itself was also measured with three claims (IN1-IN3).

Changes to the items adapted from Bhattacharjee were kept to a minimum so as to preserve comparability in relation to Bhattacharjee’s study on e-brokerage acceptance. The items were slightly rephrased in order to make them better fit the equity crowdfunding context. For most items, this meant replacing the word “e-brokerages” with “equity crowdfunding platforms”. Additional changes were also made to the verb tenses used in the questions. Bhattacharjee (2000), whose survey was largely used as the basis of the survey used in this study, asked his respondents to recall back to the time prior to their engaging in their very first e-broker service relationship. In preliminary testing of our study’s questionnaire items, test respondents reported confusion stemming from the assumption that they had already used equity crowdfunding platforms, as it is not yet a very widely adopted practice. Additionally, test respondents saw the request to recall back to the time prior to the respondents’ first use of an equity crowdfunding platform as unnecessarily complicated. Based on this feedback, the statements were reshaped in such a way that the general tense of the statements changed from the past tense to the present tense. Statements posed in the ‘would’ conditional were left unchanged.

The items used to measure trust were adapted from Kim, Xu, and Koh (2004); reputation (R1-R5), information quality (IQ1-IQ5), system quality (SQ1-SQ5), and trust (T1-T5) were measured using five claims for each. Compared to Kim, Xu, and Koh’s study, the construct of structural assurance was excluded

from this study due to Kim, Xu, and Koh having found it nonsignificant in their study.

The authors originally used their survey to study potential customers' trust in internet stores with the object of the trust in their survey being a specific online book store. For the purposes of this study, independence of the study and a wider look at the equity crowdfunding industry as a whole were deemed to be of priority. Thus, changes to Kim, Xu, and Koh's survey items in respect to the object of trust were required to make them work in the context of this study. The primary change was changing the object of trust presented in the questions from a specific ECFP to the ECFP industry as a whole. Therefore, instead of "this equity crowdfunding platform is capable of doing its job" the respondent is given the statement "equity crowdfunding platforms are capable of doing their job". This change can be seen to result in a better overview of trust towards the equity crowdfunding industry as a whole while also avoiding potential conflicts, respondent confusion, and non-responses stemming from being forced to choose a specific ECFP that they may have never used. The potential downsides to this choice include potential respondent confusion resulting from trying to evaluate trust towards an abstract object that the respondents cannot realistically have a comprehensive relationship with.

### 7.3 Data analysis

The collected data was first exported from the Webropol 2.0 survey platform to IBM SPSS Statistics v. 23 for initial analysis. SPSS was utilized to prepare and pre-analyse the raw data in preparation for a confirmatory factor analysis. No missing answers needed to be dealt with because all important quantitative items had been mandatory in the questionnaire, therefore only open qualitative questions had missing answers. The items AT2, FC3, and R5 were reverse coded due to the negative wording of the questions. After coding the data, SPSS was used for calculating descriptive statistics including frequencies, means, modes, and standard deviations.

After the initial analysis in SPSS, a confirmatory factor analysis was carried out with SmartPLS version 3.2.3. The partial least squares structural equation modelling (PLS-SEM) method, which SmartPLS is based on, is a member of the structural equation modelling (SEM) family of statistical analyses which is used to confirm composed models using empirical data (Metsämuuroinen 2005, 598). While covariance based SEM methods conducted with such commonly used software as AMOS or Lisrel assume the analysed data to be normally distributed, PLS-SEM does not (Hair, Hult, Ringle & Sarstedt 2014, 10). Conducting a confirmatory factor analysis without first doing an exploratory factor analysis was considered appropriate due to the employment of largely pre-validated scales in the data collection (Bhattacharjee 2000).

The confirmatory factor analysis was carried out in two steps by delving first into the measurement model, also called the outer model, and subsequently into the structural model, also known as the inner model. The measurement

model represents the relationships between constructs and their corresponding indicator variables (Hair et al. 2014, 40), and it is used to confirm the reliability and validity of the model. This part of the factor analysis was done by running the PLS algorithm, essentially a sequence of regressions in terms of weight vectors. As for the structural model, its fit was studied by running SmartPLS's bootstrapping routine, a non-parametric procedure for testing the significance of path coefficients, with 5,000 subsamples.



## 8 RESULTS

This chapter presents the results of the empirical study. The chapter begins with presenting the respondent background information and descriptive statistics. Afterwards, the results of the confirmatory factor analysis are presented in two stages, first for the measurement model and second for the structural model.

### 8.1 Respondent backgrounds

Of all respondents ( $n=100$ ), 82% were male, 15% female, and 3% identified themselves as “other”. The age distribution of respondents was quite even, with the most represented age group, 20–29-year-olds (27%), inching just ahead of the 30–39 group (25%). 40–49-year-olds were also well represented at 22%, while 50–59-year-olds comprised 16% of all respondents. Only one respondent was under the age of 20.

The vast majority, 70%, of the respondents were Finnish. The next largest groups were Italians at 4% and Americans at 3%.

The respondents were also rather highly educated, with a total of 84% reporting possessing tertiary education. In income levels, no major dominant groups were observed; the low-income group of under \$30,000 annual income were the largest group with 23%, while all other groups fell within the 14–17% range. 19% of respondents did not report their income level. When asked about current occupation, many identified themselves as students, which somewhat explains the prevalence of the low-income group in the responses.

General background information of the respondents is summarized in Table 3.

TABLE 3 Respondents’ background information.

Item	Response	Frequency / %
Gender	Male	82
	Female	15

	Other	3
	Total	100
Age	Under 20	1
	20-29	27
	30-39	25
	40-49	22
	50-59	16
	60 or older	9
	Total	100
Education	Lower secondary ed.	4
	Upper secondary ed.	10
	Bachelor or equivalent	39
	Master or equivalent	40
	Doctoral or equivalent	5
	Other	2
	Total	100
Income	Under \$30,000	23
	\$30,000-\$49,999	14
	\$50,000-\$69,999	12
	\$70,000-\$89,999	17
	\$90,000 or more	15
	Do not wish to disclose	19
	Total	100

On average, respondents were no strangers to investing. In total 84% claimed to have investing experience and 48% reported having been investing for more than ten years. 78% of respondents were also familiar with investing on the internet, with 31% reporting experience between one and three years and 30% between four and ten years, while 17% had been investing online for over ten years. A little more than half, 54%, had invested through an equity crowd-funding platform. Background information specific to investing experience is summarized below in Table 4.

TABLE 4 Respondents' investing experience.

Variable	Response	Frequency / %
Investing experience	None	16
	1-3 years	15
	4-10 years	21
	More than 10 years	48
	Total	100
Internet investing experience	None	22
	1-3 years	31

	4-10 years	30
	More than 10 years	17
	Total	100
Invested through equity crowdfunding	Yes	54
	No	46
	Total	100

## 8.2 Descriptive statistics

For improving readability, the responses' descriptive statistics that are presented in this chapter are divided into groups based on the five main constructs of the research model: intention, attitude, subjective norm, behavioural control, and trust. Each group contains the means, modes, and standard deviations for the group's main construct and its antecedents. The intention group is an exception, containing only the items measuring intention itself as its antecedents are covered in the other groups.

