A two-country study on the psychological antecedents to cryptocurrency investment decision-making

Abstract

This study seeks to investigate the psychological antecedents toward cryptocurrencies investment decision-making. Using extended planned behavior model, data were collected from 517 sample respondents in Kenya and Ghana to test the proposed model. Specifically, we find that skepticism undermines willingness to invest in cryptocurrency via attitude toward cryptocurrency across the two countries studied. We also find that subjective norm and perceived self-efficacy positively influence attitude toward cryptocurrency that, in turn, positively influences willingness to invest in cryptocurrency. The positive relationship

between trust disposition and attitude toward cryptocurrency and in turn willingness to invest in cryptocurrency is statistically valid in Kenya but not in Ghana. Contrary to expectations, no negative statistical effect of risk disposition on attitude toward cryptocurrency was found in the Kenya and Ghana sample. Overall, the presented findings in this study enrich empirical understanding about the psychological factors influencing attitude and individuals' intentions to invest in cryptocurrencies such as Bitcoin and Litecoin.

Keywords: Cryptocurrency; cross-country research; extended theory of planned behavior; fintech; skepticism; Africa

Introduction

Worldwide, there has been a surge in interest in cryptocurrencies such as Bitcoin, Litecoin and Ethereum, especially in the last three years. For example, Bitcoin value rose from US$ 196.02 in late 2013 to about US$60,000 by early 2021 (Statista 2021). As a result of the surge in interest in cryptocurrency, scholars have gradually begun to understand its broader acceptance and especially the factors determining its acceptance (Abbasi et al. 2021; Ali et al. 2020; Arli et al. 2021; Ayedh et al. 2021; Gil-Cordero et al. 2020; Mazambani and Mutambara 2019; Mendoza-Tello et al. 2019; Roussou et al. 2019; Salcedo and Gupta 2021). Most of this previous research approaches cryptocurrency acceptance using extant technology adoption models such as the technology acceptance model (TAM, see Mendoza-Tello et al. 2019; Nadeem et al. 2021; Roussou et al. 2019), the unified theory of acceptance and use of technology (UTAUT, e.g., Abbasi et al. 2021; Arias-Oliva et al. 2019, 2021), while others such as Arli et al. (2021) focus on trust perspective. Relatedly, the technology readiness model has been employed to investigate individuals' willingness to use cryptocurrency and where it was found, for example, that an individual's innovativeness and insecurity both have a positive and negative influence on Bitcoin use intentions (Alharbi and Sohaib 2021). All these studies are undoubtedly important in our understanding of some of the psychological determinants behind cryptocurrency acceptance. However, it is interesting to note that, despite the broader recognition in the literature regarding the utility of the theory of planned behavior (Ajzen 1991, 2011; Hagger and Hamilton 2021) (TPB henceforth) in explaining a diverse range of individual behavior, research that applies this theory in the specific context of individuals' willingness to

invest in cryptocurrency is very rare in the literature (exception is Echchabi et al. 2021 in the finance literature).

Meanwhile, the other few publications that adopt TPB focus on gauging consumer acceptance rather than a willingness to invest in cryptocurrency (Mazambani and Mutambara 2019). Our study, therefore, differs from these other studies since the central focus here is on understanding whether individuals are willing to invest in cryptocurrency. At the same time, we should note that the publications by Echchabi et al. (2021) and Mazambani and Mutambara (2019) merely validated the TPB constructs of perceived behavioral control, attitude and subjective norm in the context and thus heavily overlooked other important idiosyncratic factors such as individual disposition to trust, risk and skepticism that could prove to be contextually relevant, especially when making decisions about whether to engage in risky investments such as cryptocurrencies According to a recent review of the literature on cryptocurrency (Angerer et al. 2020), individuals' perception of risk is a major concern, suggesting the need to empirically validate the role that risk disposition potentially plays in cryptocurrency investment decision-making. Similarly, our decision to further extend TPB with both individual's disposition to trust and skepticism toward cryptocurrency investment has been informed by past research such as those of Arli et al. (2021) and Gupta et al. (2021) who highlighted the importance of trust in cryptocurrency acceptance/investment intentions as well as the research of Chouk and Mani (2019) that highlights the extent to which consumer skepticism towards a less-familiar product eventually hinders the product acceptance (see also Hajiheydari et al. 2021). As a result, our specific objective in this study is to extend TPB to the current context but also expand the theory by incorporating idiosyncratic factors, otherwise known as individual traits, and including individual disposition to risk, trust, and skepticism in the investigation of individuals' willingness to invest in cryptocurrency. While the above individual traits may not be entirely specific to the research phenomenon of cryptocurrency investment, we believe nonetheless the three identified traits could play an important role in explaining attitudinal beliefs and consequently willingness to invest in cryptocurrency. This study is therefore the first to integrate these individual traits with the well-known TPB model to investigate cryptocurrency investment decision-making. Notably, we believe that our extended planned behviour model is suitable to explain individuals' predisposition to invest in cryptocurrency. Specifically, this study represents one of the early efforts in the literature to extend an expanded TPB model to research in cryptocurrency investment behaviours. The result of this effort should lead to a better understanding of why individuals choose to invest in

cryptocurrencies, while further complementing existing research in multiple technology domains as well as in financial investment that relied on TPB and its variants (Al-Rafee and Dashti 2012; Anser et al. 2021; Chen et al. 2014; Echchabi et al. 2021; Ifinedo 2018; Shanmugham and Ramya 2014; Yu 2015).

In addition to the above, we are also aware that there has been no research to date and especially in the information systems, business and marketing literature that drew on cross-national data to unravel the factors affecting the decision to invest in cryptocurrency. Therefore, by drawing on data from two African nations (namely Kenya and Ghana) we seek to make an important contribution to emerging research on cryptocurrency acceptance and investment and thereby increasing the understanding of individuals' willingness to invest in cryptocurrency across countries. In fact, before the current study, most of the research effort on this topic has been based on survey data gathered from individuals in western and/or Asian countries (see Abbasi et al. 2021; Arias-Oliva et al. 2019, 2021; Arli et al. 2021; Ayedh et al. 2021; Gil-Cordero et al. 2020; Salcedo and Gupta 2021). Unfortunately, this is despite the recognition that the African continent has been witnessing a revolution in cryptocurrency acceptance, especially in the last three years (Chainanalysis Market Intel 2020; DW 2020; Gonçalves 2020; Rao 2018). According to statistics from the Chainalysis Market Intel (2020), Kenya occupies the fifth place in the global cryptocurrency adoption index and making Kenya ahead of more technologically advanced societies like the US and the UK. Other African countries, such as South Africa and Nigeria, are also among the top ten leading cryptocurrency adopters in the world, while Ghana is also ranked as the 27th in the world. All these motivate the decision to focus the current investigation in Africa and especially in Kenya and Ghana, further broadening empirical generalisations about the psychological antecedents to cryptocurrencies investment decision-making. In sum, this study enriches theoretical and managerial insights about the psychological factors influencing potential investors' behaviour toward cryptocurrencies like Bitcoin and Litecoin.

The rest of the paper is structured as follows. We explain the theory and concepts guiding the current investigation in the next section and which is followed by the arguments leading to our research hypotheses. This is further followed by the description of the research methods. Next, we discuss our research results. This paper closes with the research implications to the field and managerial practice, followed by the limitations of the current investigation and suggestions for further research.

Conceptual background and hypotheses development

Cryptocurrency in context

It is increasingly known that the development of a borderless financial framework, financial technology innovation using blockchain technology and cryptocurrency tokens is gradually changing the face of global financing (Ghosh 2019, Ali et al. 2020; Ciriello 2021; Mutambara 2019; Mendoza-Tello et al. 2019). Cryptocurrency is considered in the literature as a "type of digital currency based on the use of cryptography and a peer-to-peer network" (Arli et al. 2021, p.3). Cryptocurrency is built on blockchain technology (Arli et al. 2021; Johansen 2018) which allows for financial transactions to be encrypted and undertaken digitally without any third party. According to Nakamoto (2009), since Bitcoin was announced as the first cryptocurrency, other technological revolutions of cryptocurrencies that use similar platforms of cryptographic designs have since emerged (Egorova and Torzhevskiy 2016). Cryptocurrency platforms enable decentralised financial transactions, and independent of any government or financial regulation institution (Mendoza-Tello et al. 2019). Cryptocurrency, therefore, eliminates mediators in financial transactions, ensures confidentiality and build trust among the parties involved in the cryptocurrency transaction (Ali et al. 2020; Giaglis and Kypriotaki 2014; Haferkorn and Quintana-Diaz 2014) whilst offering more financial value for customers than before (Nian and Chuen 2015).

The use of cryptocurrency for financial transactions has seen an increase over the last couple of years and cryptocurrencies are now listed in many countries across the world. For example, Light (2019) estimates the market capitalization of cryptocurrency as reaching $700 billion, whilst Arias-Oliva et al. (2019) reported that the initial coin offering (ICO) activity is increasing and well over 2,000 cryptocurrencies are being traded on the financial market globally. The extant literature suggests numerous benefits of cryptocurrency to society, businesses, and individuals. In short, according to some scholars, cryptocurrency - as a form of digital currency - has the potential of transforming emerging and/or developing countries (Coeckelbergh and Reijers 2015) as it offers people a different option of currency (Davidson et al. 2016). The other benefits identified include high speed and low transaction costs because of the elimination of third parties in the cryptocurrency value chain. Cryptocurrency usage is also projected to propel growth in the e-commerce business (Polasik et al. 2015). Cryptocurrency could be also seen as a tool for enhancing financial inclusion (Vincent and Evans 2019). Especially as it has the potential to empower individuals or customers to have

total freedom and control of the tokens that they send and receive through transactions in cryptocurrency. In addition, cryptocurrency can be used between individuals and/or organisations as a form of digital currency, whilst ensuring confidentiality (Liu et al. 2018).

