An Insight into the Key Motivational Influences Responsible for the Adoption of Cryptocurrency Among Irish Male Millennials.

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Abstract

Over the past twelve months, cryptocurrency has become an extremely popular alternative to the traditional monetary institutions, particularly among millennial males. The entire market-cap of the cryptocurrency industry grew roughly 5000% in 2017, resulting in all-time market highs that completely shocked the entire financial industry.

The research was undertaken of this contemporary topic in an attempt to understand the primary determinants responsible for causing the abrupt surge in the adoption of this new technology which is still considered to be in its infancy. To ensure an effective analysis of this phenomenon, a comprehensive review of previous literature on disruptive innovation and the relationship between male millennials and technology adoption was carried out. In addition to this, numerous technology adoption models were examined and critiqued in order to identify the most appropriate framework which would assist in guiding the data gathering process.
The Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) model was specifically adapted for the purposes of this study as it was identified as the most relevant and efficient model in assessing the adoption of cryptocurrency amongst Irish male millennials.

Ten Irish male millennial's who own cryptocurrency were contacted and open-ended interviews were conducted with the guidance of the adapted UTAUT2 model to develop an understanding for the motivating influences responsible for their adoption of this new phenomenon. The findings are discussed and critiqued in conjunction with the literature to develop some interesting insights and conclusions. Additionally, further areas of research are identified which will be required as this technology continues to grow and gains greater levels of worldwide adoption.

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Chapter 1 – Introduction

The entire cryptocurrency market has recently experienced exponential growth of levels never previously seen in the industry. The market grew a total of 10bn in 2016. However, 2017 brought an increase of 806bn into the market. This astronomical level of growth made headlines across the world, grabbing the attention of both experienced and first-time investors. As per Paul (2018), whose study identified that millennials are three times more likely to purchase cryptocurrency than any other demographic and an additional study carried out by McAvoy (2016) who outlined that male millennials responded positively towards the adoption of digital currency at a much higher rate than any other demographic. In conjunction with those findings, this study aims to examine and develop a conclusive understand for the motivating factors influencing the adoption of cryptocurrency amongst Irish male millennials.

The findings of this subject are extremely valuable because of the discovery of key data that infers to the potential disruption cryptocurrencies could have across numerous industries, both on the financial market directly and the global economy as a whole. As per Raymaekers (2014), the developments of cryptocurrency are being closely watched by payment industry players because of "*the potential to disrupt and transform the existing global financial infrastructure".* Raymaeker further outlines that it's not all positive within the space and that many opposing views of the digital currency phenomenon are also present, such as, *"they're over-hyped", "their potential is based on pure speculation"* and *"it is an insufficiently regulated payment channel, which is used for gambling or illegal purposes such as buying drugs or money laundering".* Amongst these opposing views, one valuable point strongly resonates with the author, that technology is fast evolving. In view of the evolving nature of technology, what might be perceived as a limitation to adopting cryptocurrency today, could be resolved tomorrow, which is important to consider when reading this paper, because the

cryptocurrency options available today are unlikely to be the same cryptocurrency products available twelve months from now. The technology is advancing rapidly and therefore is crucial to understand the factors both influencing and inhibiting the adoption process. In order to understand this process effectively, numerous technology adoption models will be examined and critiqued so that the framework of the most suitable model can be applied to the data gathering process in which ten Irish male millennials will be interviewed individually to understand the factors responsible for their adoption of cryptocurrency. In conjunction, this research also aims to identify the inhibiting factors causing concerns. By understanding this process and equipped with the right information, certainty around adoption may become clearer for those looking explore the industry in the future.

The technology adoption models that will be analysed in greater detail are the Theory of Reasoned Action (Ajzen and Fishbein, 1975), the Technology Acceptance Model (Fred Davis, 1985), The Diffusion of Innovation Model (Rodger's, 1962), the Unified Theory of Acceptance and Use of Technology (Venkatesh, 2003) and finally, the model selected (The adapted Unified Theory of Acceptance and Use of Technology 2 Model (Venkatesh, Thong and Xu, 2012)). Rationale for the selected model will be provided, explained and examined in greater detail to provide the reader with a sufficient level of understanding of its application to the data gathering process and its basis as the preferred model as the tool to critique the adoption process.

In order to ensure the reader is familiar with and has a sufficient level of subject knowledge, the following literature review will provide both academic and current business insights into the cryptocurrency environment, highlighting both its potential and the current factors inhibiting mass adoption.

Chapter 2 – The Literature Review

2.0 Overview

Cryptocurrency involves the meeting point of several complex issues. The Bank of International Settlements, established in 1930, and is owned by 60 central banks have claimed that "*decentralised cryptocurrencies suffer from a range of shortcomings*" (Samson, 2018). Notwithstanding the rich tapestry of issues, this paper looks to focus solely on developing an understanding of the key critical factors in influencing the behavioural intention of Irish male millennials in adopting cryptocurrency.

This literature review will present a brief introduction to cryptocurrency, followed by a presentation of the physical infrastructure upon which cryptocurrency is comprised of. The associated risks of cryptocurrency are critically examined. This is followed by the examination of disruptive innovations and in particular, the relationship between millennials and technology adoption. A consideration of the impact of price volatility on cryptocurrency adoption is offered before looking at the importance of technology adoption. This paper then considers different models of technology adoption in the literature, such as the Theory of Reasoned Action (1975), the Technology Acceptance Model (1985), Roger's Diffusion of Innovation (1995), and Unified Theory of Acceptance and Use of Technology (2003). This is followed by a discussion of determination for model selection for this research. Finally, the model selected (Unified Theory of Acceptance and Use of Technology 2 Model (2012)) is presented together with the individual elements which underpin this research question and subsequent research instrument (for example, Behavioural Intention (BI), Performance Expectancy (PE), Effort Expectancy (EE), Social Influence (SI) and Facilitating Conditions (FC) (such as security and confidentiality, support, technology problems), Hedonic Motivation (HM) (such as usage enjoyment and novelty enjoyment), Price Value (PV), Habit (HT), and Price Volatility (PV)). This chapter will outline all the key elements which have supported the research question and methodology.

2. 1 Introduction to Cryptocurrency

Cryptocurrencies were first introduced in 2008 by Satoshi Nakomoto, the unknown inventor of the first ever cryptocurrency, Bitcoin. The most significant aspect of this invention was that Satoshi identified a means of developing a decentralised digital cash system. The ability to achieve a consensus of transactions without the presence of a central authority such as a bank. Breaking cryptocurrency down to its simplest form, it can be understood easily as entries on a database that no entity can change without meeting certain requirements (Blockgeeks, 2016).

Preceding Bitcoin, there were previous attempts to create centralised online currencies secured through encryption. Examples of such currencies are B-Money and Bit Gold, which were formulated but never actually developed.

After 3 years, the idea of decentralised and encrypted currencies began to gain further traction and in 2011 the first alternative cryptocurrencies or 'Altcoins' began to appear which were designed for the sole purpose of improving on the aspects of Bitcoin that were considered flawed and inefficient. Some improvements included, offering a greater transaction per second (TPS) speed, anonymity and feeless transfers.

The following diagram outlines the primary characteristics offered by cryptocurrencies. However, constant improvements and competition within the industry has resulted in continuous improvements in terms of what these different altcoins are aiming to deliver.

Figure 1. Transactional Properties of Cryptocurrency (Blockgeeks, 2016).

10 years on from the inception of Bitcoin in 2018 and now, more than 1600 cryptocurrencies exist, as per coinmarketcap.com. All of these currencies are attempting to solve current industry problems like scaling, ease of adoption or provide value to a particular market segment with the end goal of gaining the greatest level of adoption and overall market share (Marr, 2017). Cryptocurrency has shown its potential in disrupting our current monetary systems. The monumental growth the cryptocurrency market has experienced over the past year has been astronomical and for that reason, this paper aims to identify the factors encouraging the adoption of digital currency by male millennials in Ireland.