All items were measured with 7-point Likert scales with options ranging from 1 being "strongly disagree" to 7 being "strongly agree". Reverse coded items are denoted with asterisks.

### 8.2.1 Intention

Intention was measured using three items. In all three, the means, which varied from 3.77 to 4.28, were close to the neutral point of 4. However, standard deviations were relatively high at 1.84-1.9, suggesting that the respondents' intentions to use equity crowdfunding platforms varied significantly. This result makes sense, as in our research model intention is the final output the platform user's decision making process. As such, intention is likely to best reflect the myriad doubts and hopes that adopters of equity crowdfunding platforms may have. Furthermore, a mean that approaches 4 might also speak to the respondents' lacking experience or knowledge on the subject. In summary, ECFP adoption intentions in the surveyed population were not clearly leaning to either side, but averaged out in the neutral territory. The means, modes, and standard deviations of responses related to intention are summarized in Table 5.

TABLE 5 Descriptive statistics for intention.

Item	Mean	Mode	SD
IN1: I want to use equity crowdfunding platforms rather than any full service broker for managing investments.	4.28	5	1.90
IN2: My intentions are to use equity crowdfunding platforms rather than any full service broker for managing investments.	4.13	4, 6	1.94
IN3: For managing my personal investments, I intend to use equity crowdfunding platforms as much as possible.	3.77	5	1.84

### 8.2.2 Attitude and antecedents

Attitude was measured with four items. Due to the negative wording of the second item, AT2, the item was reverse coded in preparation for analysis. The means for the four items ranged from 5.07 to 5.28 with standard deviations between 1.25 and 1.46 and the most common responses being 5 (“somewhat agree”) and 6 (“agree”), depending on the item. With the means and modes clearly indicating responses leaning towards the positive side of the scale and the standard deviations being relatively low, these results suggest that respondents had positive attitudes toward using equity crowdfunding platforms. The means, modes, and standard deviations of responses related to attitude are summarized in Table 6.

TABLE 6 Descriptive statistics for attitude.

Item	Mean	Mode	SD
AT1: Using equity crowdfunding platforms for managing investments would be a good idea.	5.16	5, 6	1.34
*AT2: Using equity crowdfunding platforms for implementing my investment plans would be a foolish idea.	5.28	6	1.46
AT3: I like the idea of using equity crowdfunding platforms for managing personal investments.	5.07	5	1.34
AT4: Using equity crowdfunding platforms would be a pleasant experience.	5.22	6	1.25

In a similar fashion to their attitudes towards equity crowdfunding platforms, respondents perceived ECFP usefulness also with cautious optimism. Usefulness, which was measured with four items, had means ranging from 4.2 to 4.8, therefore landing in the neutral category number 4, yet leaning towards its positive side. Standard deviations were very similar albeit a bit higher than the ones observed with the attitude items. The most common answers were fives and sixes. The means, modes, and standard deviations of responses related to usefulness are summarized in Table 7.

TABLE 7 Descriptive statistics for perceived usefulness.

Item	Mean	Mode	SD
USS1: Using equity crowdfunding platforms would improve my performance in managing investments.	4.47	6	1.48
USS2: Using equity crowdfunding platforms would improve my productivity in managing investments.	4.33	5	1.37
USS3: Using equity crowdfunding platforms would enhance my effectiveness in managing investments.	4.20	5	1.47
USS4: I would find equity crowdfunding platforms useful in managing investments.	4.80	6	1.49

Out of the two antecedents of attitude, the four items measuring perceived ease of use were responded to with considerably more optimism and lower deviation than usefulness, perhaps indicating respondent confidence in their own abilities to learn to use ECFPs. The means for ease of use ranged between 5.04 and 5.81, modes for all four were 6, and standard deviations quite low at 1.24–1.38. One interesting detail that can be observed in these results is the disparity between EU1 and EU2. It would seem that respondents might be more confident in their abilities to “learn to use” compared to “managing investments”. This is reasonable, as investment management is a much more complex skill than learning new technologies which everyone has experience in. The means, modes, and standard deviations of responses related to trust and its antecedents are summarized in Table 8.

TABLE 8 Descriptive statistics for perceived ease of use.

Item	Mean	Mode	SD
EU1: Learning to use equity crowdfunding platforms would be easy for me.	5.81	6	1.24
EU2: I would find it easy to manage investments using equity crowdfunding platforms.	5.04	6	1.38
EU3: It would be easy for me to become skilful at using equity crowdfunding platforms.	5.3	6	1.34
EU4: I would find equity crowdfunding platforms easy to use.	5.48	6	1.28

### 8.2.3 Subjective norm and antecedents

Subjective norm was measured with three items. With means ranging from 2.99 to 3.25, respondents seemed to perceive subjective norms as having quite little influence on their intentions to use ECFPs. Varying between 1.6 and 1.69, standard deviations for all three items were fairly high, suggesting considerable differences in perceptions between respondents. Interestingly, the mode for SN1 was 4, while for SN2 and SN3 it was 1, the lowest score on the scale. These results may also be due to the wording of the claims: in SN1 the claim deals with general social support for using ECFPs, while with SN2 and SN3 the claim is about preferential support of ECFP usage over other alternatives. As nobody knowledgeable in investing would benevolently recommend only using ECFPs and foregoing a more diversified approach using multiple investment channels, this reaction from the respondents was foreseeable and quite justified. It would therefore seem that in this population there were no major subjective norms that would coercively drive people into using ECFPs. The means, modes, and standard deviations of responses related to subjective norms are summarized in Table 9.

TABLE 9 Descriptive statistics for subjective norm.

Item	Mean	Mode	SD
SN1: People (peers and financial experts) important to me	3.25	4	1.68

support my use of equity crowdfunding platforms.

SN2: People who influence my behavior would want me to use equity crowdfunding platforms instead of any alternative means.

SN3: People whose opinions I value prefer that I use equity crowdfunding platforms for managing investments.

2.65	1	1.60
2.99	1	1.69

Interpersonal influence was measured with three items. As with subjective norm, respondents perceived little interpersonal influence into using ECFPs with means ranging between 2.99 and 3.89. II2 was the claim respondents agreed with the most, perhaps due to it concerning general social support instead of perceived pressure, which resembles the results with SN1. Standard deviations were very even (1.61–1.67) and, similar to the ones with the subjective norm items, relatively high. The means, modes, and standard deviations of responses related to perceived interpersonal influence are summarized in Table 10.

TABLE 10 Descriptive statistics for perceived interpersonal influence.

Item	Mean	Mode	SD
II1: My peers/colleagues/friends think that I should use equity crowdfunding platforms for managing my investments.	3.00	1, 4	1.61
II2: People I know think that using equity crowdfunding platforms is a good idea.	3.89	4	1.62
II3: People I know influence me to try out equity crowdfunding platforms for managing investments.	2.99	1	1.67

External influence, too, was measured with three items. The response means ranged from 3.36 to 4.26, indicating that respondents agreed with perceiving more external than interpersonal influence, a notion consistent with the innovation diffusion theory's view of external influences trumping interpersonal ones in the early stages of diffusion (Rogers 2003, 211). Standard deviations were mostly in line with those of SN and II items, yet considerably lower for EI2. It would seem the respondents were more unanimous about the press depicting a positive sentiment for ECFP usage. All things considered, respondents still perceived external influence as having little to neutral effect. The means, modes, and standard deviations of responses concerning perceived external influence are summarized in Table 11.