In the face of the burgeoning use of cryptocurrency in developing economies and in many African countries today, scholars (e.g. Gonçalves 2020; Rao 2018; Vincent and Evans 2019) have called for more research to enrich the literature on cryptocurrency in developing countries and a reason why the current research has been situated in two African markets with huge potentials for cryptocurrency trading. This study, to the best of our knowledge, is the first cross-country analysis of individual factors that influence the decision to invest in cryptocurrency using data from Ghana and Kenya respectively. The extant literature shows that there is limited research on investment decision behavior on blockchain and cryptocurrency and financial investment (Ayedh et al. 2021; Echchabi et al. 2021; Gupta et al. 2021; Mattke et al. 2021). The results of the existing studies show some favourable responses towards individuals' willingness to adopt and use cryptocurrency for financial investment. This study, therefore, seeks to contribute to the cryptocurrency and blockchain literature by exploring the psychological influences on cryptocurrency investment decision-making and especially from a cross-country perspective.

Theory of Planned Behavior

The Theory of Planned Behavior (TBP) since it was first proposed by Ajzen (1991), has been extensively applied to different disciplines such as economics, marketing, accounting, and finance etc. The application of TPB continues to receive the necessary attention among scholars (Al-Rafee and Dashti 2012; Echchabi et al. 2021; Hagger and Hamilton 2021; Ifinedo 2018; Kondo and Ishida 2014; Yu 2015). The TBP, which was the product of the Theory of Reasoned Action, was crafted by Ajzen (1991) and has been used extensively to understand human behavior (e.g., Anser et al. 2020). There is an admission on the part of researchers (Ajzen 2011, 2002; Mahardika et al. 2019) that the TPB is one of the well-known in scholarship to understanding intentions of human behavior. According to Mahardika et al. (2019), several studies have used TPB to examine intention towards emerging technology. Mazambani and Mutambara (2020) observed that TPB is recognised as one of the powerful models when it comes to predicting intention and which they utilized in their investigation of cryptocurrency acceptance in South Africa. Researchers such as Shanmugham and Ramya (2012) have indicated that the inclusion of the perceived behavior control concept has also contributed to

the powerful nature of the model's predictability regarding behavioral intentions. Also, the TPB is very flexible and allows for the inclusion of other constructs from various subject areas (Ifinedo 2018; Kondo and Ishida 2014; Simon 2016; Yousafzai et al. 2010).

The TPB constructs used in this study are subjective norm, attitude, and perceived self-efficacy. Scholars (Ajzen 2002; Ifinedo 2018; Mazambani and Mutambara 2020) have observed that the premise of the TPB is the fact that intention can influence or predict human behavior and based on the idea that intentions significantly drive actual behavior. It is important to note that the predictors of behavioral intentions change according to the target and circumstances of the behavior. An in-depth look at the extant literature shows more support for the relationship between intention and behavior (Huang et al. 2019) but there are situations also wherein intentions may not always translate into subsequent behaviors (for more on this cf. Sheeran 2002).

Importantly and according to Ajzen (1991), attitude towards behavioral intention is seen as the perception of benefits and non-benefits that a person derives from performing a particular behavior. Attitude involves how good or bad a person feels about a particular behavior in which the person is interested and is based on the result of engaging in the behavior (DeMarree et al. 2017). Albeit attitude has been used in the TPB to predict behavioral intentions (Mazambani and Mutambara 2020; Echchabi et al. 2021). However, some scholars (e.g. Sniehotta et al. 2014; Ogden 2015) have problems with attitude as a predictor of behavioral intention. For example, Mazambani and Mutambara (2020) indicated that one of the main problems with attitude influencing behavioral intention is the inability to predict thoughtful human behavior. Critics of TPB (e.g. Sniehotta et al. 2014) have claimed that TPB is stagnant because attitude changes with time and circumstance (Aassve et al. 2013). Conversely, some scholars (e.g. Götze 2011; Schwarzer 2015; Conner 2015; Ajzen 2015) who favour the TPB argue that it is very dynamic and not static as suggested by some researchers. In fact, the TPB can accommodate current measures of predicting attitude (Ajzen 2015) despite its criticism by some scholars (Sniehotta et al. 2014; Ogden 2015).

Another construct in the TPB is subjective norm. According to Mazambani and Mutambara (2020), subjective norm is about what a person's social group or others think about a person's performance of a particular behavior. To Ajzen (2005), subjective norm is about a person's understanding of a specific behavior's social environment. Researchers (Anser et al. 2020; Mazambani and Mutambara 2020; Echchabi et al. 2021; Simon 2016) agree that

subjective norm is associated with the pressure one receives from his or her important others in the performance of a particular behavior. The common and shared view is that subjective norms are normally traditions and rules which are approved by the social group of the person performing a particular behavior (Echchabi et al. 2021). In line with Mazambani and Mutambara (2020) as well as others, this study therefore conceptualizes subjective norm as the degree of pressure one receives from his/her social group towards investing in cryptocurrency in the two countries studied. Our thesis is that when there is an approval of an influential person in the life of the person performing that behavior, it increases the likelihood that the individual will develop a positive attitude toward the performance of the expected behavior (Ifinedo 2018) and in this case increasing attitudinal beliefs about cryptocurrency investment. Meanwhile, the literature has further observed that disapproval from an influential person or the social group would lead to a lesser intention to perform a particular behavior (Krueger et al. 2000).

One other construct of the TPB is perceived behavior control (PBC) which in this study has been both conceptualised and operationalised as perceived self-efficacy (Ajzen 1991). The extant literature shows that self-efficacy has been applied in various academic disciplines such as management, finance, and marketing (e.g. Osakwe et al. 2022). Perceived self-efficacy has been defined as "beliefs in one's capabilities to organize and execute the courses of action required to produce given levels of attainments" (Bandura 1998 p. 624) and therefore conceptually overlaps with Ajzen's notion of perceived behavioral control. Put more simply, perceived self-efficacy reflects how easy or difficult an individual performs a task (Osakwe et al. 2022). In effect, perceived self-efficacy looks at the things which would enhance or facilitate the performance of the behavior and the challenges of carrying out the behavior. According to related studies (e.g., Mazambani and Mutambara 2020), the level of perceived self-efficacy is high when individuals have enough resources and can perform a task. Thus, perceived self-efficacy is underpinned by an individual's experience, abilities, and how difficult or easy performing the behavior would be and it is further related to attitude towards the performance of the object (Osakwe et al. 2022). Consequently, this study explores perceived self-efficacy in relation to investment decision-making toward cryptocurrency.

Extended TPB constructs with a focus on trust disposition, risk disposition and skepticism

Trust disposition. Trust disposition, which refers to ''the extent to which a person displays a tendency to be willing to depend on others across a broad spectrum of situations and

persons'' (Mcknight et al. 2002: 339), is an important personality-based trait to understand when it comes to early acceptance of technology-based products (Li et al. 2016; Raza et al. 2022; Wu et al. 2010). According to previous research, an individual's disposition to trust is oftentimes based on 'ongoing lifelong experiences' (Harris et al. 2016) and by default the cultural environment of the individual. In this context, trust disposition may be crucially important for developing strong attitudes toward cryptocurrency investment especially as individuals with more trust disposition may tend to have positive beliefs about the economic potentials in investing in cryptocurrency. The reverse may also be true for individuals who generally lack faith in humanity and others. Indeed, according to a recent study about investment behavior, authors find that trust propensity – also known as trust disposition - positively predicts initial trust that, in turn, predicts initial investment intention (Li et al. 2016). Against this backdrop, we would like to believe that trust disposition will have a critical role to play in shaping cryptocurrency investment decision-making especially at this early-stage in crypto-assets development and via the cognitive mechanism of attitudinal beliefs. Notably, empirical evidence on trust disposition in relation to the processing of information concerning cryptocurrency investments has been missing in the literature until now, which this study provides.

Risk disposition. In this study, risk disposition broadly refers to the tendency by an individual to avoid risk-related behaviors (Harris et al. 2016) and therefore individuals with a high-risk disposition tend to equally develop a lack of appetite for risky endeavours (see also Dabbous et al. 2022 for related comment). Put simply, risk disposition in this work connotes risk aversion and, unsurprisingly, this personality-based trait has been reported in the literature to exacerbate technology-based risk factors and consequently leading to non-adoption (Harris et al. 2016). Besides, in the financial literature, risk perception was found to negatively impact investment decision-making (Ainia and Lutfi 2019), suggesting therefore that individuals with a high-risk disposition may develop less-favorable attitude toward cryptocurrency and consequently very reluctant to invest in cryptocurrencies. To our knowledge, this paper represents an initial attempt in cryptocurrency study to investigate the extent to which risk disposition might play an important role in cryptocurrency investment decision-making and using data from more than one country.

Skepticism. Skepticism can be broadly defined as "the tendency to doubt, in principle and without evidence, the promises made by commercial sources" (Banikema and Roux 2014 p. 35). This therefore suggests that skepticism is borne out of doubt that an individual usually

has towards an object and characterized by a lack of verifiable evidence (Banikema and Roux 2014; Chouk and Mani 2019; Simon 2016). Interestingly, it has been found that skepticism leads to negative beliefs towards an object and consequently dampening individuals' attitude toward the adoption of the object (Simon 2016) and further implicating resistance to use the object (cf. Hajiheydari et al. 2021). According to Arli et al. (2021) and Todorov (2017), although there are several cryptocurrencies currently in use; security issues are making customers more anxious and further doubtful about the promises of cryptocurrency to potential investors. At the same time, environmental and/or situational factors such as negative media coverage of cryptocurrency can lead to the tendency by potential investors to have serious doubts and concerns about cryptocurrency and thereby undermining attitudinal and behavioral response to invest in it. It is believed, therefore, that skepticism stemming from mixed media reporting about cryptocurrencies could influence customers to develop a negative attitude toward cryptocurrencies and/or completely stay away from investing in them. In the mobile wallet literature, it has also been recently suggested that individuals scoring high on scepticism are very likely to be disinterested in using the technology (Chawla and Joshi 2021). Given the inferences in past research (Chawla and Joshi 2021; Chouk and Mani 2019; Simon 2016), this has impelled us to examine the specific role that consumer skepticism might have on cryptocurrency investment decision-making, which we believe by examining it can contribute incrementally to the literature at the interface of consumer psychology, investment behavior and fintechs use.