Having discussed, briefly, the historical context of cryptocurrency, this next section provides an insight into the technology infrastructure supporting cryptocurrency and the benefits outlined by some industry experts.

2.2 Centralised vs Decentralised

If cryptocurrencies have a chance of being universally adopted and supersede the current monetary system, the benefits they offer need to

drastically outweigh those of our current approach and be easy to understand and used by the majority.

The following diagram provides a visual on the differences between centralised and decentralised networks. As is apparent, centralised networks all revolve around a single point of authority that do all of the work, also translating to a single point of failure. However, decentralised networks, do not operate around a single point of authority, but instead have multiple distributed points, working simultaneously. If one point is breached or becomes unavailable, the network can continue as it isn't completely reliant on specific individual components in order to function effectively (Rehman, 2017).

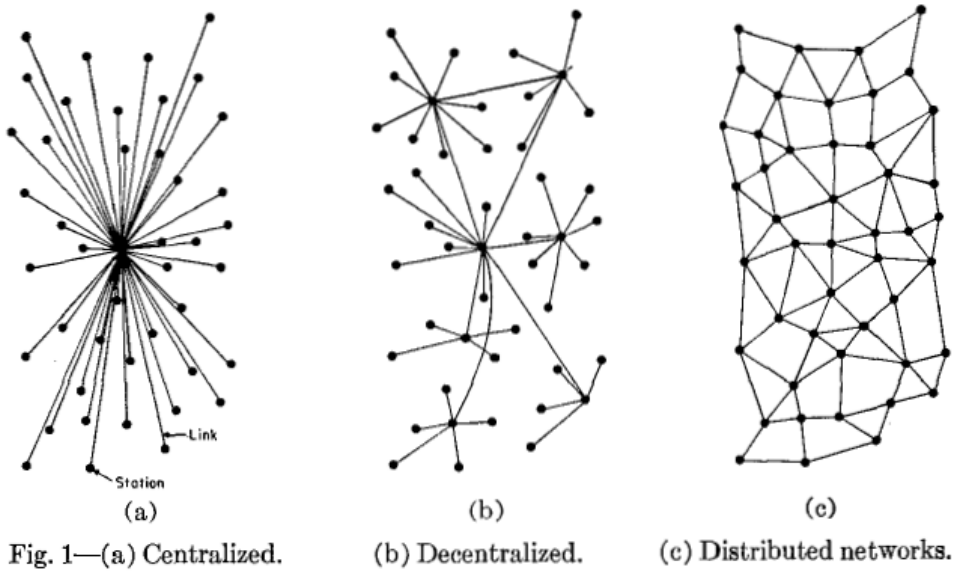

Figure 2. Centralised vs Decentralised (Alex, 2017).

As previously outlined, cryptocurrencies rely on a technology called blockchain. The primary distinctive feature of this technology is its decentralised design, meaning there is no central entity or administrator for the currency, such as a bank or government. There is no single point of failure, nor a single server that can be breached to take control of the network (Alex, 2017). As per World Crypto Index (2018), there are numerous benefits that the decentralised technology offer that could positively influence the adoption process, including, fraud prevention,

faster transaction times, increased financial efficiency and an effective store of value. Vitalik Buterin, co-founder of the second largest cryptocurrency, Ethereum, explains that there are three primary reasons which outline the benefits of decentralisation. Fault tolerance is particularly relevant because a decentralised system is less likely to fail accidentally compared to a centralised system because they are reliant on unlinked components which the chances of failing simultaneously is extremely unlikely. Buterin also explains attack resistance as being the primary characteristic of decentralisation on the basis of it not having a sensitive central point of weakness. Furthermore, decentralised systems are more expensive to attack, destroy or manipulate than regular systems. Finally, Buterin outlines how decentralisation offers collusion resistance. In comparison to conventional systems, it is significantly more difficult to collude in a way that is beneficial to some participants at the expense of others. However, leaders of our governments and corporations constantly collude in ways that are beneficial to themselves while harming the less well-coordinated citizens, customers, employees and the general public (Buterin, 2017).

However, Semko (2017) passionately believes that as long as financial rewards are issued to miners for maintaining the system, inequality will occur. He further explains that this inequality will result in a seemingly decentralised coin becoming just another flavour of the current financial system making the decentralised nature of cryptocurrency, centralised. His reasoning for this is due to a small number of individuals controlling the majority of the network, which makes it no different from the current monetary system.

It is evident that a decentralised network has the potential to be ideal in terms of security and equality. However, the current decentralised network has proven to be flawed and undeveloped and will require great investment and improvement in order for cryptocurrency to attract universal adoption and become a legitimate alternative to the current centralised monetary system.

Having examined some of the benefits cryptocurrency offers from a decentralised based network, it certainly isn't without its equivalent risks which will be examined in the following section.

2.3 Associated Risks

The significant recent interest in cryptocurrency adoption, whether it be for investment purposes or to migrate away from the current financial rulers, certainly isn't without potential risks. Antoncic (2017), outlines that besides the immense volatility in the cryptocurrency market, there are many other obvious risks, including fraud, theft, money laundering, financing illicit activities and the potential to fund terrorism or cyberattacks. They further explain how the industry has already experienced a large number of exchanges being hacked resulting in loss of funds to the user storing them on the exchange in question.

Neumann (2018), adds to the potential cryptocurrency risk possibilities by outlining that the entire ecosystem faces systematic risks in the form of worms, hacked exchanges, central authorities, and government intervention. He further explains that currencies developed in "unsafe" languages such as C and C++ are particularly vulnerable to a worm attack. This involves a virus that can spread to all connecting nodes on the system within seconds and steal all currencies available on a victim's personal computer. He further adds that most of the exchanges themselves seek to avoid regulation and have been known to previously be involved in actively participating in market manipulation creating even further customer risks.

Weaver (2018) concludes with a final argument which highlights that cryptocurrencies have a vulnerability factor of intervention from a central authority that could censor transactions and restrict the mining process to a handful of entities. Governments also have the ability to intervene and abolish cryptocurrency should they wish. Besides a few exceptions, cryptocurrency only have value when converted back to Fiat currency. By governments disabling the conversion process by adding additional banking regulations, they can make cryptocurrency unworkable (Weaver, 2018).

From a critical perspective, it is evident from the literature above that while cryptocurrency might have many positive aspects, users must take every precaution available while this market remains unregulated and loss of investment is a definite threat to be fully aware of. The high level of risk however, must be expected from a highly volatile, unregulated market which will potentially have an impact on individual's intention to adopt cryptocurrency. Whether it is adopted or not will be decided purely on the individual and their appetite for risk. However, in order for a completely new concept to surpass and replace the current methods and be accepted as the industry norm by achieving mainstream adoption, it must be disruptive and offer more value than previously obtained from its predecessors. The following section will provide an insight into disruptive innovations while also identifying that cryptocurrency still has obstacles to overcome.

2.4 Disruptive Innovations

Disruptive innovations are apparent in all industries and will continue to be the primary factor in creating competitive advantage. Harris (2016) defines as *"an innovation that creates a new market and value network and eventually disrupts an existing market and value network, displacing established market leaders and alliances".* There have been numerous examples of new innovative technology over the decades that have disrupted the status-quo and rendered the other competitors of the market obsolete. "Containerisation" is a perfect example of a disruptive innovation that had a global impact and completely altered the transport industry. This invention by Malcolm McClean, who was subsequently named man of the century as a result, eliminated wasted space by packing goods into steel containers before loading them onto ships. Many traditional shipping companies folded as a result as they couldn't bear the expense. Furthermore, the impact of containerisation has been instrumental in developing of global trade system and as per Dr. Jean-Paul Rodrigues, *"Essentially, globalisation could not have existed without containerization"* (Phillips, 2014).