TABLE 11 Descriptive statistics for perceived external influence.

Item	Mean	Mode	SD
EI1: I have read/seen news reports that using equity crowdfunding platforms is a good way of managing investments.	3.85	4	1.63
EI2: The popular press depicts a positive sentiment for using equity crowdfunding platforms.	4.26	5	1.43
EI3: Mass media reports influence me to try out equity crowdfunding platforms for managing investments.	3.36	5	1.57

### 8.2.4 Behavioural control and antecedents

Behavioural control was measured with three items. The means were considerably high at 4.99–5.4, also reflected in the modes, 6 for all items. Standard deviations were normal to relatively high at 1.38–1.66. The results suggest that respondents have much faith in their own capabilities and perceive high control of their own actions, which resembles the effect observed with the measures of perceived ease of use. The means, modes, and standard deviations of responses related to perceived behavioural control are summarized in Table 12.

TABLE 12 Descriptive statistics for perceived behavioural control.

Item	Mean	Mode	SD
BC1: I would be able to use equity crowdfunding platforms well for managing personal investments.	5.06	6	1.38
BC2: Using equity crowdfunding platforms would be entirely within my control.	4.99	6	1.61
BC3: I have the resources, knowledge, and ability to use equity crowdfunding platforms.	5.40	6	1.66

Perceived self-efficacy was measured with three items. These results are coherent with those of behavioural control with respondents agreeing strongly with the claims. The means were very close to each other, varying between 5.59 and 5.64 while standard deviations were normal between 1.37 and 1.57. Respondents do not seem to perceive ECFPs as very daunting at all. The means, modes, and standard deviations of responses concerning perceived self-efficacy are summarized in Table 13.

TABLE 13 Descriptive statistics for perceived self-efficacy.

Item	Mean	Mode	SD
SE1: I would feel comfortable using equity crowdfunding platforms well on my own.	5.64	6, 7	1.43
SE2: I would be able to use equity crowdfunding platforms reasonably well on my own.	5.63	6	1.37
SE3: I would be able to use equity crowdfunding platforms even if there was no one around to help me.	5.59	7	1.57

Perceived facilitating conditions were also measured with three items, one of which, FC3, was reverse coded. Again, results very similar to the other behavioural control constructs emerged with means between 5.09 and 5.87, implying high confidence in one's self or perhaps low perceived requirements for using ECFPs. Standard deviations landed between 1.45 and 1.87, the high point belonging FC3. During the testing of the survey, the wording of the FC3 claim was deemed potentially complicated due to its use of the abstract notion of resources. This might partially explain the high variation. The means, modes, and standard deviations of responses concerning perceived self-efficacy are summarized in Table 14.

TABLE 14 Descriptive statistics for perceived facilitating conditions.

Item	Mean	Mode	SD
FC1: Resources required to use equity crowdfunding platforms for managing investments are available to me.	5.44	6	1.47
FC2: I have access to hardware, software, and services needed to use equity crowdfunding platforms.	5.87	7	1.45
*FC3: I am constrained by a lack of resources needed to use equity crowdfunding platforms.	5.09	7	1.87

### 8.2.5 Trust and antecedents

A new addition to the research model with less standardized measures, trust and its antecedents were allocated a considerable amount of space in the survey. Trust, measured with five items, was perceived with cautious positivity. Means for the five items ranged from 4.73 to 5.21 and their standard deviations were mostly fairly low, between 1.34 and 1.5. The results should be encouraging for the young domain of equity crowdfunding as good levels of trust should have a positive impact on their business. The means, modes, and standard deviations of responses related to trust are summarized in Table 15.

TABLE 15 Descriptive statistics for perceived trust.

Item	Mean	Mode	SD
T1: Equity crowdfunding platforms are capable of doing their job.	5.19	6	1.39
T2: Equity crowdfunding platforms keep their promises and commitments.	4.89	5	1.49
T3: Equity crowdfunding platforms care about their customers.	4.73	5	1.50
T4: Equity crowdfunding platforms fulfil their job.	5.21	6	1.35
T5: Equity crowdfunding platforms are trustworthy.	4.99	4, 5	1.34

Perceptions about ECFP reputation were measured with five items. One of these, R5, was reverse coded. While respondents agreed with ECFPs seeming trustworthy, they had few opinions on ECFP reputations. Very close to the neutral 4 throughout, the means for these responses ranged from 3.98 to 4.55 with relatively low deviation (1.3–1.45). The means, modes, and standard deviations of responses related to perceived reputation are summarized in Table 16.

TABLE 16 Descriptive statistics for perceived reputation.

Item	Mean	Mode	SD
R1: People say that equity crowdfunding platforms have a good reputation.	4.35	4	1.37
R2: In public opinion, equity crowdfunding platforms are favourably regarded.	4.29	4	1.40
R3: People say equity crowdfunding platforms have a good image.	4.22	4	1.30



R4: Equity crowdfunding platforms are well respected by people.	3.98	4	1.36
*R5: People say equity crowdfunding platforms have a bad reputation in the market.	4.55	4	1.45

Information quality was measured with five items. The means ranged from 4.27 to 4.91, indicating mostly positive views on the information provided by ECFPs. Out of the five items, IQ4 ranked lowest indicating that respondents perhaps think that ECFPs could provide still more information. Standard deviations were normal to relatively high at 1.39–1.58. The means, modes, and standard deviations of responses related to perceived information quality are summarized in Table 17.

TABLE 17 Descriptive statistics for perceived information quality.

Item	Mean	Mode	SD
IQ1: The websites of equity crowdfunding platforms have information relevant to my needs.	4.68	5	1.58
IQ2: The information on equity crowdfunding platforms' websites is easy to understand.	4.91	6	1.42
IQ3: Equity crowdfunding platforms' websites have reliable information.	4.52	4	1.46
IQ4: Equity crowdfunding platforms' websites have sufficient information.	4.27	5	1.56
IQ5: Equity crowdfunding platforms' websites have useful information.	4.85	5	1.39

System quality was measured with five items. With means between 4.94–5.27, respondents mostly agreed with the claims and found the ECFP websites technically sound. Standard deviations were normal ranging from 1.34 to 1.52. The means, modes, and standard deviations of responses related to perceived system quality are summarized in Table 18.

TABLE 18 Descriptive statistics for perceived system quality.

Item	Mean	Mode	SD
SQ1: Equity crowdfunding platforms' websites quickly load all the text and graphics.	5.27	6	1.41
SQ2: Equity crowdfunding platforms' websites are easy to use.	5.14	6	1.35
SQ3: Equity crowdfunding platforms' websites are easy to navigate.	5.05	6	1.34
SQ4: Equity crowdfunding platforms' websites are well designed for users.	4.97	4	1.52
SQ5: Equity crowdfunding platforms' websites are visually attractive.	4.94	6	1.46

### 8.3 Confirmatory factor analysis: measurement model

The reliability of the measurement model was examined by verifying indicator reliability and internal consistency. For indicator reliability, the outer loadings of individual indicators were examined, whereas Cronbach's alphas and composite reliabilities of factors were looked at to determine internal consistency reliability.