Hypotheses Development

Subjective norm and attitude. Subjective norm, which some scholars have also referred to as social influence (e.g. Elnadi and Gheith 2022), reflects the degree to which an individual may be influenced by the opinions of significant others and usually peers and family members (see also Husin et al. 2016). As such, subjective norm is a form of social pressure, and importantly it has been found in previous studies to be critically related to attitudes toward using a given technology and ultimately technology acceptance (e.g. Ifinedo 2018; Yang and Zhou 2011). More so, studies on investment behavior have also found subjective norm to be a

key predictor of investment decision-making and especially in the context of cryptocurrency (cf. Echchabi et al. 2021). Indeed, subjective norm has been found in multiple studies (Ayedh et al. 2021; Ifinedo 2018; Kondo and Ishida 2014; Kim et al. 2013; Mazambani and Mutambara 2020; Yang and Zhou 2011) to be a relatively weak predictor of behavioral intentions. Consequently, in this study, rather than suggesting that subjective norm will have a positive and direct impact on investment intentions, it is postulated that attitude toward cryptocurrency investment will be positively influenced by subjective norm (see also Kim et al. 2013). In sum, the following is hypothesised:

> *H1: Subjective norm positively affects attitude toward investing in cryptocurrency.*

Perceived self-efficacy and attitude. Perceived self-efficacy has been previously described as an individual's perception of his/her ability to perform a certain behavior (Ajzen 1991; Bandura 1988). Therefore, we reason that when individuals can believe that they can transact effectively with cryptocurrencies, they will be more likely also to develop positive attitude toward investing in cryptocurrencies. This reasoning has also been informed by studies in other domains (Kondo et al. 2014; Osakwe et al. 2022; Yang and Zhou 2011) that find that individuals with a high level of self-efficacy also tend to possess positive toward performing a behavior. Accordingly, it is hypothesised that:

> *H2: Perceived self-efficacy positively affects* attitude toward investing in cryptocurrency.

Trust disposition and attitude. Individual disposition to trust is an important personality trait that has been long considered in the literature to play a fundamental role in individual's technology decision-making (Grabner-Krauter and Faullant 2008; Harris et al. 2016; Li 2016; Mcknight et al. 2002; Raza et al. 2022; Wu et al. 2010) as well as in financial investment behaviors (Alharbey and Van Hemmen 2021). In this light, we infer from the abovementioned studies that individual disposition to trust will be pivotal to attitude formation toward

cryptocurrency investment especially because individuals with a high level of trust in others and indeed in humanity may more likely hold the belief that investing in cryptocurrency is a good idea. More so, since trusting beliefs have been suggested to be instrumental in cryptocurrency acceptance (Abbasi et al. 2021; Arli et al. 2021; Gil-Cordero et al. 2020), it is our belief therefore that trust disposition and attitude toward cryptocurrency investment will be interrelated. In sum, it is hypothesised that:

> *H3: Disposition to trust positively affects attitude toward investing in cryptocurrency.*

Risk disposition and attitude. Risk disposition, which measures the degree to which an individual is averse to risk (Harris et al. 2016), is an inhibitor to investment decision-making (Ainia and Lutfi 2019; Dabbous et al. 2022). Thus, suggesting that individuals who have little or no appetite for risky endeavours will be very less comfortable and reluctant to invest their money in a financial product such as cryptocurrency that is very speculative and (somewhat) opaque in nature. Besides, in the literature, risk avoidance, which is synonymous with risk disposition, has been found in past research to be negatively associated with consumer attitude in China and Europe (see Gao et al. 2013 for further reading). As such, high level of risk disposition might lower an individual's attitude toward cryptocurrency investment across the countries investigated in this work. Therefore, we hypothesise that:

> *H4: Disposition to risk negatively affects attitude toward investing in cryptocurrency.*

Skepticism and attitude. Prior literature has noted that for new technologies such as cryptocurrencies, consumers tend to develop skepticism towards them mostly because they are unfamiliar with them and further undermining their acceptance in the marketplace (e.g. Chouk and Mani 2019; Hajiheydari et al. 2021; Morel and Pruyn 2003). In fact, according to the conclusions in Chouk and Mani (2019) and Hajiheydari (2021), skepticism acts as a barrier to new technology acceptance. Extending this line of argument further, we argue that when potential investors develop significant doubt about cryptocurrency, even in the face of no verifiable evidence whatsoever, there is a strong likelihood that this will dampen their attitudes toward investing in cryptocurrencies. Especially as they may think that investing in cryptocurrency is not a wise thing to do and considering the relative newness of this form of currency and its high volatility and speculative nature. More so, since it has been recently found in the literature (Farooq and Wicaksono 2021) that individuals in collectivistic societies such as among the population in Kenya and Ghana are relatively more skeptical than their

counterparts in individualistic societies (e.g. Western Europe), it is plausible therefore that this may also undermine individuals' attitude in these societies toward investing in cryptocurrency. In sum, it is hypothesised that:

H5: Skepticism negatively affects attitude toward investing in cryptocurrency.

Attitude and willingness to invest in cryptocurrency. As previously discussed, attitude reflects the extent to which an individual elicits a good or bad feeling towards executing a specific behavior (see also Ajzen 1991; Osakwe et al., 2022). This also suggests that an individual's attitudinal disposition toward performing a behavior could be either favourable or less favorable in nature. Willingness to undertake a task, on the other hand, reflects how much of an effort an individual is willing to perform a given task or behavior (Ajzen 1991). Empirically, it is well-established that willingness to perform an action, or more broadly behavioral intention, is positively influenced by attitude (Elnadi and Gheith 2022; Kim et al. 2013; Kondo et al. 2014; Osakwe et al. 2022; Yang and Zhou 2011), though a few contradictions exist also in the literature (cf. Ifinedo 2018; Yang 2013). That said, this research following emergent studies in cryptocurrency (Echchabi et al. 2021; Mazambani and Mutambara 2019; Pham et al. 2021) believes that individuals with positive attitudes toward cryptocurrency investment will be more willing to invest in this form of virtual currency. Thus, the following is hypothesised.

H6: Attitude positively affects willingness to invest in cryptocurrency.

Overall, the formulated research model guiding this study is portrayed in Figure 1.

Figure 1 about here.

Methodology

This study follows a positivist approach and adopts a quantitative survey method to collect data from respondents from Ghana and Kenya using a questionnaire.

Instrumentation

The questionnaire composed of demographic questions (e.g. gender, income, education levels) (see also Appendix A) and measures that were adopted from the literature. Concerning the measures and their literature sources, subjective norm was made up of 3 items adopted from Husin et al. (2016); attitude was represented by 3 items adopted from the study by Aziz et al. (2019) whilst perceived self-efficacy consisted of 3 items adopted from Ratten and Ratten (2007). Trust disposition consisted of 3 items adopted from Gefen (2000) and Kim et al. (2008);

disposition to risk consisted of 2 items gleaned from Harris et al. (2016) whilst skepticism was made up of 3 items adopted from Chouk and Mani (2019). The main dependent variable was the willingness to invest, and this consisted of 3 items adopted from Mendoza-Tello et al. (2019). All the measures were based on a 5-point Likert scale, and which is consistent with others in the literature (Lietz 2010; Osakwe et al. 2020, 2022).

Data collection

The data collection was done online. The initial questionnaire was first piloted with 10 respondents each in all two countries and the outcomes used to improve the quality of wording of the questions. The final questionnaire was designed and mounted online using google forms and shared via emails and social media links to potential respondents, which is consistent also with similar cryptocurrency studies (Abbasi et al. 2021; Roussou et al. 2019). The use of online survey was also in keeping with the (COVID-19) pandemic physical distancing requirements especially at the time the data was collected in the two countries. The respondents were simply required to rank the extent to which they disagree or agree with the statements on a 5-point Likert scale (strongly disagree to strongly agree). For the background information, the respondents were required to select or provide answers to the questions on their demographics. In all, a total of 290 respondents from Ghana and 227 from Kenya answered the questionnaire between October 2020 and March 2021.

Method of data analysis

The total dataset of 517 was cleaned and tested for normality after the extraction of the required latent variables (Hair et al. 2010). The dataset was then analysed using partial least squares - structural equation modelling (PLS-SEM). PLS-SEM was useful and relevant for the design and testing of the proposed research model (Henseler et al. 2009; Hair et al. 2017, 2020). For this purpose, the software SmartPLS (Ringle et al. 2015) was utilised. Finally, descriptive statistics of the research participants are tabulated in Table 1.

Table 1 about here.

Measurement model

Table 2 shows the measurement validity and reliability. According to Hair et al. (2020), a measurement variable is valid if the average variance extracted (AVE) is greater than 0.5 and the measurement variables are reliable if the composite reliability (CR) values are greater than

0.7. As shown in Table 2, the AVE and CR for all the measurements were greater than 0.5 and 0.7 respectively in both the country sample indicating that the measurement used was valid and reliable in both countries.

Table 2 about here.

To assess discriminant validity (Table 3), we used the HTMT criterion introduced by Henseler et al. (2015). All the HTMT ratios were lower than 0.85 except for one which was slightly higher than 0.85 in both the country data, but nevertheless lower than the upper threshold value of 0.90 (Henseler et al. 2015). As such, the respondents in both countries understood that the measurements were distinct and can therefore be used for examining the structural interrelationships among the studied variables.

Table 3 about here.