Cryptocurrency has the potential of being considered disruptive innovation that has the capability of having an astronomical impact on not only the financial services industry but a multitude of industries (Guzman, 2018). Cryptocurrency is challenging the traditional methods of electronic banking and payment processing by offering customers the opportunity to send payments instantly, with minimal transaction charges, anywhere in the world within minutes. Lee (2013) explains that cryptocurrency will begin to create more and more threats to the current market as it gains mainstream adoption and even draws a parallel with the computer market of the 1970's. He states that "*Bitcoin is waiting for its killer app and given time to innovate, one will invariably arise"*.

However, Brakeville (2018) outlines that in order for a new technology to disrupt the current system, the level of sophistication achieved from it must significantly outweigh the current alternative. He continues to explain that the technology associated with cryptocurrency today isn't sophisticated enough as it hasn't overcome the scalability issues associated with it. Brakeville (2018) concludes that the demand for technical maturity from blockchain puts too much strain on the system and the level of sophistication required to overcome these issues won't be achieved in its current form. It's fair to say that we have seen monumental disruption throughout history with impressive innovations but in its current state, cryptocurrency hasn't yet achieved the level of functionality required to successfully become a better alternative to our current monetary systems.

Recent literature and studies have identified the natural attraction and comfort millennial males have with both new technology and disruptive innovation which is part of the motivation behind the sample group of this paper. The technology/millennial male relationship will be examined in further detail in the next section.

2.5 Relationship between Millennials and Technology Adoption

From a recent survey obtained by The Irish Times, they identified that there are roughly 120,000 cryptocurrency owners in Ireland, with this figure having tripled over the last four years. More importantly however, the survey identified that millennials are three times more likely to purchase cryptocurrency that any other demographic (Paul, 2018).

According to McAvoy (2016), comfort with new technology is one particular characteristic that millennials are renowned for. They have a unique ability to use, apply and quickly understand different technologies, which sets them apart from other generations. Not only can they quickly adapt to new technology but McAvoy (2016) further outlines that within the workplace, they have a demand for up to date technology which subsequently is putting pressure on employers to update their business systems and will additionally encourage other employers to adopt advanced technology to improve efficiency and collaboration in the workplace, while also attracting the right employees and boosting morale.

From a 2017 survey by Blockchain Capital of over 2000 adults aged 18+, numerous statistics were uncovered in relation to the adoption, familiarity, perception and future intention of Bitcoin amongst different demographics. The results highlight a strong millennial tendency towards the digital currency that might be indicative of what lies ahead in this space. The results achieved were as follows:

1. More than 1 in 4 millennials prefer Bitcoin to stocks.
2. Bitcoin awareness and ownership is much higher among Millennials.
3. Millennials are more likely to view Bitcoin positively.
4. Millennials don't seem to view big banks as particularly trustworthy.
5. Millennials have more conviction regarding Bitcoin's future.

(Bogart, 2017).

These outcomes from the survey are extremely positive in relation to the future of Bitcoin and correlate with what McAvoy (2016) outlined about millennials' interest in the latest and most innovative technologies.

Additionally, it's interesting to acknowledge that in all the areas examined in the survey, male millennials responded positively towards the digital currency at a much higher rate than any other demographic. Jiang (2018) supports the notion of millennials being highly accepting of new technology and backs up his belief by outlining that over nine out of ten (92%) Millennials own smartphones compared to 85% of generation Xers, 67% of Baby Boomers and 30% of the silent generation. However, he adds that generation Xers have outpaced Millennials in tablet ownership for several years now. Evidently from the surveys and research outlined above, millennials have a tendency greater than other demographics to adopt new technology. If anything, it appears their natural instinct is to seek out the next innovation and as Alton (2017) outlines, a recent survey by Wakefield Research has identified that 86% of millennials are willing to pay on average an additional 20% a month on rent in order to live in a house with smart technology.

However, Bauerle (2017) has identified some issues and limitations that could hinder the adoption process of cryptocurrency until there is a solution implemented and the issues rectified. He explains that it is a complex system full of 'jargon' that will need to be simplified. Furthermore, he identifies how transaction costs and network fees are becoming more troublesome as they gradually become more expensive and slower (specifically on the Bitcoin network). The current inability to alter a transaction or contract once it has been confirmed is an issue as human error will inevitably occur causing loss of funds. Once a payment has been made, it cannot be reversed, which is a significant risk particularly for those that aren't as comfortable with new technology. In order for a cryptocurrency solution to pose as a legitimate threat to our current monetary systems, all of these downfalls and system flaws will need to be rectified to make the transition painless for individuals who wouldn't classify themselves as technology friendly. Deirdre Grant, managing director of Red Flag Ireland outlines that "*this is a fast-growing sector in Ireland, particularly amongst young men".* However, she continues to outline that the level of understanding of the technology is still very low

and that the public will require additional information within the sector (Paul, 2018).

In a separate survey however, Lynch (2016) identified that despite the fact millennials have grown up with Netflix, VR headsets, smartphones etc, they have been identified as the demographic most easily 'bored' insofar as a millennial's interest in new technology easily wains shortly after a particular technology's release. This perhaps could be one of the factors responsible for their high levels of technology adoption over other demographics. An additional study identified by Lustig (2017) explains that because of the introduction of all these new technology platforms, we have become addicted to dopamine, the pleasure hormone released in the brain which is triggered by the use of all of these technologies such as social media, smart phones Netflix etc. A dopamine increase causes a serotonin reduction in our brains, the hormone responsible for our happiness. It's a vicious trap that millennials are getting caught up in and in which they are completely unaware. *"Our ability to perceive happiness has been sabotaged by our modern incessant quest for pleasure, which our consumer culture has made all too easy to satisfy".* It is a huge factor related to the mental health epidemic and perhaps one of the primary reasons millennials are so receptive of new technologies (Lustig, 2017).

Price volatility, currently a significant influencing factor of the cryptocurrency industry is also a factor responsible for the release of these happiness hormones in the brain. The significant levels of volatility may be one of the responsible factors for the recent surge in adoption which will be discussed next in greater detail.

2.6 The Impact of Price Volatility

Pollock (2018) explains that one of the primary influencing factors responsible for cryptocurrency's popularity since they "*exploded into the mainstream investor market"* is the level of volatility that accompanies them. He explains that as stories of Bitcoin billionaires and overnight millionaires began cropping up, the attention of individual investors and

people who had never invested before in their lives began to flood the market to avoid missing out on the investment opportunity of their lives.

Itai Cohen, CEO of Homeland crowdfunding platform explained *"the high volatility of crypto-assets is the result of investors' reliance on the so called 'adoption syndrome' – where the perception of an asset's value is mostly based on expectations about its adoption by the community"* Pollock (2018).

Cohen explains that the problem with the extreme volatility is that when first time investors enter the cryptocurrency market when the market is over performing, they must be able to stomach the extreme lows that are undoubtedly going to occur when the volatility levels swing in the opposite direction.

From the market volatility that has been seen in cryptocurrency over the past twelve months, it's clear why many investors have been drawn to by the chance of changing their financial situation overnight, however, this level of volatility is something most of these millennial investors have never experienced before and must to be extremely cautious by following the advice that cropped up across numerous cryptocurrency forums – *"only invest what you are willing to lose".* However, it's important for organisations to understand all the external factors responsible for technology adoption, not just what some might consider as the primary influences. For that reason, this paper will discuss next the value in understanding the technology adoption process.

2.7.1 Technology Adoption

Technology is advancing at a rapid pace and its advancements are constantly developing and adapting into new solutions in all industries. These technology advancements are so significant that they are literally changing the way in which we live our lives and conduct business on a daily basis. Alwahaishi and Snásel (2013) explain that the internet and mobile technology are the two most dynamic technological forces that

impact humanity in terms of modern information and communication technology (ICT). Due to this fact, research into what influences the acceptance and use of new technology is now a fundamental part of organisations strategies, to fully understand the influential components that either cause the adoption or rejection of technology.