Outer loadings depict each indicator's coefficient on its latent factor (Hair et al. 2014, 77). Four items' (AT2 0.511, FC3 0.434, R5 0.392) outer loadings were lower than 0.7 of which one (R5) was lower than 0.4. According to Hulland (1999), a loading of 0.4 is acceptable in exploratory research, elsewhere 0.7 or higher is preferred. As the study is not exploratory in nature, AT2, FC3, and R5 were cut from the model due to their low loadings. Afterwards the highest loading in the model became SE3's 0.969 and the lowest EU2's 0.686. As the loading of EU2 was very close to the preferred value of 0.7, the indicator was retained. The remaining indicators were thus concluded to be reliable.

Furthermore, t-values, which explain the significance of the relationship (Hair et al. 2014, 134), were examined and found to be sufficient for all indicators. EU2 had the lowest t-value at 6.725, which still falls well within the 1.96 required at the 0.05 significance level. Therefore, all indicators seemed to reflect their latent factors in a significant manner.

In social sciences, Cronbach's alpha is the traditional means of measuring internal consistency. However, it has been claimed to provide a conservative measurement in PLS-SEM, and prior literature has suggested replacing it with composite reliability. (Bagozzi & Yi 1988.) For this study, both Cronbach's alphas and composite reliabilities are reported. Both criteria were above the recommended 0.7 (Bagozzi & Yi 1988) for all factors, thus positing the measurement model as internally consistent.

Table 19 summarizes all factors' Cronbach's alphas and composite reliabilities as well as outer loadings and t-values for all included indicators.

TABLE 19 Cronbach's alphas, composite reliabilities, outer loadings, and t-values.

Factor	Cronbach's alpha	Composite reliability	Indicator	Outer loading	t-value
Attitude	0.832	0.900	AT1	0.879	23.681
			AT3	0.900	46.189
			AT4	0.815	15.113
Behavioural control	0.708	0.836	BC1	0.817	15.015
			BC2	0.765	11.285
			BC3	0.798	18.032
Ease of use	0.859	0.905	EU1	0.863	19.051
			EU2	0.686	6.725
			EU3	0.876	30.231

			EU4	0.918	52.291
External influence	0.745	0.854	EI1	0.804	12.615
			EI2	0.830	14.005
			EI3	0.806	11.645
Facilitating conditions	0.849	0.930	FC1	0.931	49.272
			FC2	0.933	53.043
Information quality	0.930	0.947	IQ1	0.889	31.870
			IQ2	0.873	29.382
			IQ3	0.890	42.327
			IQ4	0.860	27.870
Intention	0.922	0.950	IQ5	0.907	34.711
			IN1	0.947	62.747
			IN2	0.942	61.094
			IN3	0.899	45.593
Interpersonal influence	0.799	0.882	II1	0.890	36.046
			II2	0.797	13.784
			II3	0.847	23.399
Reputation	0.935	0.954	R1	0.879	29.157
			R2	0.927	40.785
			R3	0.950	81.560
			R4	0.903	39.487
Self-efficacy	0.962	0.975	SE1	0.967	104.275
			SE2	0.956	75.308
			SE3	0.969	112.817
Subjective norm	0.869	0.920	SN1	0.849	16.287
			SN2	0.911	37.015
			SN3	0.909	46.831
System quality	0.955	0.965	SQ1	0.931	47.692
			SQ2	0.956	100.079
			SQ3	0.940	63.499
			SQ4	0.938	50.144
			SQ5	0.833	15.461
Trust	0.923	0.942	T1	0.849	20.106
			T2	0.920	36.252
			T3	0.861	28.345
			T4	0.871	23.275
			T5	0.870	23.475
Usefulness	0.917	0.942	USS1	0.906	36.194
			USS2	0.863	14.860
			USS3	0.924	57.707
			USS4	0.887	35.962

The validity of the model was examined by looking into convergent and discriminant validities. For the former, the average variances extracted (AVE) were calculated. The AVE of all the constructs in the model exceeded the cut-off point of 0.5 proposed by Bagozzi and Yi (1988). The AVEs ranged from 0.630 to 0.930, indicating good convergent validity of the model.

To examine discriminant validity of the model, a Fornell-Larcker criterion was conducted. Fornell and Larcker (1981) suggest assessing discriminant validity by investigating whether AVE for the items is greater than their shared variance. That is, they propose researchers to examine whether the square root of the AVE for a construct is greater than the value of the standardized correlation of said construct with any other construct in the analysis. In our analysis, no construct correlations exceeded the square root of AVE, therefore confirming the discriminant validity of the model. AVEs and the Fornell-Larcker criterion matrix are depicted in Table 20.

TABLE 20 Convergent and discriminant validity: a Fornell-Larcker matrix with average variances extracted in the first column.

	AVE	ATT	BC	EU	EI	FC	IQ	IN	II	R	SE	SN	SQ	T	USS
ATT	0.749	<b>0.866</b>													
BC	0.630	0.612	<b>0.794</b>												
EU	0.707	0.521	0.645	<b>0.841</b>											
EI	0.662	0.284	0.382	0.279	<b>0.814</b>										
FC	0.868	0.520	0.657	0.630	0.209	<b>0.932</b>									
IQ	0.782	0.617	0.672	0.574	0.282	0.573	<b>0.884</b>								
IN	0.864	0.525	0.329	0.218	0.192	0.208	0.293	<b>0.930</b>							
II	0.714	0.333	0.202	0.174	0.462	0.139	0.282	0.226	<b>0.845</b>						
R	0.837	0.463	0.436	0.386	0.480	0.404	0.625	0.364	0.437	<b>0.915</b>					
SE	0.930	0.404	0.722	0.747	0.223	0.666	0.558	0.047	-0.002	0.266	<b>0.964</b>				
SN	0.793	0.367	0.280	0.223	0.422	0.206	0.343	0.349	0.753	0.405	0.077	<b>0.890</b>			
SQ	0.848	0.567	0.639	0.562	0.329	0.607	0.673	0.239	0.186	0.540	0.520	0.199	<b>0.921</b>		
T	0.765	0.593	0.524	0.544	0.280	0.566	0.694	0.318	0.177	0.706	0.492	0.199	0.637	<b>0.875</b>	
USS	0.801	0.589	0.355	0.289	0.390	0.271	0.398	0.483	0.423	0.537	0.135	0.433	0.323	0.463	<b>0.895</b>

## 8.4 Structural model

Unlike covariance-based structural equation modelling, PLS-SEM does not have a standard statistic for goodness-of-fit, and establishing a corresponding statistic has proven problematic (Henseler & Sarstedt, 2013). Instead, in PLS-SEM the assessment of the model's quality is based on its ability to predict the endogenous constructs. The two criteria employed in the assessment are the path coefficients ( $\beta$ ) and the coefficient of determination ( $R^2$ ). All significances are considered on the significance level of 5%, or 1.96.