Measurement invariance

Following Henseler et al. (2016) and Osakwe et al. (2020), an invariance test was conducted to determine whether the construct measurements were similarly understood across countries (Table 4). Firstly, configural invariance was established between the datasets for all two countries in the measurement model stage. Secondly, a permutation test substantiated that none of the c values were significantly different from one another. All the permutation c value results (= 1) straddle the upper and lower bounds of a 95% confidence interval, thus establishing compositional invariance in the research model. However, the results of the difference in the mean value of the composite and the variance ratio mostly did not fall between the upper and lower bounds of a 95% confidence interval. In conclusion, only partial measurement invariance was established in this study.

Table 4 about here.

Structural model

To test the proposed hypotheses, a bootstrapping with a 5,000 resample (Hair et al. 2020) was used to generate the standard deviation, t-values, and p-values. Table 5 and 6 show the results of the hypothesis testing in Ghana and Kenya sample, respectively.

Table 5 about here.

Table 6 about here.

In the Ghana sample, subjective norm (β = 0.392, p< 0.01) and perceived self-efficacy (β = 0.250, p< 0.01) were positively related to attitude whereas consumer skepticism (β = -0.264, p< 0.01) was negatively related to attitude. However, neither consumer disposition to trust nor consumer disposition to risk were found to be a significant predictor of attitude. The model explains 50% variance in attitude towards investing in cryptocurrency (R^2 of 0.5 and Q^2 = 0.383). Attitude (β = 0.453, p< 0.01) was also positively related to willingness to invest explaining an R^2 of 0.79.

In the Kenyan sample it was similar, with subjective norm (β = 0.257, p< 0.01), perceived self-efficacy (β = 0.293, p< 0.01) and consumer disposition to trust (β = 0.167, p< 0.01) positively related to attitude while consumer scepticism (β = -0.243, p< 0.01) was negatively related to attitude while consumer disposition to risk (β = 0.236, p< 0.01) was significant but the direction of relationship was positive and thus rejected H4. Overall, our model explains 44.6% variance in attitude for Kenya sample (R^2 of 0.446). Attitude (β = 0.415, p< 0.01) was also positively related to willingness to invest explaining an R^2 of 0.481.

Tables 7 summarizes the main differences between the results of the 2-country comparison. The model explained the highest variance in the Ghana sample for attitude with 50% variance explained followed by Kenyan sample with 44.6% variance explained. In terms of the prediction of willingness to invest the Ghana sample shows the variance explained is 79%, while in the Kenya sample it only explained 48.1% variance.

In terms of explaining attitude, subjective norm and skepticism played the most significant role in Ghana while perceived self-efficacy and subjective norm played a much bigger role in the Kenyan sample. Attitude played a stronger role in predicting willingness to invest in the Ghana sample as compared to the Kenyan sample.

Table 7 about here.

Additionally, results from a posthoc analysis (see Appendix B and Tables 8 and 9) reveal that the relationships between skepticism, subjective norm, perceived self-efficacy and willingness to invest in cryptocurrency are further mediated by attitude in both the Ghana and Kenya sample, while attitude was also found to mediate the effect of trust disposition on willingness to invest in cryptocurrency in the Kenya sample.

Discussion and implications

The validated model (and as tabulated in Tables 7, 8 and 9) demonstrates the suitability of applying the extended planned behavior model to study the psychological antecedents to cryptocurrency investment decision-making and by extension related phenomena in emerging regions around the world.

Specifically, this study contributes to emerging research on cryptocurrency by producing several key findings using cross-country survey data. First, like previous studies in other contexts (Ifinedo 2018; Kim et al. 2013; Yang and Zhou 2011), we found that attitude is positively influenced by subjective norm. In context, the implication of the above result is that other peoples' opinions especially those of family members and acquaintances matter significantly when it comes to developing an either positive or negative attitude toward cryptocurrency investment. Interestingly, the strong and positive relationship between subjective norm and attitude toward cryptocurrency investment exists for both Ghanaian and Kenyan respondents and which adds to empirical generalisation about the role that subjective norm plays in shaping individuals' attitude toward crypto assets ownership in different markets. As a matter of fact, subjective norm was found to be the most powerful predictor of attitude in Ghana and the second most powerful predictor of attitude in Kenya (see Table 7 for details) and consequently reinforcing the salience of subjective norm as a decisional cue for attitudinal predisposition toward crypto assets ownership.

Second, as with other studies conducted elsewhere (Kondo et al. 2014; Osakwe et al. 2022; Yang and Zhou 2011), we find that perceived self-efficacy is strongly linked to attitude toward investing in cryptocurrency across the two samples/countries. However, what is nuanced and noteworthy is the insight that perceived self-efficacy is the strongest predictor of attitude in the Kenyan sample, whereas for Ghana sample it was found to be the third strongest predictor of attitude toward investing in cryptocurrency.

Third, this study has shown that when consumers express skepticism toward an object and in this case cryptocurrency investment, this significantly inhibits attitude toward investing in cryptocurrency. While this research finding is new in the literature on cryptocurrency, the research insights are, however, logically consistent with suggestions in past research and wherein

17

skepticism is argued to be an important barrier to new product/technology acceptance (Chouk and Mani 2019; Hajiheydari et al. 2021; Morel and Pruyn 2003). Besides, the research finding parallels prior study in a different context that found ad skepticism to be significantly related to attitude toward no junk mail stickers (see Simon 2016 for details). In terms of magnitude of impact, we found that skepticism is the second most powerful predictor of attitude in Ghana and the third most powerful predictor of attitude in Kenya (Table 7). Altogether, the research evidence highlights that for consumers who are more skeptical about cryptocurrency, they consider investing in crypto assets as an unwise thing to do and therefore unappealing for this group of consumers and the reverse holds also for individuals who are less skeptical about crypto assets ownership. To the authors knowledge, this research represents the first in the literature to establish the negative relationship between skepticism and attitude toward investing in cryptocurrency by utilising data from two countries. In conclusion, we believe therefore that this research assists in enhancing empirical generalisation about the critical role that skepticism plays in attitudinal formation especially as it relates to technology and investment decision-making and consequently underscoring the value of extending TPB with this less-studied psychological variable in the literature.

Fourth, we found an important difference between respondents in the two countries being investigated in that the impact of trust disposition on attitude was statistically significant only for Kenya (see Table 7). This is remarkable considering that despite the many socioeconomic realities that both Ghana and Kenya share together, the impact of individuals' disposition to trust on attitude toward investing in cryptocurrency was rather insignificant for Ghana as compared to Kenyan sample. The differences in the finding all seem to suggest that respondents in Kenya have more faith in humanity and others and consequently increasing their likelihood to develop positive attitude toward investing in crypto assets. Notably, this research highlights that even in similar countries, individuals may respond differently due to their unique psychological predispositions. Whether this may be shaped by the availability of formal institutional arrangements or cultural upbringing in a particular country remains unknown and lies beyond the scope of the present study. Yet, there is an opportunity for research in this area. Literature-wise, the finding that trust disposition is significantly related to attitude especially in the case of Kenya is consistent with studies such as those of Grabner-Krauter and Faullant (2008; see also Raza et al. 2022) that stress

the importance of propensity to trust in building initial confidence on emerging technology use and in turn attitude toward using the technology. At this point, it may be noteworthy to mention that our study, however, differs from previous research about potential investors' intentions in equity crowdfunding platforms that appear to establish a negative relationship between trust disposition and intentions (see Figure 2 and Table 5 in Alharbey and Van Hemmen 2021:15). Especially since the current research has illustrated in Table 9 that trust disposition positively predicts willingness to invest in cryptocurrency through the psychological mechanism of attitude. Prior research has overlooked this important aspect and which the current research by performing a supplementary analysis has shown how consumer disposition to trust can implicate behavioral intentions and especially through modifying attitudinal beliefs. Of course, and as already implied above, the indirect effect of trust disposition on willingness to invest in crypto assets was only significant for respondents in Kenya (Table 9) and suggesting therefore that the indirect impact of consumer disposition to trust on behavioral intentions varies across countries.

Fifth, we did not find sufficient empirical support that consumer disposition to risk is negatively related to attitude toward investing in cryptocurrency across the two countries. This is surprising since prior studies in other contexts (e.g. Gao et al. 2013) have argued otherwise. What is even more astonishing is that we find from the Kenya sample that risk disposition is positively correlated with attitudinal beliefs about cryptocurrency investment and further contradicting common knowledge about the negative role that risk disposition potentially plays in shaping beliefs and individual behavior (see also Dabbous et al. 2022). A potential explanation for the research finding in Kenya is that individuals with a greater degree of risk aversion might believe that investing in cryptocurrency is a good idea since they could earn reasonable profits from such an investment. That said, further research is needed to examine in detail the role that risk avoidance plays in cryptocurrency investment decision-making.

Lastly, and as expectedly, we found that attitude is not just a direct and strong predictor of willingness to invest in cryptocurrencies across the two countries studied but that it also acts as a mediator especially regarding the influence of subjective norm, perceived self-efficacy, consumer disposition to trust and skepticism on willingness to invest. In particular, the research finding that attitude is a direct and strong predictor of willingness to invest is consistent with TPB (Ajzen 1991) as well as a recent study in Morocco that found attitude to be a critical driver of individuals'

19

investment intentions toward cryptocurrency (Echchabi et al. 2021). Our results, along with the previous research, therefore, suggest that potential investors in different markets around the world would consider owning crypto assets as long as they have developed favorable attitude toward cryptocurrency. This study has therefore contributed to widening current understanding about the critical role that attitude plays in shaping behavioral outcomes and especially within the context of crypto assets.

Theoretical implications

This research makes several contributions to the dialogue on cryptocurrency investment and by extension the literature on fintech based on an expanded TPB. However, the most significant contribution that this research seeks to emphasize is the validation of the proposed extended TPB model (see Figure 1) using research data from African countries and namely Ghana and Kenya, where crypto asset trading has been on rise in the last four years. As a result, this research has improved the generalization of the TPB factors, along with the idiosyncratic factors of consumer disposition to trust, risk, and skepticism associated with attitudinal beliefs about cryptocurrency and in turn willingness to invest in cryptocurrency.