Straub (2009), explains that the decision of an individual on whether they will adopt a particular technology and the amount of time involved in making that decision has been a long source of research across multiple disciplines, which influences business, school and everyday life. He further outlines that certain technology will be implemented into organisations or schools and this decision is generally made at a high level, such as government or regional. However, when it comes to a particular individual making a decision about integrating technology into their own lives, there are adoption patterns that illustrate a successful implementation. It is this adoption process that researchers are so determined to understand. For example, why would one individual choose to adopt a particular technology while others resist, or, the level of influence a person's social context might have on the adoption process.
In order to develop an in-depth understanding of this process, we need to identify and examine the different models and theories that have been developed to help explain the acceptance behaviour adopter. As technology adoption involves the study of human behaviour, psychological models are required to understand if people actually benefit from the adoption of a new innovation (Alomary and Woolard, 2015).

Venkatesh et al, (2003) outline that since the 1980's, roughly fifty percent of all new capital invested in organizations has been into information technology (this figure will be even greater now). However, in order for this technology to be effective, it needs to be adopted and used. Research in this field has resulted in several different theoretical models but it was the goal of Venkatesh et al (2003) to synthesize these models to progress towards a unified view of user acceptance.

For the purpose of this study, a slightly adapted version of the Unified Theory of Acceptance and Use of Technology 2 (UTAUT2) model will be used, which was originally developed by Venkatesh et al. (2003) from the integration of numerous concepts of other acceptance models that preceded it and updated again in 2012 when it was identified that certain constructs were missing from the model. Additionally, for the purpose of this study, another important construct (price volatility) has been introduced that Venkatesh et al didn't include, but it has been added as it is necessary for cryptocurrency adoption analysis. The primary models that make up the UTAUT2 model will be critically reviewed in terms of their usefulness with technology adoption, specifically amongst males, and critiqued to provide the reader with a background to how the UTAUT2 model was created and furthermore revised specifically for this study. The first model is the Theory of Reasoned Action which will be discussed in greater detail below.

2.7.2 Theory of Reasoned Action (TRA)

This model was developed by Ajzen and Fishbein in 1975 to *"organize and integrate research in the attitude area within the framework of a systematic theoretical orientation"* (Ajzen and Fishbein,1980, p. 21*)*

Alshehri (2012) explain that the primary objective of this theory was to predict, explain, and influence human behaviour.

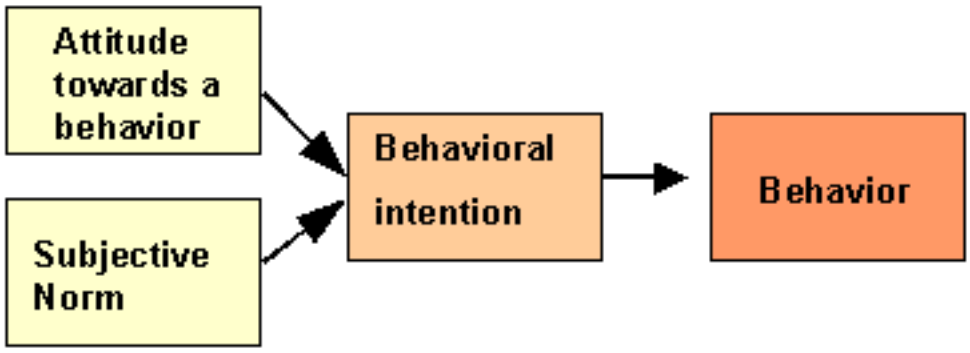

Figure 3. The Theory of Reasoned Action (Ajzen & Fishbein, 1980).

According to the TRA, the primary determinant of behaviour is not the person's attitude towards the behaviour but in fact their intention to perform the behaviour. Davis et al (1989) outline that it links the perception, norms, and attitudes to the intentions of a person in making a decision, and from there predicts the behaviour which may result as a consequence of this intention. Ajzen and Fishbein (1975) define attitude towards behaviour as *"individual's positive or negative feelings about carrying out a behaviour"*. This attitude is determined by the individual's belief of the repercussions of their behaviour and how their behaviour will be perceived by others.

An empirical study conducted by Shah Alam et al., (2012) using the TRA model for ICT adoption among SME's in Malaysia, identified from a quantitative analysis that they are 95% confident that attitude and subjective norms have an impact on intention to adopt ICT.

However, Yusuf & Derus (2013) are critical of TRA because measuring one's own behavioural intentions creates a great degree of uncertainty. Alshehri (2012) further negatively depicts that the theory originates from the assumption that behaviour is under volitional control, which subsequently means the theory only applies to behaviour that has been consciously considered in advance. Irrational or habitual behaviour or anything that hasn't been preempted, cannot be explained by this theory. The second model to be discussed next is the Technology Acceptance Model (TAM).

2.7.3 Technology Acceptance Model.

In 1985, Fred Davis proposed the Technology Acceptance Model (TAM) in his doctoral thesis. The aim of his model was to prove that technology usage is a direct response that can be explained or predicted by user motivation which subsequently is directly influenced by an external stimulus consisting of the actual technology features and capabilities (Chuttur, 2009).

Davis, Bagozzi and Warshaw (1989) highlight that one of the main intended uses for the TAM is to provide a framework for tracing the impact of external factors on internal beliefs, attitudes and intentions. They further explain that there are two primary beliefs depicted by TAM. These are perceived usefulness (U) and perceived ease of use (EOU). The former refers to the prospective user's subjective probability that using a specific application system will increase his or her job performance within an organizational context. The latter refers to the degree to which the prospective user expects the target system to be free of effort.
The external variables in the model refer to a set of variables such as objective system design characteristics, training, computer self- efficacy, user involvement in design, and the nature of the implementation process (Davis & Venkatesh, 1996).

Venkatesh & Davis (2000) explain that TAM has been successful as a framework in predicting and explaining usage throughout a variety of different systems. However, Legris et al., (2003) critique TAM with the most frequently reported limitation, that it relies on the respondents self-reporting and that this self-reported usage is accurate and reflects the actual usage.

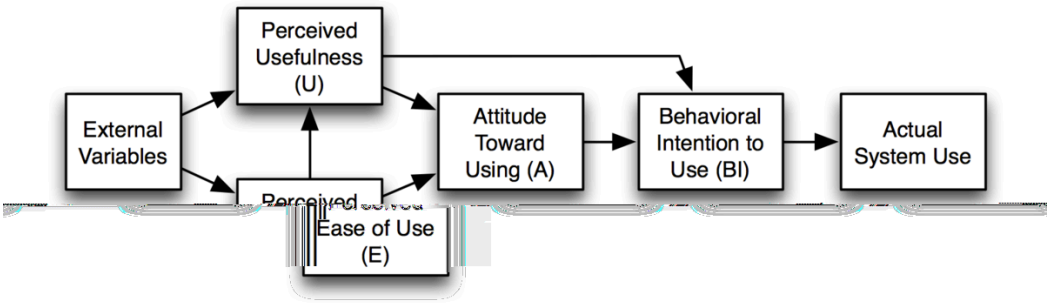

Figure 4. The Technology Acceptance Model (TAM)(Davis, Bogozzi and Warshaw, 1989).

A study conducted by Rauniar et al., (2014) using the TAM analysing social media usage, developed some interesting findings. They concluded that designers and developers of social media sites, applications and pages should focus on creating value for social media users and thus enable them to achieve specific social media goals and objectives. When a user experiences these benefits, it results in a positive attitude towards their intention to revisit the site in the future and thus, can predict the future usage of social media by an individual. Rauniar et al., (2014) further added to the findings of their study that they identified the importance of technology being "simple to use" and "easy to interact with" in order to appeal to a mass audience. Doll and Torkzadeh, (1988) support this notion by suggesting that an interface that is easy to use for the end user is an important determinant of user satisfaction.