In confirmatory factor analysis (CFA), path coefficients are a depiction of the relationships between the model's latent variables. The path coefficient can have values ranging from -1 to 1, and the farther the value is from 0, the stronger the correlation between the variables (Hair et al. 2014, 170). Out of the three main factors of attitude, subjective norm, and behavioural control, the strongest predictor of intention was attitude ( $\beta = 0.461$ ,  $p < 0.01$ ) followed by subjective norm ( $\beta = 0.18$ ,  $p < 0.05$ ). Behavioural control ( $\beta = -0.003$ ,  $p > 0.9$ ) was found to have next to no effect on intention and its  $p$  value was close to 1, indicating very weak evidence against the null hypothesis.

On the level of the main constructs, usefulness ( $\beta = 0.389$ ,  $p < 0.01$ ) overpowered trust ( $\beta = 0.27$ ,  $p < 0.05$ ) and ease of use ( $\beta = 0.262$ ,  $p < 0.05$ ) in effects on attitude formation. Interpersonal influence ( $\beta = 0.709$ ,  $p < 0.01$ ) dominated in effects on the subjective norm as external influence was found not significant. On behavioural control, self-efficacy ( $\beta = 0.511$ ,  $p < 0.01$ ) triumphed over facilitating conditions ( $\beta = 0.317$ ,  $p < 0.01$ ). Trust was most affected by reputation ( $\beta = 0.403$ ,  $p < 0.01$ ) followed by information quality ( $\beta = 0.293$ ,  $p < 0.01$ ). System quality ( $\beta = 0.223$ ,  $p < 0.1$ ) was not significant at the 5% level of significance, however it would have been at the 10% level. Moreover, trust itself had a strong effect on usefulness ( $\beta = 0.463$ ,  $p < 0.01$ ) as well as on ease of use ( $\beta = 0.544$ ,  $p < 0.01$ ), which themselves then affected attitude.

The  $R^2$  is a measure of the variance explained by each construct. The  $R^2$  of each endogenous construct was reviewed to determine the model's predictive accuracy. According to Hair et al. (2014), a rough rule of thumb for  $R^2$  is that values of 0.75, 0.50, and 0.25 can be considered substantial, moderate, and weak, respectively. Our model's primary outcome measure, intention, had an  $R^2$  value of 0.304. This means that attitude, subjective norm and behavioural control together explained 30.4% of the intention to use equity crowdfunding platforms. Therefore, our model falls a bit short of having done a good job explaining intention. However, attitude ( $R^2 = 0.526$ ), subjective norm ( $R^2 = 0.573$ ), behavioural control ( $R^2 = 0.578$ ) and trust ( $R^2 = 0.629$ ) all showed above moderate levels of variance explained by their determinants. Usefulness ( $R^2 = 0.214$ ) and ease of use ( $R^2 = 0.296$ ) had the lowest variances explained.

TABLE 21 Direct and total effect results from the structural model.

Direct effect	$\beta$
H1: Attitude $\rightarrow$ Intention	0.461**

H2: Subjective norm → Intention	0.18*
H3: Behavioural control → Intention	-0.003ns
H4: Usefulness → Attitude	0.389**
H5: Ease of use → Attitude	0.262*
H6: Interpersonal influence → Subjective norm	0.709**
H7: External influence → Subjective norm	0.094ns
H8: Self-efficacy → Behavioural control	0.511**
H9: Facilitating conditions → Behavioural control	0.317**
H10: Trust → Attitude	0.27*
H11: Trust → Usefulness	0.463**
H12: Trust → Ease of use	0.544**
H13: Information quality → Trust	0.293**
H14: Reputation → Trust	0.403**
H15: System quality → Trust	0.223ns
<b>Construct</b>	<b>R<sup>2</sup></b>
Intention	0.304
Attitude	0.526
Subjective norm	0.573
Behavioural control	0.578
Trust	0.629
Usefulness	0.214
Ease of use	0.296

\*  $p \leq 0.05$ , \*\*  $p \leq 0.01$ , ns not significant

#### 8.4.1 Direct effects

Based on the results, we can see which hypotheses were supported and which were not.

Hypothesis 1: Attitude has a positive effect on intention

The first hypothesis was supported. The path coefficient between attitude and intention was a fairly strong 0.461 and the effect significant at the 1% level. Our results therefore show further support for the large number of studies that have previously confirmed the link.

Hypothesis 2: Subjective norm has a positive effect on intention

The second hypothesis was supported, however the relationship between subjective norm and intention was modest ( $\beta = 0.18$ ) at the 5% significance level. Ergo, subjective norm does affect intention, but less than attitude.

Hypothesis 3: Behavioural control has a positive effect on intention

The third hypothesis was not supported. Behavioural control had no effect on intention ( $\beta = -0.003$ ). Additionally, its p value exceeded 0.9 indicating that there is a more than a 90% chance of finding the observed or more extreme results when the null hypothesis is true. It must therefore be concluded that in this data behavioural control had no effect on intention.

Hypothesis 4: Usefulness has a positive effect on attitude

The fourth hypothesis was supported. Usefulness had an effect on attitude ( $\beta = 0.389$ ). The finding was significant at the 1% level. It would therefore seem that the perceived usefulness of equity crowdfunding platforms does indeed contribute to people's attitudes about them.

Hypothesis 5: Ease of use has a positive effect on attitude

The fifth hypothesis was supported. Ease of use had a moderate effect on attitude ( $\beta = 0.262$ ) which was significant at the 5% level of significance. Both perceived usefulness and ease of use therefore were confirmed to affect attitudes, however usefulness was the stronger of the two.

Hypothesis 6: Interpersonal influence has a positive effect on subjective norm

The sixth hypothesis was supported. Interpersonal influence had a very strong statistically significant effect on subjective norm ( $\beta = 0.709$ ,  $p < 0.01$ ). As covered in prior literature, interpersonal influence such as word-of-mouth is strong. In fact, it may have become increasingly important with the rise of interactive media and the subsequent culture of sharing (Stewart & Pavlou 2009). While Rogers (2003) posits that external influences such as mass media would generally be more dominant in the early stages of an innovation's adoption cycle, in this study interpersonal influence was king.

Hypothesis 7: External influence has a positive effect on subjective norm

The reign of interpersonal influence in this study reflects on the poor performance of external influence. The seventh hypothesis was not supported, as external influence was found to have no effect on subjective norm ( $\beta = 0.094$ ,  $p > 0.2$ ). Had the result been statistically significant, it would have been an intriguing one because literature suggests that external influence should have a strong influence at early stages of adoption. Alas, it was not.

Hypothesis 8: Self-efficacy has a positive effect on behavioural control

The eighth hypothesis was supported. Self-efficacy had a strong and statistically significant effect on behavioural control ( $\beta = 0.511$ ,  $p < 0.01$ ). Our results support the view presented in literature that perceived self-efficacy has a fairly straightforward effect on perceived behavioural control, also in the context of novel online investing services.