More specifically, the study has been able to demonstrate the most powerful predictors to attitude toward cryptocurrency investment. This research ranks subject norm and skepticism as the two most powerful predictors of attitudinal beliefs in Ghana, whereas for Kenya perceived self-efficacy and subjective norm emerged as the two biggest contributors to attitudinal beliefs about cryptocurrency investment. This research has further shown that the relationship between consumer disposition to trust on attitudinal beliefs differs according to country type and wherein this relationship only holds as previously stated for Kenya. The implication of this finding therefore is that country context potentially matters for understanding the structural relationship between trust disposition and attitudinal beliefs about crypto assets investment. Finally, this study contributes originally to research about cryptocurrency through its additional analysis that attitude strongly mediates the impact of psychological variables such as subjective norm, perceived self-efficacy, skepticism and trust disposition on individuals' intentions to invest in cryptocurrency. An important implication of the above findings to existing research is that modifying attitudinal

beliefs is key to altering individuals' behaviors and especially in the case of willingness to invest in cryptocurrency.

Practical implications

This research has three main implications for practitioners especially cryptocurrency dealers and/or merchants. First, our research findings show that psychological variables such as subjective norm, perceived self-efficacy and skepticism are instrumental in determining attitudinal beliefs and in turn willingness to invest in cryptocurrency in the two countries being investigated and this may also extend to other markets in Africa and elsewhere. The implication therefore is for cryptocurrency merchants to develop appropriate measures in these areas to effectively encourage individuals to invest in it. Second, cryptocurrency merchants especially in African countries such as Ghana and Kenya should realize that many individuals are still sceptical when it comes to attitude toward cryptocurrency investment. As such, they should use the insights generated from the empirical analysis to design marketing campaigns aimed at educating people about cryptocurrency. This way, they may become successful in reducing potential investors' skepticism towards investing their money in cryptocurrency.

Finally, this research based on the reported evidence enables industry practitioners to better evaluate the key predictors of attitudinal beliefs about cryptocurrency and ultimately willingness to invest in cryptocurrency in countries (like Kenya and Ghana) where cryptocurrency is emerging strongly as an alternative to well-known investment (trading) vehicles such as forex and stock trading.

Limitations and future research

Like any other research, there are limitations to the current study that should warrant additional investigation in this area. An important limitation of the present study is that the generalisation of the research results may be limited to the Kenya and Ghana's sample. Accordingly, there is a need for additional research to include sample respondents from other parts of the world especially given country and cultural differences that may be entirely different from those of the current research. We acknowledge also that this research may not have addressed fully the variety of (psychological) factors influencing cryptocurrency investment decision-making

especially as the present research was restricted to the application of TPB constructs and related constructs like skepticism, risk and trust dispositions. Therefore, it would be interesting for future research to explore additional factors such as financial literacy, greed and macro-level institutional factors in connection with intentions and actual behavior toward cryptocurrency investment.

Conclusion

This research has shed important light on the psychological factors determining attitude and willingness to invest in cryptocurrencies using data from two countries and wherein we observed some significant differences regarding the impact of the psychological factors on attitude across countries. One major takeaway proceeding from the current investigation and emanating from our supplementary analysis is that, while skepticism, subjective norm and perceived self-efficacy have an indirect influence on intentions to invest in cryptocurrency via attitudinal beliefs across the two countries, trust disposition indirectly influences investment intentions through attitudinal beliefs only in the case of Kenyan sample. Overall, the derived findings from this research all seem to point towards that to improve the understanding about individuals' decision to invest in cryptocurrencies, it will be beneficial to include constructs like skepticism and trust disposition, along with TPB-related constructs like subjective norm, perceived self-efficacy and attitude.

Ethics declarative statement

The authors acknowledge that even though the current research uses human participants for this study, this study, as it was based on data collected online from research participants, carries no injury whatsoever to participants and thus no institutional clearance was required for this research. More so, participation was voluntary and did not collect any personal information from the research participants. Besides, this research uses aggregated responses to analyse the dataset.

Disclosure statement

The authors declare they have no known competing interests either financially or personally that could have appeared to influence the research report.

References

Aassve, A., Sironi, M., & Bassi, V. (2013). Explaining attitudes towards demographic behaviour. *European Sociological Review*, *29*(2), 316-333.

Abbasi, G. A., Tiew, L. Y., Tang, J., Goh, Y. N., & Thurasamy, R. (2021). The adoption of cryptocurrency as a disruptive force: Deep learning-based dual stage structural equation modelling and artificial neural network analysis. *Plos One*, *16*(3), e0247582.

Ainia, N. S. N., & Lutfi, L. (2019). The influence of risk perception, risk tolerance, overconfidence, and loss aversion towards investment decision making. *Journal of Economics, Business, & Accountancy Ventura*, 21(3), 401-413.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179-211.

Ajzen, I. (2002). Perceived behavioral control, self-efficacy, locus of control, and the theory of planned behavior 1. *Journal of Applied Social Psychology*, *32*(4), 665-683.

Ajzen, I. (2011). The theory of planned behaviour: Reactions and reflections. *Psychology & Health* 26(9), 1113-1127

Ajzen, I. (2015). The theory of planned behaviour is alive and well, and not ready to retire: a commentary on Sniehotta, Presseau, and Araújo-Soares. *Health psychology review*, *9*(2), 131-137.

Alharbey, M., & Van Hemmen, S. (2021). Investor intention in equity crowdfunding. Does trust matter?. *Journal of Risk and Financial Management*, 14(2), 53.

Alharbi, A., & Sohaib, O. (2021). Technology readiness and cryptocurrency adoption: PLS-SEM and deep learning neural network analysis. *IEEE Access*, *9*, 21388-21394.

Ali, O., Ally, M., & Dwivedi, Y. (2020). The state of play of blockchain technology in the financial services sector: A systematic literature review. *International Journal of Information Management*, *54*, 102199.

Al-Rafee, S., & Dashti, A. E. (2012). A cross cultural comparison of the extended TPB: The case of digital piracy. *Journal of Global Information Technology Management, 15(1), 5-24.*

Angerer, M., Hoffmann, C. H., Neitzert, F., & Kraus, S. (2021). Objective and subjective risks of investing into cryptocurrencies. *Finance Research Letters*, *40*, 101737.

Anser, M. K., Zaigham, G. H. K., Imran Rasheed, M., Pitafi, A. H., Iqbal, J., & Luqman, A. (2020). Social media usage and individuals' intentions toward adopting Bitcoin: The role of the

theory of planned behavior and perceived risk. *International Journal of Communication Systems*, *33*(17), e4590.

Arias-Oliva, M., Pelegrín-Borondo, J., & Matías-Clavero, G. (2019). Variables influencing cryptocurrency use: A technology acceptance model in Spain. *Frontiers in Psychology*, *10*, 475.

Arias-Oliva, M., de Andrés-Sánchez, J., & Pelegrín-Borondo, J. (2021). Fuzzy set qualitative comparative analysis of factors influencing the use of cryptocurrencies in Spanish households. Mathematics, 9, 324.

Arli, D., van Esch, P., Bakpayev, M., & Laurence, A. (2021). Do consumers really trust cryptocurrencies?. *Marketing Intelligence & Planning*, 39 (1), 74-90

Ayedh, A., Echchabi, A., Battour, M., & Omar, M. (2021). Malaysian muslim investors' behaviour towards the blockchain-based Bitcoin cryptocurrency market. *Journal of Islamic Marketing*, 12(4), 690-704.

Aziz, S., Husin, M. M., Hussin, N., & Afaq, Z. (2019). Factors that influence individuals' intentions to purchase family takaful mediating role of perceived trust. *Asia Pacific Journal of Marketing and Logistics*, 31(1), 81-104.

Bandura, A. (1998). Health promotion from the perspective of social cognitive theory. *Psychology and Health*, 13,623-649.

Banikema, A. S., & Roux, D. (2014). Consumers' propensity to resist: A contribution to the study of the disposition to oppose market influence attempts. *Recherche et Applications en Marketing (English Edition)*, *29*(2), 32-56.

Chainanalysis Market Intel. 2020. The 2020 global crypto adoption index: Cryptocurrency is a global phenomenon. Accessed March 20, 2021. https://blog.chainalysis.com/reports/2020-global-cryptocurrency-adoption-index-2020.

Chawla, D., & Joshi, H. (2021). Importance-performance map analysis to enhance the performance of attitude towards mobile wallet adoption among Indian consumer segments. *Aslib Journal of Information Management*, 73(6), 946-966.

Chen, D., Lin, Z., & Lai, F. (2010). Crossing the chasm-understanding China's rural digital divide. *Journal of Global Information Technology Management*, 13(2), 4-36.

Choi, G., & Chung, H. (2013). Applying the technology acceptance model to social networking sites (SNS): Impact of subjective norm and social capital on the acceptance of SNS. *International Journal of Human-Computer Interaction*, *29*(10), 619-628.

Chouk, I., & Mani, Z. (2019). Factors for and against resistance to smart services: role of consumer lifestyle and ecosystem related variables. *Journal of Services Marketing*, 33(4), 449-462.

Ciriello, R. F. (2021). Tokenized index funds: A blockchain-based concept and a multidisciplinary research framework. *International Journal of Information Management*, *61*, 102400.

Coeckelbergh, M., & Reijers, W. (2016). Cryptocurrencies as narrative technologies. *Acm Sigcas Computers and Society*, *45*(3), 172-178.

Conner, M. (2015). Extending not retiring the theory of planned behaviour: A commentary on Sniehotta, Presseau and Araújo-Soares. *Health Psychology Review*, *9*(2), 141-145.