Alomary and Woollard (2015) express that, in contrast with the TRA model, the TAM doesn't include subjective norms because the psychometric results that are generated are unreliable. As a result of TAM not including social norms, it has received criticism from ICT researchers because they believe it to be a crucial factor of any adoption theory. However, Galletta (1999) explain that the TRA model is renowned for having theoretical and psychometric issues. Other researchers argue that TAM is flawed because it fails to recognize any of the potential barriers that could deter or prevent individuals from adopting the technology (Taylor & Todd, 2001). There are valid arguments on both sides whether TAM is an effective tool or not. Bogazzi (2007) feels the model is too basic and fails to recognize important external variables that are significant in the adoption process. Alternatively, though, the model has been valued by others as "*a powerful, valid and highly reliable predictive model that can be used in several contexts."*

It is evident from the literature that the TAM is a widely appreciated model and is useful to a certain degree, however, it has its flaws and has many areas that lack accurate measurement of technology adoption which is why further research and development has led to improvements and the

birth of newer, more appropriate theories. The third model which will be discussed next is the Diffusion of Innovations model.

2.7.4 Diffusion of Innovations model (DOI)

"Innovate or perish" was a phrase coined by marketers in the 1960's which is more appropriate than ever in today's market with technology moving at such a fast pace. (Silinskyte,2014) outlines that throughout innovations history, it usually takes too long for information technologies and systems to become fully accepted and utilised. The Diffusion of Innovations model (Rodgers, 1962) was designed to explain the rate at which new ideas and technology would be adopted by different cultures. The theory has four areas that influences the adoption of a new idea; the innovation, communication channels, time and social system. From this theory, Rodgers explains that the diffusion is the process by which an innovation is communicated through different channels over time among the members of a social system (Rogers, 2003). However, Silinskyte (2014), explains that even though the diffusion of innovations model has been used for decades, Rodgers had designed it primarily for agricultural methods and medical practice which are relatively static inputs. IT innovation however is constantly evolving with regular upgrades and developments attracting new adopters along the "S-curve" of innovation which may in fact affect the relevance of the DOI model. (Lai, 2017) further outlines that innovation and adoption only occur after going through numerous stages including understanding, persuasion, decision, implementation, and confirmation, which subsequently led to the creation of Rogers (1995) S-shaped adoption curve of innovators, early adopters, early majority, late majority and laggards as shown in Figure 3.

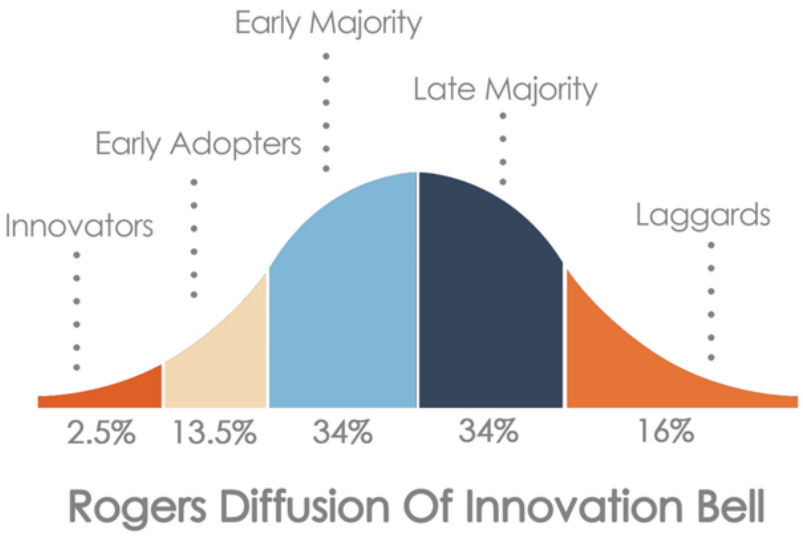

Figure 5. Innovation Adoption Curve (Roger, 1995)

Even though cryptocurrencies are in-fact currencies, it is important to state that they are digital currencies and are more apparent to IT innovations. For that reason, the Diffusion of Innovations model isn't the most appropriate model to apply to the analysis of this technology adoption.

2.7.5 Unified Theory of Acceptance and Use of Technology (UTAUT)

The UTAUT model was developed by Venkatesh et al (2003). They analysed and formulated this model as a combination of all the previous adoption models that are relevant to technology adoption. It was designed with four core determinants or predictors of user behavioural intention which are; performance expectancy, effort expectancy, social influence and facilitating conditions. Performance expectancy consists of five additional sub-determinants which are perceived usefulness, extrinsic motivation, job-fit, relative advantage and outcome expectations. Effort expectancy is relevant to identify the perceived ease of use and complexity of the technology in question. Additionally, the model has four moderators alongside the core determinants; gender, age, experience and voluntariness of use (Lai, 2017).

The UTAUT model was tested and compared against all the other individual technology adoption models and was found to outperform each and every one of them. The model was then tested numerous times against alternative data sources and was again found to be the most effective model each time. As a result, the UTAUT model provides a useful tool to assess the likelihood of success for new technology introductions. It further provides an understanding for the drivers of acceptance in order to enable one to proactively design interventions targeted at populations of users that may be less inclined to adopt new innovation (Venkatesh et al, 2003). However, it was identified that this model was still lacking certain necessary factors to accurately measure technology adoption and therefore was revised, leading to the creation of the Unified Theory of Acceptance and Use of Technology model 2 (UTUAT2).

2.8.1 Determining the right model

Evidently from the literature assessed, the aforementioned models all contribute to some extent in analysing the technology adoption process. However, no one model is fully fit for purpose as they do not meet the realities of the ever-evolving modern technological environment. Therefore, UTAUT2 model as adapted proves to be best fit as it comprises of all the relevant criteria required to critically assess this bespoke technological adoption process. For these reasons, the adapted UTAUT2 model, which is comprised partially of the important aspects of its predecessors will be the model used to analyse the adoption of cryptocurrency.

2.8.2 *The Unified Theory of Acceptance and Use of Technology 2*

The most recent advancement in the UTAUT model is the Unified Theory of Acceptance and Use of Technology 2 Model (UTAUT2). UTAUT2 has expanded on UTAUT. It consists of four of the original constructs; performance expectancy, effort expectancy social influence and facilitating conditions but has now and additional three constructs which

consist of; hedonic motivation, price value and habit (Venkatesh, Thong and Xu, 2012).