Hypothesis 9: Facilitating conditions have a positive effect on behavioural control

The ninth hypothesis was also supported. Facilitating conditions were found to have a clear effect on perceived behavioural control ( $\beta = 0.317, p < 0.01$ ). Much like self-efficacy, the link to perceived behavioural control should be rather straightforward, however self-efficacy was considerably stronger at this compared to facilitating conditions. Feedback gathered during the testing of the survey indicated that the questions concerning facilitating conditions were abstract and hard to grasp, thus we can speculate that the relative weakness of facilitating conditions might also be somewhat caused by shortcomings in survey design.

Hypothesis 10: Trust has a positive effect on attitude

The tenth hypothesis was supported. Trust had a positive effect on attitude ( $\beta = 0.27, p < 0.05$ ), which supports Pavlou's (2003) findings of trust having a direct positive effect on attitude in the e-commerce context. Trust's indirect effects on attitude are covered below in section 8.4.2.

Hypothesis 11: Trust has a positive effect on usefulness

The eleventh hypothesis was supported. Trust had a highly positive direct effect on perceived usefulness of equity crowdfunding platforms ( $\beta = 0.463, p < 0.01$ ). High levels of trust therefore contribute significantly to potential investors' perceptions of equity crowdfunding platforms as useful.

Hypothesis 12: Trust has a positive effect on ease of use

The twelfth hypothesis was supported. Trust had a highly positive direct effect on perceived ease of use ( $\beta = 0.544, p < 0.01$ ). High levels of trust towards an equity crowdfunding platform therefore increase the perception that the platform is easy to use, thus making said service more approachable to a trusting investor.

Hypothesis 13: Information quality has a positive effect on trust

The thirteenth hypothesis was supported. The quality of information provided on an equity crowdfunding platform has a direct effect on trust ( $\beta = 0.293, p < 0.01$ ).

Hypothesis 14: Reputation has a positive effect on trust

The fourteenth hypothesis was supported. The reputation of an equity crowdfunding platform is a significant contributor to trust ( $\beta = 0.403, p < 0.01$ ), which supports the general consensus linking reputation and trust.

Hypothesis 15: System quality has a positive effect on trust



No support was found for the fifteenth and final hypothesis. The effect of system quality, i.e. the technical quality of an equity crowdfunding platform was not significant in this study ( $\beta = 0.223$ ,  $p = 0.084$ ).

#### **8.4.2 Indirect and total effect of trust**

Total effects comprise the sum of direct and indirect effects. The only relationship with a hypothesized indirect effect was the one between trust and attitude. Mediated by perceived usefulness and ease of use, trust indeed had a considerable indirect effect on attitude ( $\beta = 0.322$ ,  $p < 0.01$ ). The total effect of trust on attitude was significant ( $\beta = 0.593$ ,  $p < 0.01$ ), making it the strongest factor affecting attitude.

## 9 CONCLUSION

This concluding chapter of the study presents the theoretical and managerial implications that can be made based on the findings of the study. Furthermore, the chapter includes evaluation of the research and its limitations as well as suggests directions for further research on the topic of equity crowdfunding.

### 9.1 Theoretical contributions

This study delved into the blossoming field of equity crowdfunding from the perspective of consumer acceptance. The theoretical framework for the study was pieced together from theories of consumer acceptance and human decision making and complemented with additions from literature on online trust, resulting in fifteen hypotheses based on the literature review. The vast majority of the hypotheses, twelve out of fifteen, found support.

RQ1: What is the state of consumer acceptance of equity crowdfunding platforms?

Overall the model explained 30% of the intention to use equity crowdfunding platforms, which could be argued to be insufficient for the purposes of explaining or predicting the actual state of consumer acceptance of equity crowdfunding platforms. However, with behavioural control found to be nonsignificant, this level of total variance explained is in line with that of e.g. Davis et al. (1989) without behavioural control. However, it falls short of the 50–60% range common in prior research (e.g. Bhattacharjee 2000; Taylor & Todd 1995; Mathieson 1991). The explanatory power of the model could perhaps be improved by adding moderators, such as investing experience, to the model, as experience has been found to have considerable moderating effects in TAM settings (Venkatesh et al. 2003).

In fact, perhaps the most direct response to this research question stems from the fact that 54% of the respondents had invested through an ECFP. Granted, many of the people who took the survey were savvy early adopters

and thus the results cannot be generalized to the general public. Overall the industry is still undergoing rapid growth (Massolution 2015), which points to growing consumer acceptance.

RQ2: What are the most significant factors affecting intention to use an equity crowdfunding platform?

RQ2.1: How significant is the effect of social influence on intention?

The main benchmark for this study was Bhattacharjee's (2000) delving into consumer acceptance of online brokerage services, whose main findings included subjective norm having a very significant role in explaining acceptance intentions, behavioural control having minimal influence, and external influence being an important predictor of subjective norms. This study arrived at similar results for behavioural control – in fact finding no effect at all on acceptance intentions – and very different results for subjective norm and external influence. While subjective norm was found to have a significant effect on acceptance intentions, its magnitude was a far cry from that of attitude. Furthermore, external influence was found to have a very weak and nonsignificant effect on the formation of subjective norms, while interpersonal influence had a very strong one. Bhattacharjee noted that his findings ran contrary to existing literature on information system product acceptance, a fact he explained with the unique aspects of e-commerce service acceptance. However, this study largely replicated that of Bhattacharjee's in the equity crowdfunding platform context, which suggests that the significantly differing results would warrant further research. Furthermore, both Bhattacharjee and this study had relatively small sample sizes, the former having 172 survey responses and the latter 100, making studies based on ampler data highly desirable.

In this study attitude was the dominating factor affecting intention, as its effect dwarfed those of its competitors', subjective norm and behavioural control. Attitude had an effect more than twice as strong as subjective norm, while behavioural control had no confirmable effect whatsoever on intention. The relative importance of the concepts is generally understood to vary across behaviours and situations (Ajzen 1991), and any generalizations regarding relative strengths would require a significant amount of cumulative research on the topic.

Moreover, in research utilizing TPB subjective norm is usually the weakest predictor of intention (Armitage & Conner 2001). Due to the non-significance of behavioural control in this study – an outcome predicted based on Bhattacharjee's (2000) view he that in B2C e-commerce scenarios, unlike in organizational or workplace settings, adopters are not forced to act against their intentions – subjective norm came in second place behind attitude, but its effect was still rather weak overall. However, the effect was still statistically significant, perhaps owing to the increased focus put into examining the determinants of the construct and operationalizing them (Bhattacharjee 2000). All in all, the findings of this study partially support the existing view on the weakness of the subjective norm in TPB research also in the context of e-commerce services, yet contradict them in the extent of the weakness.

An added theoretical contribution of this study was the integration and testing of trust as a factor in an intention-based model of decision making. Trust performed well in the model, emerging as the strongest predictor of attitude when indirect effects were taken into account. However, more research would be needed to better understand its role in making of acceptance decisions. While the position that trust was placed in in our research model was based on prior literature, trust is such a complex and multifaceted concept that many other placements for it would also have been justifiable. Online trust is a sprawling but promising area of research, and its contributions should continue to be utilized in studies of consumer decision making.

All in all, twelve out of the fifteen hypotheses set based on existing literature found support from the data. The only ones not supported were hypotheses 3 (behavioural control did not have a direct positive effect on intention), 7 (external influence did not have a direct positive effect on subjective norms) and 15 (system quality did not have a direct positive effect on trust). Therefore, the majority of the existing theoretical notions used in this study received further support in the novel context of equity crowdfunding.