Dabbous, A., Sayegh, M. M., & Barakat, K. A. (2022). Understanding the adoption of cryptocurrencies for financial transactions within a high-risk context. *Journal of Risk Finance*, ahead-of-print, https://doi.org/10.1108/JRF-10-2021-0169

Davidson, S., De Filippi, P., & Potts, J. (2016). Economics of blockchain. *Available at SSRN 2744751*.

DeMarree, K. G., Clark, C. J., Wheeler, S. C., Briñol, P., & Petty, R. E. (2017). On the pursuit of desired attitudes: Wanting a different attitude affects information processing and behavior. *Journal of Experimental Social Psychology*, *70*, 129-142.

Deutsche Welle (DW), (2020). Africa's quiet cryptocurrency revolution. Accessed March 23, 2021. https://www.dw.com/en/africas-quiet-cryptocurrency-revolution/a-55199637.

Echchabi, A., Aziz, H. A., & Tanas, I. N. (2021). Determinants of investment in cryptocurrencies: The case of Morocco. *Rafgo*, *1*(1), 1-6.

Egorova, N. E., & Torzhevskiy, K. A. (2016). Bitcoin: Main trends and perspectives. *Journal of Economics, Management and Trade*, 1-11.

Elnadi, M., & Gheith, M. H. (2022). What makes consumers reuse ride-hailing services? An investigation of Egyptian consumers' attitudes towards ride-hailing apps. *Travel Behaviour and Society*, 29, 78-94.

Farooq, Y., & Wicaksono, H. (2021). Advancing on the analysis of causes and consequences of green skepticism. *Journal of Cleaner Production*, 320, 128927.

Gao, T. T., Rohm, A. J., Sultan, F., & Pagani, M. (2013). Consumers un-tethered: A three-market empirical study of consumers' mobile marketing acceptance. *Journal of Business Research*, 66(12), 2536-2544.

Gefen, D. (2000). E-commerce: the role of familiarity and trust. *Omega*, *28*(6), 725-737.

Ghosh, J. (2019). The Blockchain: Opportunities for research in information systems and information technology. *Journal of Global Information Technology Management*, 22(4), 235-242.

Giaglis, G. M., & Kypriotaki, K. N. (2014). Towards an agenda for information systems research on digital currencies and bitcoin. In *International Conference on Business Information Systems* (pp. 3-13). Springer, Cham.

Gil-Cordero, E., Cabrera-Sánchez, J. P., & Arrás-Cortés, M. J. (2020). Cryptocurrencies as a financial tool: Acceptance factors. *Mathematics*, *8*(11), 1974.

Gonçalves, P. (2020). Booming Africa crypto adoption sparks regulation concerns. Accessed March 20, 2021.https://www.internationalinvestment.net/news/4020711/booming-africa-crypto-adoption-sparks-regulation-concerns.

Götze, F. (2011). Understanding Chinese consumer behaviour towards new products. *Marketing: ZFP–Journal of Research and Management, 33*(2), 147-158.

Grabner-Krauter, S., & Faullant, R. (2008). Consumer acceptance of internet banking: the influence of internet trust. *International Journal of Bank Marketing*, 26 (7), 483-504.

Gupta, S., Gupta, S., Mathew, M., & Sama, H. R. (2021). Prioritizing intentions behind investment in cryptocurrency: A fuzzy analytical framework. *Journal of Economic Studies*, 48(8), 1442-59.

Haferkorn, M., & Diaz, J. M. Q. (2014). Seasonality and interconnectivity within cryptocurrencies-an analysis on the basis of bitcoin, litecoin and namecoin. In *International Workshop on Enterprise Applications and Services in the Finance Industry* (pp. 106-120). Springer, Cham.

Hagger, M. S., & Hamilton, K. (2021). Effects of socio-structural variables in the theory of planned behavior: A mediation model in multiple samples and behaviors. *Psychology & Health*, *36*(3), 307-333.

Hair Jr, J. F., Howard, M. C., & Nitzl, C. (2020). Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. *Journal of Business Research*, *109*, 101-110.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis*. Englewood Cliffs, NJ: Prentice.

Hair Jr, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2021). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage publications.

Hajiheydari, N., Delgosha, M. S., & Olya, H. (2021). Scepticism and resistance to IoMT in healthcare: Application of behavioural reasoning theory with configurational perspective. *Technological Forecasting and Social Change*, 169, 120807.

Harris, M. A., Brookshire, R., & Chin, A. G. (2016). Identifying factors influencing consumers' intent to install mobile applications. *International Journal of Information Management*, *36*(3), 441-450.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2016). Testing measurement invariance of composites using partial least squares. *International marketing review*, *33*(3): 405-431.

Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, *43*(1), 115-135.

Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. In *New challenges to international marketing*, 14, 277-320.

Hong, I. B., & Cha, H. S. (2013). The mediating role of consumer trust in an online merchant in predicting purchase intention. *International Journal of Information Management*, *33*(6), 927-939.

Huang, Y. C., Chang, L. L., & Backman, K. F. (2019). Detecting common method bias in predicting creative tourists behavioural intention with an illustration of theory of planned behaviour. *Current Issues in Tourism*, *22*(3), 307-329.

Husin, M. M., Ismail, N., & Ab Rahman, A. (2016). The roles of mass media, word of mouth and subjective norm in family takaful purchase intention. *Journal of Islamic Marketing*, 7(1), 59-73.

Ifinedo, P. (2018). Empirical study of Nova Scotia nurses' adoption of healthcare information systems: Implications for management and policy-making. *International Journal of Health Policy and Management*, 7(4), 317-327.

Johansen, S. K. (2018). A comprehensive literature review on the Blockchain as a technological enabler for innovation. *Dept. of Information Systems, Mannheim University, Germany*, 1-29.

Kim, D. J., Ferrin, D. L., & Rao, H. R. (2008). A trust-based consumer decision-making model in electronic commerce: The role of trust, perceived risk, and their antecedents. *Decision Support Systems*, *44*(2), 544-564.

Kim, E., Ham, S., Yang, I. S., & Choi, J. G. (2013). The roles of attitude, subjective norm, and perceived behavioral control in the formation of consumers' behavioral intentions to read menu labels in the restaurant industry. *International Journal of Hospitality Management*, 35, 203-213.

Kondo, F. N., & Ishida, H. (2014). A cross-national analysis of intention to use multiple mobile entertainment services. *Journal of Global Information Technology Management*, 17(1), 45-60.

Krueger Jr, N. F., Reilly, M. D., & Carsrud, A. L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing*, *15*(5-6), 411-432.

Li, J., Zheng, H., Kang, M., Wang, T., & Chen, S. (2016). Understanding investment intention towards P2P lending: An empirical study. *PACIS 2016 Proceedings*, 82, http://aisel.aisnet.org/pacis2016/82

Lietz, P. (2010). Research into questionnaire design: A summary of the literature. *International Journal of Market Research*, *52*(2), 249-272.

Light, K. (2019). Cryptocurrencies: can they live together with national currencies and what impact do they have on national and global economies?. In *Learning to Live Together: Promoting Social Harmony* (pp. 213-223). Springer, Cham.

Mahardika, H., Thomas, D., Ewing, M. T., & Japutra, A. (2019). Predicting consumers' trial/adoption of new technology: revisiting the behavioral expectations–behavioral intentions debate. *The International Review of Retail, Distribution and Consumer Research*, *29*(1), 99-117.

Mattke, J., Maier, C., Reis, L., & Weitzel, T. (2021). Bitcoin investment: A mixed methods study of investment motivations. *European Journal of Information Systems*, 30(3), 261-285.

Mazambani, L., & Mutambara, E. (2019). Predicting finTech innovation adoption in South Africa: The case of cryptocurrency. *African Journal of Economic and Management Studies*, 11(1), 30-50.

McKnight, D. H., Choudhury, V., & Kacmar, C. (2002). Developing and validating trust measures for e-commerce: An integrative typology. *Information Systems Research*, *13*(3), 334-359.

Mendoza-Tello, J. C., Mora, H., Pujol-López, F. A., & Lytras, M. D. (2019). Disruptive innovation of cryptocurrencies in consumer acceptance and trust. *Information Systems and e-Business Management*, *17*(2), 195-222.

Morel, K. P., & Pruyn, A. T. H. (2003). Consumer skepticism toward new products. *In: Turley, D., & Brown, S. (eds) European advances in consumer research, vol 6. Association for Consumer Research (ACR), Provo, pp 351–358*.

Nadeem, M. A., Liu, Z., Pitafi, A. H., Younis, A., & Xu, Y. (2021). Investigating the adoption factors of cryptocurrencies—A case of bitcoin: empirical evidence from China. *SAGE Open*, *11*(1), 2158244021998704.

Nakamoto, S. (2009). Bitcoin: A peer-to-peer electronic cash system. *Bitcoin. org. Disponible en https://bitcoin. org/en/bitcoin-paper*.

Nian, L. P., & Chuen, D. L. K. (2015). Introduction to bitcoin. In *Handbook of digital currency* (pp. 5-30). Academic Press.

Ogden, J. (2015). Time to retire the theory of planned behaviour?: One of us will have to go! A commentary on Sniehotta, Presseau and Araújo-Soares. *Health Psychology Review*, *9*(2), 165-167.

Osakwe, C. N., Hudik, M., Říha, D., Stros, M., & Ramayah, T. (2022). Critical factors characterizing consumers' intentions to use drones for last-mile delivery: Does delivery risk matter?. *Journal of Retailing and Consumer Services*, 65, 102865.

Osakwe, C. N., Okeke, T. C., & Kwarteng, M. A. (2022). Trust building in mobile money and its outcomes. *European Business Review*, 34(2), 244-262.

Osakwe, C. N., Ruiz, B., Amegbe, H., Chinje, N. B., Cheah, J. H., & Ramayah, T. (2020). A multi-country study of bank reputation among customers in Africa: Key antecedents and consequences. *Journal of Retailing and Consumer Services*, *56*, 102182.