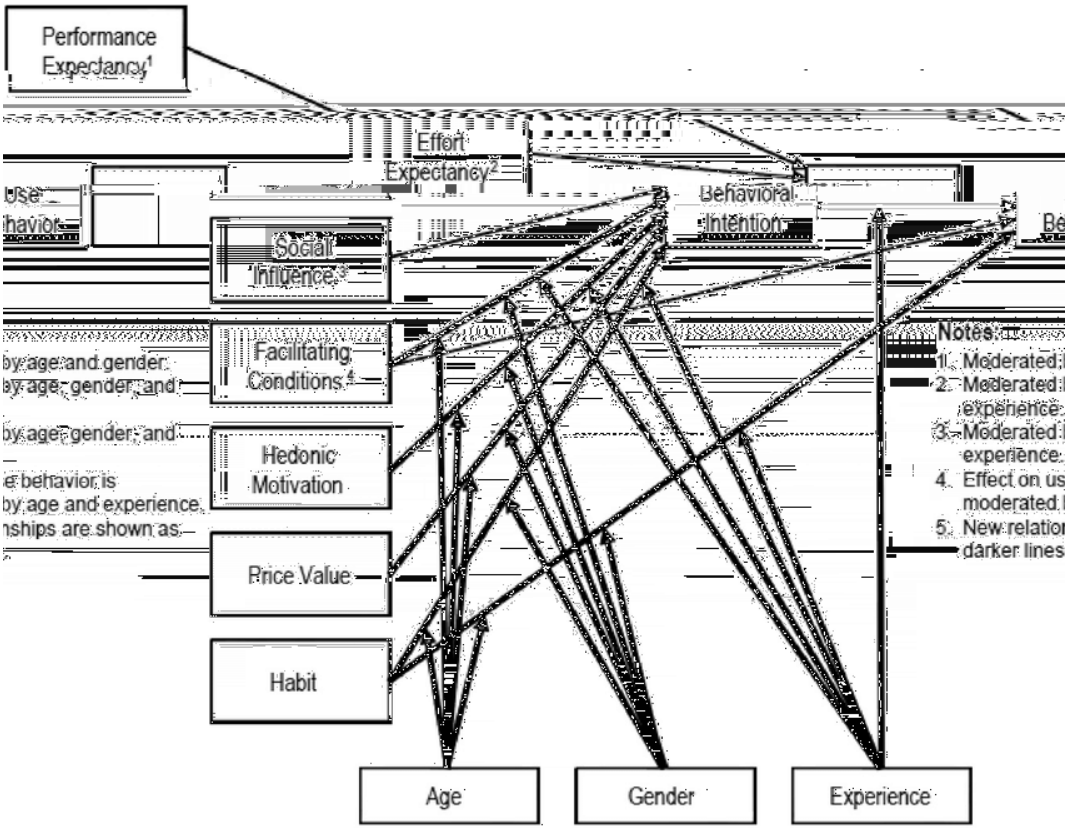

Figure 6. The Unified Theory of Acceptance and Use of Technology 2 model (Venkatesh, Thong and Xu, 2012).

The researcher for the purposes of this study has added an additional construct, specifically price volatility to the UTAUT2 model. The addition of this new construct is partially due to Bogazzi (2007) and Venkatesh et al (2007) advising that the original model should be expanded and developed where necessary, so it could be used as a tailored approach to best serve unique subject matter. As an example of price volatility assessment, Christou (2018) explains that big investors such as the Rockefeller Foundation and Soros Fund Management, a $26 billion firm have u-turned and are now positively considering cryptocurrency investment based on the high-risk investment return from price volatility

as compared to previously, where cryptocurrency was never respected as a potential investment by these investors.

Each construct of the UTUAT2 model that is relevant to the adoption of cryptocurrency will be critically examined in further detail to provide the reader with an understanding of the influencing factors of technology adoption. Specifically, previous studies and findings will be analysed and compared to unearth similarities and differences drawn from using different models and methodologies.

Behavioural Intention (BI)

Behavioural Intention (BI), according to Venkatesh et al (2003) is an individual's willingness to use a new technology. Yi, Jackson, Park & Probst, (2006) define it as *"a person's subjective probability to perform a specified behaviour".* Miadinovic et al (2016) identifies that there is a general consensus amongst researchers that an individual's intention to adopt a specific technology is a strong indicator of the actual use of that technology and also identifies the user's subsequent usage. However, there isn't a strong consensus between researchers on the determining factors underpinning an actual individual's intention.

The BI to use a particular technology is affected by performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivation, price value and habit. However, an individual's decision to actually use a certain technology is determined by the user's behaviour. An individual will use new technology if they perceive the following; the technology's ease of use; its social standing and the importance to that individual; the presence of the required resources to use the technology; the technology is fun to use; the price value of the technology and the degree of habitual use of the technology. These will all be critiqued in detail below.

Performance Expectancy (PE)

Numerous studies have identified that the performance expectancy (PE) construct is a significant indicator to determine adoption of a new technology. Some of these studies include Kijsanayotin et al (2009) who examined the adoption of new technology into community health-care centers in Thailand. The study identified that PE was the most influencing factor of all other constructs. Additionally, in a separate study on internet banking adoption, Sok Foon and Chan Yin Fah (2011) found a positive correlation between PE and behaviour intention amongst their survey candidates.

Effort Expectancy (EE)

EE is explained by Venkatesh et al (2012) as the user's perception of the degree of difficulty in using new technology. Teo and Noyes (2012) devised a study amongst trainee teachers in Singapore and discovered that EE has a strong influence on an individual's behavioural intention(BI) to adopt new technology. In addition to these findings, Tan et al (2011) found that perceived ease of use has a direct correlation to the individual's behavioural intention to technology adoption.

Social Influence (SI)

SI is identified by Venkatesh et al (2012) as the level in which an individual perceives that "important others" believe they should adopt a particular technology ie family/friends. Taylor, Voelker and Pentina (2011) support this notion by identifying from their study of US Midwest universities that adoption of new mobile applications was primarily from the social influence of their school peers as opposed to their family members. However, Yang (2013) identified from a study conducted with American college students that subjective norm has no influence on an individual's intention to use mobile applications.

Guzman (2018), highlights that the extreme levels of media coverage across a multitude of platforms such as social media (Facebook, Reddit), YouTube, news articles etc., can be somewhat accredited for one of the

main reasons why cryptocurrencies have managed to reach such impressive popularity levels over a short period of time. He refers to the 'ripple effect' as the term used to describe how one platform leveraged from the publicity on other platforms causing ripples across the entire market.

In support of this, a study by Phillips and Gorse (2018) identify that social media and price exhibit 'positive feedback loops'. They explain from their results that increase in social media use causes price to increase and vice versa, subsequently reinforcing each other. The more the price rises, the more activity on social media and so on.

From a critical perspective, the relationship between price and social media is one of the primary reasons for the falsely inflated cryptocurrency market experienced in January 2018. This attracted monumental growth which resulted in the most significant cryptocurrency market crash to date. These factors are critical considerations to new adopters in making an objective assessment to invest in cryptocurrency.

Facilitating Conditions (FC)

This is identified by Venkatesh et al. (2003) that there is a perception that technical infrastructure exists to support the use of the technology in question. FC is comprised of three important considerations;1. Security and Confidentiality, 2. Support and 3. Technology Problems.

1. Security and Confidentiality

In a study conducted by Slade et al (2013) on the adoption of technology in the health care industry, they identified that individual's views on security and confidentiality varied greatly based on age profile. The younger demographic was more comfortable and undeterred by the idea of potential loss or breach of personal information.

2. Support

Slade et al (2013) further identified here that the level of support offered by an organization towards health care technology adoption varied with age. Older people were more inclined to adopt the technology if they were aware of available support which was readily available, while alternatively, the younger group preferred the least intrusive method of support and Goel et al (2011) added to this by outlining how younger individuals were less likely to request support and when required preferred the option that was least intrusive like online chat support as opposed to a phone call.

3. Technology Problems

The third mechanism of FC is considered as technical problems with the technology. In the study by Slade et al (2013), they relate this to shortcomings of mobile IT which could subsequently affect its adoption. They identified that the way in which the problem is resolved could vary with age, however, it doesn't affect their response to the issue which are not related to an understanding of the technology but more so related to hardware or technical issues.

Hedonic Motivation (HM)

This is defined by Venkatesh et al (2012) as *"the fun or pleasure derived from using a technology"* and has been further identified by Brown and Venkatesh (2005) as having an important role in determining technology adoption and use. Two sub mechanisms were identified for this construct; usage enjoyment and novelty enjoyment.

Usage Enjoyment

The study conducted by Slade et al (2013) identified that the younger group of participants considered the mobile app to be far more relaxing and engaging than the previous equivalent. However, the older participants didn't share the same level of enjoyment due to their frustration and difficulty in using the technology.

Novelty Enjoyment

The older group of participants didn't reach a level of enjoyment due to the frustration they experienced and the rapid change of technology. Whereas alternatively, the younger group identified that they were comfortable with the technology advancements and their acceptance of new technology meant the sense of innovation significantly outweighed any sense of inability to use it.

Price Value (PV)

Venkatesh et al (2012) explain that the cost and pricing structure of a technology could have a significant impact on whether it is adopted or not. Dodds et al (1991) defines price value as *"a consumers' cognitive tradeoff between the perceived benefits of the applications and the monetary cost for using them".* It subsequently identifies whether the individual perceives the cost of using the technology to be more beneficial versus using an alternative.