## 9.2 Managerial implications

The managerial implications of this study were expected to be bound to a better understanding of what investors using equity crowdfunding platforms expect and value, and thus what platform operators should be committing resources to developing and communicating. The discovery of attitude as the strongest predictor of adoption intentions and trust as the strongest factor affecting attitude suggest that ECFP operators should focus on generating positive attitudes towards their platforms, starting with trust.

Intuitively speaking, the strong effect of trust on attitudes may come as no surprise because humans use trust to reduce uncertainty. However, the inconvenient truth is that trust is difficult to manage: it is built up over time through repeated actions and it can be destroyed in an instant. This study found that trust was primarily affected by reputation, another difficult variable to control. However, the importance of reputation management and public relations in the financial sector is crucial, and has become no less so in the aftermath of the 2008 financial crisis. The financial crisis resulted in much of the battered reputation of the financial industry weighing heavily also on the nascent financial technology (fintech) industries, which also equity crowdfunding is a part of. Therefore, it could be argued that equity crowdfunding platforms are walking on the razor's edge, as a large public blunder by one market player could have devastating effects on the reputation of the entire up-and-coming industry. Platforms must therefore be very vigilant and proactive in their PR and communications activities. In short, this study underlines the importance of reputation management and public relations for fostering trust among stakeholders.

Furthermore, emphasizing and effectively communicating features that position equity crowdfunding platforms as useful and easy to use will reflect

positively on attitudes towards adoption intentions. One way of doing this through communications could be through useful, informative content designed to educate and inspire the users while underlining the platforms' overall value propositions. This further ties into the fairly significant effect that information quality has on the building of trust. As with all innovations, market education is necessary, and the best way to do that is through informative communications.

While subjective norm was not found to be a very strong predictor of adoption intentions, it was still a significant one and managers ought not to forget about the power of word-of-mouth, included in this study as interpersonal influence. Interpersonal influence was a very strong predictor of subjective norm, and while the relative contribution of subjective norm was dwarfed by the effects of attitude and trust, managers should actively encourage positive word-of-mouth and develop their marketing communications tactics to foster it.

### 9.3 Evaluation of the research

Generally, a study's quality is evaluated with its validity and reliability, with the former referring to whether an indicator measures the concept it was intended to measure and the latter to the repeatability of the measurement results. Reliability is furthermore often divided into external and internal reliability, referring to the overall generalizability and internal repeatability, respectively. (Hirsjärvi et al. 2009.)

To maximize the validity and reliability of this study, all measures were adopted from prior peer-reviewed research which had confirmed the reliability and validity of the measures themselves. While a large sample size was sought to affirm external reliability, this was not quite accomplished as the sample size settled at 100.

As part of the two-part factor analysis, the reliability and validity of the measurement model were analyzed with the SmartPLS software. On one hand, the reliability of the measurement model was examined by checking indicator reliability and internal consistency. Indicator reliabilities were evaluated by examining factor loadings and the weakest indicators were dropped from the model. All but one of the remaining indicators were above the preferred value of 0.7 (Fornell & Larcker 1981) and the remaining indicators were thus concluded to be reliable. Internal consistency reliability was checked with both Cronchbach's alpha and the composite reliability, both of which were above the recommended value of 0.7 (Bagozzi & Yi 1988) for all factors, thus confirming the model's internal consistency.

On the other hand, the validity of the model was confirmed through convergent and discriminant validities. The former was analyzed by calculating the average variances extracted (AVE), which exceeded the recommended value of 0.5 (Bagozzi & Yi 1988) for all constructs. The latter was examined with a Fornell-Larcker criterion matrix, in which no construct correlations exceeded the

square root of AVE. Therefore, both the convergent and discriminant validities were confirmed.

#### **9.4 Limitations of the research**

As all research, on its own this study is limited in scope and depth. While a large sample size was deemed an important goal for improving the validity and generalizability of the study, this was not quite reached. After considerable time spent collecting data, the sample size settled at 100. This sample size can be deemed adequate for the purposes of the factor analysis performed in this study, however it is not sufficiently large to support larger-scale generalization of the results of this study.

The difficulties encountered during data collection were largely due to poor survey design and data collection planning, and the commonly high non-response rate associated with online surveys (Hirsjärvi et al 1997, 191) should have been anticipated and combatted better. The survey was opened a total of 1,221 times but only 100 of these resulted in a completed submission. This means the response rate among people who opened the survey was 8.19%, which is quite poor. As the concept of crowdfunding is built on the concept of anyone being a potential investor, the target group for the survey was fairly large and loosely defined: anyone with knowledge of the concept of crowdfunding was seen as a qualified respondent, even if they had no actual prior experience of using crowdfunding services. Ideally, better targeting and a more defined target group should be used in order to achieve better results. Furthermore, incentivizing completed submissions and usability design should have been taken more seriously, especially considering the length and repetitiveness of the survey.

Furthermore, the use of self-reported measures always carries with it uncertainty over how much the reported results actually reflect reality, as this type of data collection can be prone to causing so called self-generated validity (Chandon, Morwitz & Reinartz 2005) whereby, in effect, the survey can persuade the respondent into formulating intentions he or she did not previously have.

Finally, perhaps the most significant potential limitation affecting the validity of the study has to do with what exactly qualifies as acceptance and adoption of ECFPs. The way it was measured in this study, acceptance and adoption refer to making investments through the platforms. However, trusting and using a platform and making investments in companies via the platform might, in fact, be very different things between which there can be many more decisions.

## 9.5 Further research

The alternative finance industry and equity crowdfunding platforms as a subset of it are booming, and much research will undoubtedly be targeted at understanding the psychology of the people making investments. One fascinating perspective that crowdfunder decision making could be studied from is behavioural finance (Thaler 1980) and prospect theory (Kahneman & Tversky, 1979). Behavioural economists have confirmed that people are rarely truly rational, a trait which carries much significance also in investment decisions. The vast majority of research on investor decision making is focused on trading in the public markets, which makes sense as the private markets of unlisted companies have until been inaccessible to the retail investor.

There are several elements in private market investments that might accentuate the non-rational aspects described in behavioural finance. For example, there is much less information available for private companies compared to publicly traded ones, there is less distance between the investor and the people behind the company, and the businesses are generally in a much earlier stage of development. With equity crowdfunding and other forms of alternative or marketplace finance becoming commonplace, behavioural finance approaches should be tested also in these contexts as much could be learned of human behaviour in the context of investing in private markets.

Closely related to behavioural finance are investor desires. Interestingly, attitude – the strongest predictor of intentions in this study – has been claimed to affect intention through desires, i.e. individuals may first translate their attitudes into desires, taking into account also subjective norms and perceived control over the behaviour (Armitage & Conner 2001). This is an interesting view that might shed much light on the somewhat high-level attitude construct, however studying this would require considerable restructuring of the research model. However, looking into the desire element in ECFP adoption decisions is an angle that would warrant further research.