Pavlou, P. A., & Gefen, D. (2004). Building effective online marketplaces with institution-based trust. *Information Systems Research*, *15*(1), 37-59.

Pham, Q. T., Phan, H. H., Cristofaro, M., Misra, S., & Giardino, P. L. (2021). Examining the intention to invest in cryptocurrencies: An extended application of the theory of planned behavior on Italian independent investors. *International Journal of Applied Behavioral Economics*, *10*(3), 59-79.

Polasik, M., Piotrowska, A. I., Wisniewski, T. P., Kotkowski, R., & Lightfoot, G. (2015). Price fluctuations and the use of bitcoin: An empirical inquiry. *International Journal of Electronic Commerce*, *20*(1), 9-49.

Rao, P. (2018). Africa could be the next frontier for cryptocurrency. Accessed January 14, 2021. https://www.un.org/africarenewal/magazine/april-2018-july-2018/africa-could-be-next-frontier-cryptocurrency.

Ratten, V., & Ratten, H. (2007). Social cognitive theory in technological innovations. *European journal of innovation management*, 10(1), 90-108.

Raza, A., Asif, M., & Akram, M. (2022). Give your hunger a new option: Understanding consumers' continuous intention to use online food delivery apps (OFDAs) using trust transfer theory. *International Journal of Consumer Studies*, https://doi.org/10.1111/ijcs.12845

Ringle, C. M., Wende, S., & Becker, J. M. (2015). SmartPLS 3. *Boenningstedt: SmartPLS GmbH*.

Roussou, I., Stiakakis, E., & Sifaleras, A. (2019). An empirical study on the commercial adoption of digital currencies. *Information Systems and e-Business Management*, *17*(2), 223-259.

Salcedo, E., & Gupta, M. (2021). The effects of individual-level espoused national cultural values on the willingness to use Bitcoin-like blockchain currencies. *International Journal of Information Management*, *60*, 102388.

Schwarzer, R. (2015). Some retirees remain active: A commentary on Sniehotta, Presseau and Araújo-Soares. *Health Psychology Review*, *9*(2), 138-140.

Shanmugham, R., & Ramya, K. (2012). Impact of social factors on individual investors' trading behaviour. *Procedia Economics and Finance*, *2*, 237-246.

Sheeran, P. (2002). Intention—behavior relations: a conceptual and empirical review. *European Review of Social Psychology*, 12(1), 1-36.

Simon, F. (2016). Consumer adoption of no junk mail stickers: An extended planned behavior model assessing the respective role of store flyer attachment and perceived intrusiveness. *Journal of Retailing and Consumer Services*, *29*, 12-21.

Sniehotta, F. F., Presseau, J., & Araújo-Soares, V. (2014). Time to retire the theory of planned behaviour. *Health psychology review*, *8*(1), 1-7.

Statista. (2020). Bitcoin price from October 2013 to March 19, 2021 (in U.S. dollars). https://www.statista.com/statistics/326707/bitcoin-price-index/.

Todorov, T. (2017). Bitcoin–an innovative payment method with A new type of independent currency. *Trakia Journal of Sciences,* 15 (1),163-166.

Vincent, O., & Evans, O. (2019). Can cryptocurrency, mobile phones, and internet herald sustainable financial sector development in emerging markets?. *Journal of Transnational Management*, 24(3), 259-279.

Wu, G., Hu, X., & Wu, Y. (2010). Effects of perceived interactivity, perceived web assurance and disposition to trust on initial online trust. *Journal of Computer-Mediated Communication*, 16(1), 1-26.

Yang, H. C. (2013). Bon appétit for apps: Young American consumers' acceptance of mobile applications. *Journal of Computer Information Systems*, 53(3), 85-96.

Yang, H. C., & Zhou, L. (2011). Extending TPB and TAM to mobile viral marketing: An exploratory study on American young consumers' mobile viral marketing attitude, intent and behavior. *Journal of Targeting, Measurement and Analysis for Marketing*, 19(2), 85-98.

Yoo, K., Bae, K., Park, E., & Yang, T. (2020). Understanding the diffusion and adoption of Bitcoin transaction services: The integrated approach. *Telematics and Informatics*, *53*, 101302.

Yousafzai, S. Y., Foxall, G. R., & Pallister, J. G. (2010). Explaining internet banking behavior: theory of reasoned action, theory of planned behavior, or technology acceptance model?. *Journal of Applied Social Psychology*, *40*(5), 1172-1202.

Yu, Chian-Son (2015). Using e-lifestyle to analyze mobile banking adopters and non-adopters. *Journal of Global Information Technology Management*, 18(3), 188–213.
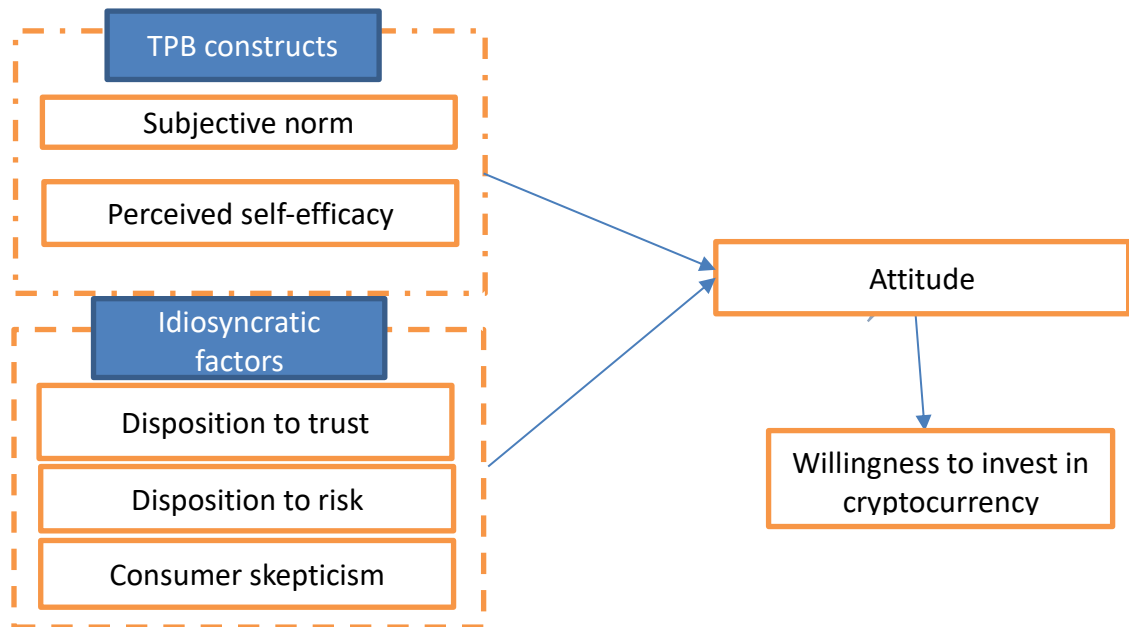
Fig. 1: Proposed research model based on extended planned behavior approach

Table 1: Background of the respondents (N = 517)

Characteristics	Country			
	Ghana	Kenya		
Gender				
Male	160 (55.2%)	122 (53.7%)		
Female	130 (44.8%)	105 (46.3%)		
Age				
Up to 18yrs	5 (1.7%)	2 (0.9%)		
18 – 24 yrs	67 (23.1%)	44 (19.4%)		
25 – 35 yrs	136 (46.9%)	92 (40.5%)		
36 - 57 yrs	81 (27.9%)	76 (33.5%)		
Above 57yrs	1 (0.3%)	13 (5.7%)		
Education				
Primary	-	1 (0.4%)		
Basic education	-	11 (4.8%)		
Secondary level	34 (11.7%)	34 (15.0%)		
Vocational	7 (2.4%)	24 (10.6%)		
University level	249 (85.9%)	157 (69.2%)		
Working status				
Unemployed	41 (14.1%)	43 (18.9%)		
Part-time	51 (17.6%)	46 (20.3%)		
Full-time	164 (56.6%)	110 (48.5%)		
Student	34 (11.7%)	28 (12.3%)		
Income				
Below 1,000	101 (34.8%)	< 20,000	61 (26.9%)	
1,000 - 3,000	121 (41.7%)	20,000-40,000	19 (8.4%)	
3,001 - 6, 000	40 (13.8%)	40,001-60, 000	42 (18.5%)	
6,001 - 9,000	11 (3.8%)	60,001-80,000	31 (13.7%)	
9, 001 - 12, 000	7 (2.4%)	80,001-100,000	22 (9.7%)	
12, 001 - 15, 000	4 (1.4%)	100,001-120,000	17 (7.5%)	
Above 18, 000	6 (2.1%)	120,001-140,000	6 (2.6%)	
-	-	Above 140,000	29 (12.8%)	

NB: $1=Gh¢6.06 (*Ghanaian Cedi*); $1=109.85 KES (KES-*Kenyan Shilling*);
(Source: https://www.exchangerates.org.uk, accessed 3/09/2021).