Habit (HT)

Limayem et al (2007) define habit as *"the extent to which people tend to perform behaviours automatically because of learning".* Venkatesh et al (2012) further identified correlation between habit and BI. They suggested that habit indirectly influences BI to utilize technology.

Habit is indicative of an individual's future intention to use technology as Ouellette & Wood, (1998) suggest that people are more inclined to perform acts they have performed numerous times in the past.

Price Volatility (PV)

This is an additional construct added into the UTUAT2 model for the purpose of this study which is currently a unique element specific to the adoption of cryptocurrency. This additional construct has been identified from the literature previously discussed and has been considered as having a particularly significant influence on the adoption of cryptocurrency and for that reason it was imperative to identify the impact it had on the participant's motivation to adopt cryptocurrency.

Throughout the literature review, the research has highlighted both positive aspects and additional areas that will require further focus and development for the future growth of this industry. Specifically, from the information highlighted throughout the literature review, the research questions below were identified which the paper aims to provide logical and insightful answers to throughout the remainder of this research paper.

Chapter 3 - *Research Question and Objectives*

From the literature reviewed in the previous chapter, the aims and objectives for this study were identified. The primary aim outlined for this research paper is to develop an understanding of the key critical factors responsible for influencing the behavioural intention of Irish male millennials in adopting cryptocurrency.

In addition to this, the paper hopes to identify any shortcomings of the technology that may hinder the adoption process and to explore suggested solutions provided by research participants as viable adoption mechanisms.

In order to achieve these objectives, the adapted UTUAT2 model was used together with the findings of the literature review and an analysis of a Bitcoin adoption research paper by Silinskyte (2014). These combined materials were used to devise a qualitative deductive interview approach in which a number of open-ended questions formed the basis for interviewing ten candidates. This resulted in obtaining the primary source of data for the study.

The entire process used to gather and analyse the data will be discussed in greater depth in the next chapter. This will be twofold; 1. To provide the reader with an understanding of reasoning behind the methods selected and 2. Why these were the most appropriate methods in achieving the aims and objectives of the study.

Chapter 4 - Research Methodology

4.0 Introduction

Research methodology is *'an operational framework within which the facts are placed so that their meaning may be seen more clearly'* (Leedy, 1989). The following section will identify the methodology approach used to design, gather and analyse the data of this research paper in the most efficient and effective way possible. Additionally, ethical considerations and limitations will be identified to conclude the chapter.

4.1 Aim of the Study

The primary aim of this study is to identify and understand the motivating factors for male millennial's adoption of cryptocurrency in Ireland. To assist in this process, an adapted version of the UTAUT2 model was developed from the literature review as the most suitable theoretical framework to engage in the data gathering process of this study. The adapted UTAUT2 model comprises of eight constructs that are relevant in assessing the external environment to identifying the main influencing factors driving the adoption of cryptocurrency.

From the literature review, this paper identified that in general, male millennials have a greater tendency to adopt technology as compared to other generations (McAvoy 2016, Bogart 2017, Jiang 2018 and Alton 2017). The results identified from this study will be analysed and assessed to determine if male millennials have an exceptionally high tendency to adopt technology and also to identify the primary factors for encouraging the adoption itself.

4.2 Qualitative Research Approach

The intended outcome of the research is to identify and understand the motivating factors responsible for the interview participants both adopting and using cryptocurrency. Additionally, the study will aim to identify any

shortcomings of the technology that require further improvements before it can achieve mainstream adoption.

This study is exploratory in nature and for that reason, a qualitative approach aimed at understanding the participant's point of view was identified as the most suitable research methodology. The researcher identified this approach which is defined as *"any kind of research that produces findings not arrived at by any means of statistical procedures or other means of quantification"* (Strauss and Corbin, 1990), and believes it to be an ideal method for the aims and objectives of this study. No specific theory is being tested, however, the author wishes to utilize the framework of the proven UTAUT2 model and adapt it by including 'price volatility' as a construct. After much research, this theory was selected and adapted after being identified as the most appropriate tool for analyzing the chosen subject matter. Coupled with this, the literature review will also assist to further understand the motivating factors responsible for the adoption process of the phenomenon that is cryptocurrency. Denzin & Lincoln (1998) explain that *"qualitative research involves the studied use and collection of a variety of empirical materials including personal experience and interview".* This approach aims to uncover the opinions, perceptions and past experiences of the subjects involved, with a goal of identifying the common themes from the data collected with the hope of ultimately, identifying the key factors responsible for motivating Irish male millennials to adopt cryptocurrency.

This paper will apply an inductive reasoning approach in the data analysis aspect of this research. The author identified an existing theory in the UTAUT2 model. However, due to the unique and evolving nature of the subject matter being assessed, the author sought to modify this theory by adding an additional construct of price volatility as the author felt this modification critical to develop the appropriate analysis.

Following on from this, a study by Silinskyte (2014) using the UTAUT model in measuring the adoption of Bitcoin was identified. However, it

was identified that this study had numerous shortcomings and as a result, it was decided to conduct an alternative study using an updated adapted version of UTAUT2 while focusing on cryptocurrency in its entirety as opposed to focusing exclusively on Bitcoin. Additionally, it was believed, unlike Silinskyte, a qualitative approach should be applied as opposed to quantitative because it enabled the subjects to provide much richer, in-depth insights in comparison to limited predetermined criteria set out under a quantitative approach. This qualitative method produces a wealth of detailed knowledge from a small number of individuals (Patton, 1991). For the benefit of this research paper, a qualitative approach was selected over a quantitative so as to uncover richer and more detailed reasoning for the participants' adoption motivations.

The results of this qualitative study will be analyzed by evaluating the numerous different constructs that make up the UTAUT2 model and other characteristics that have been identified regarding male millennials and technology adoption. Finally, the paper will identify limitations and ethical considerations that were taken into account before the data gathering process was carried out.

4.3 Research Design

According to Toledo-Pereyra (2012), to obtain the best research data, adequate time must be dedicated towards its development. In addition to this, Sarantakos (1998) explains that when undertaking a research report, the research design must be given the appropriate attention as it is considered one of the most important factors which should neither be neglected nor under-appreciated.

This particular study has utilised a single method approach of qualitative interviewing (Cooper and Schindler, 2013). Alternative studies reviewed used different quantitative methods **(insert authors here).** However, after consideration, it was decided that a qualitative single method approach was the optimal methodology for providing the most thorough, in-depth analysis. As a result, non-standardised, semi-structured interviews were

undertaken as the means for the entirety of this study to gather the necessary data. Furthermore, this method provided a platform to unearth the primary determinants that influenced the subjects to adopt the technology that may otherwise not be achieved through a quantitative approach (Saunders et al., 2009).

The open-ended nature of interviewing also provided the participants an opportunity to impart the detail and reasoning in their decisions for adopting this new technology and the driving forces that encouraged them to do so. Simultaneously, the interviews provided the forum for the researcher to explore further detail of the subject and obtain ancillary material (Quinlan, 2011). Semi-structured interviews were conducted based on a set of questions compiled from the literature review that coincide with the objectives of this research paper. This approach was beneficial because it provided flexibility to vary the interview questions marginally from subject to subject which gave ideal opportunities to discover new findings by prompting the participants to elaborate further on points that wouldn't have otherwise been uncovered form a quantitative approach.