Another area of research that could be adapted to study equity crowdfunding is legitimacy. Legitimacy – defined as the “a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs and definitions.” (Suchman 1995, 574) – is a highly relevant point of view when looking at the diffusion process of a new innovation, as legitimacy affects the way people act toward and understand organizations. Therefore, studying the legitimacy of equity crowdfunding platforms would be useful for better answering the important question – also the first research question in this study – of the state of consumer acceptance of equity crowdfunding platforms.

Currently much academic effort is being put towards studying the success factors of crowdfunding campaigns as well as investor motivations, especially concerning investment decisions into individual businesses. Both strands of research are likely to branch off into new intriguing directions. Equity crowdfunding is a new, modern way of investing, fundraising and co-creating value, and many tried-and-true theories and models are yet to be tested in this entirely

new context. As such, there is much for hardworking academics to dig into in crowdfunding.



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## APPENDICES

### APPENDIX 1: SURVEY QUESTIONNAIRE



#### **Survey: Investing Through Equity Crowdfunding Platforms**

Hello! My name is Mikko Savolainen, I'm a master's student of marketing and organizational communication at the University of Jyväskylä in Finland. I am conducting a study on acceptance of equity crowdfunding platforms, or crowd investing platforms.

Still a relatively new form of investing, equity crowdfunding is growing rapidly worldwide. Currently, understanding investor motivations and the factors affecting individual acceptance of said services poses a challenge for the crowdfunding industry while also holding significant academic potential. By completing this survey, you are directly contributing to this pool of knowledge!

I would appreciate it if you had knowledge of what equity crowdfunding is and an opinion on it as a form of investing prior to completing the survey. You do not necessarily need to have made actual investments through equi-

ty crowdfunding platforms.

Completing the survey should take 15 minutes at most. All information is collected and analyzed completely anonymously. If you have any comments or questions, feel free to contact me at mikko.a.savolainen@student.jyu.fi. Thank you in advance for your participation.

1. How much general investing experience do you have? \*

- None
- 1-3 years
- 4-10 years
- More than 10 years

2. What kinds of investing experience do you have? \*

- Funds
- Stock exchange
- Equity crowdfunding
- Business angel/Private equity
- Bonds
- Real estate
- No investing experience
- Other, please specify

\_\_\_\_\_

3. How much experience do you have investing on the internet? \*

- None
- 1-3 years
- 4-10 years
- More than 10 years





It would be easy for me to become skillful at using equity crowdfunding platforms. ○○○○○○○○

I would find equity crowdfunding platforms easy to use. ○○○○○○○○

### 8. Self-efficacy \*

1 2 3 4 5 6 7

I would feel comfortable using equity crowdfunding platforms well on my own. ○○○○○○○○

I would be able to use equity crowdfunding platforms reasonably well on my own. ○○○○○○○○

I would be able to use equity crowdfunding platforms even if there was no one around to help me. ○○○○○○○○

### 9. Facilitating conditions \*

1 2 3 4 5 6 7

Resources required to use equity crowdfunding platforms for managing investments are available to me. ○○○○○○○○

I have access to hardware, software, and services needed to use equity crowdfunding platforms. ○○○○○○○○

I am constrained by a lack of resources needed to use equity crowdfunding platforms. ○○○○○○○○

**INSTRUCTIONS:** Choose the number that best describes how much you agree with each statement.

1= STRONGLY DISAGREE, 7 = STRONGLY AGREE

### 10. Social influence \*

1 2 3 4 5 6 7

My peers/colleagues/friends think that I should use equity crowdfunding platforms for managing my investments. ○○○○○○○○

People I know think that using equity crowdfunding platforms is a good idea. ○○○○○○○○

- People I know influence me to try out equity crowdfunding platforms for managing investments. ○ ○ ○ ○ ○ ○ ○ ○
- I have read/seen news reports that using equity crowdfunding platforms is a good way of managing investments. ○ ○ ○ ○ ○ ○ ○ ○
- The popular press depicts a positive sentiment for using equity crowdfunding platforms. ○ ○ ○ ○ ○ ○ ○ ○
- Mass media reports influence me to try out equity crowdfunding platforms for managing investments. ○ ○ ○ ○ ○ ○ ○ ○
- People (peers and financial experts) important to me support my use of equity crowdfunding platforms. ○ ○ ○ ○ ○ ○ ○ ○
- People who influence my behavior would want me to use equity crowdfunding platforms instead of any alternative means. ○ ○ ○ ○ ○ ○ ○ ○
- People whose opinions I value prefer that I use equity crowdfunding platforms for managing investments. ○ ○ ○ ○ ○ ○ ○ ○

### 11. Attitude \*

- 1 2 3 4 5 6 7
- Using equity crowdfunding platforms for managing investments would be a good idea. ○ ○ ○ ○ ○ ○ ○ ○
- Using equity crowdfunding platforms for implementing my investment plans would be a foolish idea. ○ ○ ○ ○ ○ ○ ○ ○
- I like the idea of using equity crowdfunding platforms for managing personal investments. ○ ○ ○ ○ ○ ○ ○ ○
- Using equity crowdfunding platforms would be a pleasant experience. ○ ○ ○ ○ ○ ○ ○ ○

### 12. Behavioral control \*

- 1 2 3 4 5 6 7
- I would be able to use equity crowdfunding platforms well for managing personal investments. ○ ○ ○ ○ ○ ○ ○ ○
- Using equity crowdfunding platforms would be entirely within my control. ○ ○ ○ ○ ○ ○ ○ ○
- I have the resources, knowledge, and ability to use equity crowdfunding platforms. ○ ○ ○ ○ ○ ○ ○ ○



Equity crowdfunding platforms are well respected by people.

People say equity crowdfunding platforms have a bad reputation in the market.

**16. Information quality \***

1 2 3 4 5 6 7

The websites of equity crowdfunding platforms have information relevant to my needs.

The information on equity crowdfunding platforms' websites is easy to understand.

Equity crowdfunding platforms' websites have reliable information.

Equity crowdfunding platforms' websites have sufficient information.

Equity crowdfunding platforms' websites have useful information.

**17. System quality \***

1 2 3 4 5 6 7

Equity crowdfunding platforms' websites quickly load all the text and graphics.

Equity crowdfunding platforms' websites are easy to use.

Equity crowdfunding platforms' websites are easy to navigate.

Equity crowdfunding platforms' websites are well designed for users.

Equity crowdfunding platforms' websites are visually attractive.

Please provide information on your background. When you are done, click Submit to finish the survey.

**18. What is your gender? \***

- Male
- Female
- Other

**19. What is your age? \***

- Under 20
- 20-29
- 30-39
- 40-49
- 50-59
- 60 or older

**20. What is the highest level of education you have completed? \***

- No formal education
- Lower secondary education
- Upper secondary education
- Bachelor or equivalent
- Master or equivalent
- Doctoral or equivalent
- Other, please specify
- 

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**21. What is your current occupation?**

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**22. What is your approximate annual income in US dollars? \***

- Under \$30,000
- \$30,000-\$49,999
- \$50,000-\$69,999

- \$70,000–\$89,999
- \$90,000 or more
- Do not wish to disclose

**23.** What is the size of your investment portfolio?

Approximately in US dollars.

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**24.** What is your nationality? \*

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