Table 2: *Convergent Validity and Reliability*

Construct	Ghana		Kenya	
	CR	AVE	CR	AVE
Attitude (ATT)	0.924	0.802	0.896	0.742
Consumer Disposition to Risk (CDR)	0.794	0.669	0.787	0.664
Consumer Disposition to Trust (CDT)	0.845	0.645	0.851	0.655
Consumer Skepticism (CSK)	0.848	0.653	0.842	0.640
Willingness to Invest (WIT)	0.948	0.858	0.915	0.783
Perceived Self Efficacy (PSE)	0.935	0.828	0.886	0.721
Subjective Norm (SN)	0.930	0.816	0.902	0.754

Table 3: *Discriminant Validity*

	Ghana							Kenya						
	1	2	3	4	5	6	7	1	2	3	4	5	6	7
1, ATT	■							■						
2. CDR	0.254	■						0.315	■					
3. CDT	0.417	0.266	■					0.435	0.109	■				
4. CSK	0.387	0.316	0.104	■				0.350	0.337	0.125	■			
5. WIT	0.878	0.262	0.578	0.361	■			0.815	0.187	0.476	0.406	■		
6. PSE	0.594	0.133	0.552	0.213	0.691	■		0.543	0.089	0.512	0.138	0.537	■	
7. SN	0.665	0.378	0.423	0.116	0.753	0.535	■	0.587	0.225	0.367	0.307	0.688	0.342	■

Table 4: *Measurement Invariance test using MICOM*

Group	Composite	c value (= 1)	CI	Partial Invariance	Mean Differences	CI	Variance Differences	CI	Full Invariance
Ghana & Kenya	ATT	1.000	[0.999; 1.000]	Yes	0.199	[-0.165; 0.168]	0.171	[-0.223; 0.243]	No
	CDR	0.992	[0.816; 1.000]	Yes	0.261	[-0.177; 0.160]	-0.289	[-0.200; 0.217]	No
	CDT	1.000	[0.989; 1.000]	Yes	0.155	[-0.165; 0.172]	-0.063	[-0.237; 0.217]	Yes
	CSK	0.991	[0.965; 1.000]	Yes	0.073	[-0.160; 0.175]	0.105	[-0.243; 0.282]	Yes
	WIT	1.000	[1.000; 1.000]	Yes	0.205	[-0.177; 0.182]	0.124	[-0.204; 0.218]	No
	PSE	1.000	[0.999; 1.000]	Yes	0.273	[-0.172; 0.176]	0.069	[-0.234; 0.238]	No
	SN	0.999	[0.999; 1.000]	Yes	0.302	[-0.177; 0.170]	0.083	[-0.224; 0.252]	No

Table 5: *Hypothesis Testing (Ghana)*

Hypothesis	Relationships	Std. Beta	Std. Dev.	t-value	p-value	BCI LL	BCI UL	f²
H1	SN → ATT	0.392	0.060	6.501	0.000	0.294	0.492	0.207
H2	PSE → ATT	0.250	0.062	4.005	0.000	0.149	0.356	0.082
H3	CDT → ATT	0.077	0.053	1.469	0.071	-0.013	0.160	0.009
H4	CDR → ATT	0.074	0.049	1.506	0.066	-0.002	0.157	0.009
H5	CSK → ATT	-0.264	0.049	5.429	0.000	-0.341	-0.179	0.128
H6	ATT → WIT	0.453	0.051	8.858	0.000	0.369	0.537	0.420

Table 6: *Hypothesis Testing (Kenya)*

Hypothesis	Relationships	Std. Beta	Std. Dev.	t-value	p-value	BCI LL	BCI UL	f²
H1	SN → ATT	0.257	0.063	4.064	0.000	0.159	0.367	0.091
H2	PSE → ATT	0.293	0.058	5.057	0.000	0.195	0.383	0.124
H3	CDT → ATT	0.167	0.059	2.812	0.002	0.063	0.263	0.039
H4	CDR → ATT	0.236	0.055	4.294	0.000	0.144	0.320	0.092
H5	CSK → ATT	-0.243	0.047	5.173	0.000	-0.316	-0.163	0.092
H6	ATT → WIT	0.415	0.054	7.733	0.000	0.326	0.503	0.241

Table 7: *Comparison between Countries*

Hypothesis	Relationships	Ghana Std. Beta	Kenya Std. Beta
H1	SN → ATT	0.392**	0.257**
H2	PSE → ATT	0.250**	0.293**
H3	CDT → ATT	0.077	0.167**
H4	CDR → ATT	0.074	0.236**
H5	CSK → ATT	-0.264**	-0.243**
H6	ATT → WIT	0.453**	0.415**

Appendix B – Mediation Analysis (Posthoc analysis)

The mediation analysis returned the results as shown in Table 8 and 9. Table 8 presents the results of mediation for Ghana. As can be seen the mediation effect of SN → ATT → WIT (β = 0.178, $p<$ 0.01), PSE → ATT → WIT (β = 0.113, $p<$ 0.01) and CSK → ATT → WIT (β = -0.120, $p<$ 0.01) were significant while the mediation of CDT → ATT → WIT and CDR → ATT → WIT were not significant. The path coefficients for mediators did not straddle a 0 thus confirming that attitude mostly mediates the influence of subjective norm, perceived self-efficacy and skepticism on willingness to invest in cryptocurrency for the Ghana sample.

Table 9 presents the results of mediation for Kenya. As can be seen the mediation effect of SN → ATT → WIT (β = 0.107, $p<$ 0.01), PSE → ATT → WIT (β = 0.122, $p<$ 0.01), CDT → ATT → WIT (β = 0.069, $p<$ 0.01), CDR → ATT → WIT (β = 0.098, $p<$ 0.01) and CSK → ATT → WIT (β = -0.101, $p<$ 0.01) were significantly mediated. The path coefficients for mediators did not straddle a 0 thus confirming also that in the Kenya sample attitude mediates the influence of subjective norm, perceived self-efficacy, skepticism as well as trust disposition on willingness to invest in cryptocurrency. We however rejected the indirect influence of risk disposition on willingness to invest due to the contradictory nature of the results.

Table 8: *Hypothesis Testing (Ghana)*

Hypothesis	Relationships	Std. Beta	Std. Dev.	t-value	p-value	BCI LL	BCI UL	Decision
Ha	SN → ATT → WIT	0.178	0.038	4.716	*p*< .001	0.109	0.257	Supported
Hb	PSE → ATT → WIT	0.113	0.030	3.813	*p*< .001	0.058	0.177	Supported
Hc	CDT → ATT → WIT	0.035	0.024	1.455	0.146	-0.012	0.082	Not Supported
Hd	CDR → ATT → WIT	0.033	0.022	1.547	0.122	-0.008	0.077	Not Supported
He	CSK → ATT → WIT	-0.120	0.029	4.177	*p*< .001	-0.178	-0.067	Supported

Table 9: *Hypothesis Testing (Kenya)*

Hypothesis	Relationships	Std. Beta	Std. Dev.	t-value	p-value	BCI LL	BCI UL	Decision
Ha	SN → ATT → WIT	0.107	0.030	3.595	*p*< .001	0.053	0.173	Supported
Hb	PSE → ATT → WIT	0.122	0.030	4.070	*p*< .001	0.071	0.189	Supported
Hc	CDT → ATT → WIT	0.069	0.025	2.815	0.005	0.023	0.120	Supported
Hd	CDR → ATT → WIT	0.098	0.026	3.818	*p*< .001	0.054	0.155	Not Supported
He	CSK → ATT → WIT	-0.101	0.024	4.208	*p*< .001	-0.150	-0.058	Supported

Appendix A – Questionnaire

Cryptocurrency is a type of digital currency based on the use of cryptography and a peer-to-peer network. This questionnaire is designed to collect information on **Consumers' willingness to transact and invest in Cryptocurrencies** (e.g. Bitcoin, Litecoin, Ethereum, Ripple, XRP, Tether). Your contribution towards completion of this questionnaire is highly appreciated. Please be assured that the information you provide will be used only for academic purposes and given the utmost confidentiality needed. Please note there are no good or bad answers to the questions asked.

Please, state the extent to which you agree or disagree with each of the following statements using the following scale - **1 – Strongly disagree, 2 – Disagree, 3 – Neutral, 4 – Agree, 5 – Strongly agree.**

	Statement	1	2	3	4	5
ATT1	I think investing in a cryptocurrency is a good idea					
ATT2	I have positive attitudes about cryptocurrencies					
ATT3	In general, it is a wise idea to invest in cryptocurrencies					
CDT1	I generally trust other people					
CDT2	I generally have faith in humanity					
CDT3	I generally trust other people unless they give me reason not to					
WIT1	I predict I would invest in cryptocurrencies in the next one to two years					
WIT2	Given the resources, I will strongly consider cryptocurrency investment					
WIT3	Overall, my chances of investing in cryptocurrencies is quite high					
SN1	People who influence my decision think that I should invest in cryptocurrency					
SN2	People whose opinions I value think I should invest in cryptocurrency					
SN3	People who are close to me think that I should invest in cryptocurrency					
PSE1	I feel that I am capable of understanding how cryptocurrency works					
PSE2	I believe I have the necessary skills and/or knowledge to invest in cryptocurrency					
PSE3	In general, I am confident of understanding cryptocurrency transactions					
CSK1	I do not think investing in cryptocurrency will be successful.					
CSK2	I doubt if investment in cryptocurrencies is as promising as cryptocurrency dealers would like us to believe.					
CSK3	In general, I am skeptical towards making any investment in cryptocurrency					
CDR1	I would say that I often take the easy way out					
CDR2	I would say that always try to avoid circumstances that make me feel uncomfortable					

Personal Information

1. Gender: i) Male [ ]   ii) Female [ ]
2. Age: i) Below 18yrs [ ]   ii) 18 – 24yrs [ ]   iii) 25 – 35yrs [ ]   iv) 36 – 57yrs   v) Above 57yrs [ ]
3. Highest Education Received: Primary education [ ] Basic general education [ ] Secondary general education [ ] Vocational education [ ] University education [ ]
4. Average monthly income (please tick the one that belongs to your country):

Ghana - Gh¢	Kenya - KES
Below 1,000	< 20,000
1,000 - 3,000	20,000-40,000
3,001 - 6, 000	40,001-60, 000
6,001 - 9,000	60,001-80,000
9, 001 - 12, 000	80,001-100,000
12, 001 - 15, 000	100,001-120,000
Above 18, 000	120,001-140,000
-	Above 140,000

5. Working status: i) Currently Unemployed [ ]   ii) Part-time [ ]   iii) Fulltime [ ]   iv) Fulltime student [ ]
6) Country of residence: i) Ghana   ii) Kenya