4.4 Research Sample

Interviews were conducted with a sample of ten male millennials' who have already adopted and currently own/use cryptocurrency. In order to ensure that a fair selection of individuals was chosen, the following strategy was used. Firstly, a survey was posted in the Reddit 'r/Cryptocurrency' subreddit which has almost seven hundred thousand subscribers. The survey was designed specifically to identify that the individual fit the correct profile. The first three questions identified if they were an appropriate candidate by finding out their location, gender and if they were a millennial i.e. born between the years of 1981 → 1996. Once the author identified that the survey was aimed at the right audience, i.e. Irish, male and a millennial, the following question identified if they owned or previously owned cryptocurrency. Finally, the survey discovered if the candidate would be interested in participating in a one on one interview

to discuss in more detail the motives behind them adopting cryptocurrency. From this Survey, four male millennials responded positively. Not receiving ten direct responses was in fact positive because it enabled the use of snowball sampling, which as per Saunders et al (2009), is a very appropriate method to identify the desired population. After the researcher identified four suitable participants, they were asked if they had connections to other potential candidates whom could be contacted to also participate in the research which made up the remaining six candidates. Furthermore, there were additional benefits from utilizing snowball sampling. It enabled the researcher to gather candidates for the study without the influence of any potential bias that might incur if the researcher was to select candidates themselves from their circle of friends/family. By using an alternative type of non-probability sampling techniques like judgmental or convenience sampling it was considered that there was a much greater chance the candidate selection process could be influenced by bias (Quinlan, 2011). As a result, for the integrity of the study, the author believed removing themselves from the candidate selection process would benefit the credibility of the outcome of the findings. After all the candidates had been identified, they were each contacted individually to arrange the data gathering process.

4.5 Data Collection

Ten separate interviews were conducted on a one to one basis with the male millennials who had previously adopted cryptocurrency. To ensure that the data was consistent, measures were taken and replicated across each interview. For example, each interview was held in a quiet room in the participant's house. This was done to ensure privacy and so the participant felt relaxed in the comfort of their own home, making them more open and to sharing valuable information. The interviews ranged from 29 → 36 minutes with an average time of 33 minutes. The questions posed to the subjects were based on the research questions which were derived from both the literature review outlined in chapter three and previous studies using the UTAUT model.

Each participant signed a consent form agreeing to allow the interviews to be recorded, which meant note taking wasn't required and enabled complete focus to be given to the participant and the overall conversation to ensure greater depth was achieved. After the interviews were complete, each recording was transcribed and important information was categorised into themes for the purposes of findings and analysis.

4.6 Data Analysis

As per Giorgi (1975) *"phenomenologists seek to explicate 'lived experience".* The data analysis approach undertaken for this research paper was that of Interpretative Phenomenological Analysis (IPA). IPA's emphasis is primarily on the convergence and divergence of past experiences while additionally examining detailed and nuanced experiences of a small number of participants (Tuffour ,2017). Hale et al (2008) advised that notes should be taken immediately after each interview concludes to document the overall impression of the interview, in particular anything that stood out or left an impression on the researcher. Hale et al (2008) suggested a three step process in order to analyse the data effectively. This process was followed and outlined below.

1. Initially, the interview recordings were transcribed and read thoroughly, numerous times to ensure a full understanding of the data. During this process, initial impressions, words and links were made alongside the transcripts which were later transferred to an excel spreadsheet so that similarities and consistencies could be identified across different transcripts. Hale et al (2008) referred to this process as an idiographic approach. From this process, common themes were identified from the data to assist in the overall analysis.

2. Secondly, the themes identified were subdivided into major and minor components. At this stage, Hale (2008) suggested to be aware of the importance of "bracketing" to ensure the researcher's *"vested interests, personal experience, cultural factors, assumptions, and hunches"* be left

aside, as they have the potential influence how the data collected is viewed.

3. Finally, as Hale (2008) explained, the analysis will proceed continuously within the authors own head long after the interviews have completed, so it was suggested to occasionally take a step back from the analysis process and re-listen to the interview recordings to ensure the information initially provided by the participants was being interpreted correctly and the author objectively captured the findings accurately.

From the themes identified, thematic analysis was carried out. This can be defined as *"a method for identifying, analysing and reporting patterns (themes) within data"* (Braun and Clarke, 2006, p.78). They further state that *"it should be a foundational method for qualitative analysis, as it provides core skills for conducting many other forms of qualitative analysis".* Data collected from the interview process was reviewed in conjunction with the literature and central emerging themes were highlighted and categorised into relational assortments (Miles & Huberman, 1994) to enable this research to clearly relate common themes and findings back to the literature. After this stage was completed, a pattern matching technique suggest by Yin (2014) was used to run a comparison of the findings against previous theoretical research of which trends were categorised and findings determined which will be discussed in the next chapter. It was important however that the author ensured the accuracy of the data and therefore, particular attention was given to the validity and reliability process.

4.7 Validity and Reliability

Saunders et al. (2003, p.254) outline a series of considerations to implement into the data collection of qualitative research to mitigate personal bias. These considerations were followed throughout the interview process to ensure the validity and reliability of the data collected was of an appropriate standard:

1. Your own preparation and readiness for the interview.
2. The level of information supplied to the interviewee.
3. The appropriateness of your appearance at the interview.
4. The nature of the opening comments made when the interview commences.
5. Your approach to questioning.
6. The impact of your behaviour during the course of the interview.
7. Your ability to demonstrate attentive listening skills.
8. Your scope to test understanding.
9. Your approach to recording information.

Saunders et al. (2003, p.254).

Sufficient preparation was ensured before each of the interviews by testing and ensuring sound quality of the recording device in advance of meeting the candidate, a copy of the questionnaire and consent were made available for the candidate and it was ensured that both the interviewer and candidate had sufficient time in their schedule to conduct the interview in a relaxed environment with plenty of time for any additional discussion or questions that may arise.

As each of the interviews were taking place in the homes of the participants, casual and comfortable attire was worn. Having the interviews in the candidates' homes gave each participant a chance to be completely comfortable in the environment which enabled them to be completely open and honest without the worry of being overheard or recognised. In advance of each interview, the participants were also informed that everything discussed throughout the interview would remain completely anonymous to ensure privacy and eliminate risk of anyone involved in fraud related activities identifying any candidates at a later stage.

After the consent form was signed by the participant, the researcher requested that the participant spoke honestly and accurately in response to the interview questions. The questions were designed in a particular

way to ensure there were no leading questions that could potentially influence the response of the participant or indicate any sense of bias. Additionally, throughout the interview, the researcher ensured their demonstration of attentive listening skills by often repeating a statement made by the candidate and following on by asking the candidate to elaborate in more detail.

Finally, the researcher ensured a clear understanding of what was being asked of the participant by checking after each question and giving additional examples to the participant when required.

4.8 Ethical Considerations

When beginning the research process, adherence to the National College of Ireland's ethical guidelines were strictly abided by. Confidentiality and anonymity were imperative for the accuracy of data gathered and to ensure any information provided by the candidates would have no link back to them. All ten of the interview participants were promised full confidentiality of the information provided during the interviews and guaranteed their names would not be included in the paper. Additionally, they were ensured that all interview recordings would be deleted after the transcription process was completed and that anything discussed wouldn't be repeated with any of the other participants.

The participants were all provided with a form of consent before the interviews took place. This highlighted the purpose of the study and outlined the participant had the right to end the interview at any time or refuse to answer any questions they felt made them uncomfortable or otherwise. All ten interviews were recorded on a password protected mobile phone to ensure only the researcher had access to the information. After all the ten interviews were completed, the audio recordings were transferred to a password protected laptop to facilitate the transcription process. The recordings were then deleted from the mobile device in case loss or theft ensued.

4.9 Research Limitations

This entire research paper was completed within a three month period in conjunction with the researcher working full time. As such, the research was restricted in terms of available time to study the topic, carry out the ten participant interviews, analyse the data and publish the findings.

The researcher acknowledges, as already having adopted cryptocurrency, a level of bias may be inferred throughout the interview process which could have an influential effect on the participant's responses. This bias may be as a result of how the interview questions are structured or how the interviewer might subconsciously influence the response of the interviewee. The researcher has identified the negative impact personal bias may have on the findings of this paper and therefore will act with complete neutrality throughout.

Chapter 5 - Research Findings

5.0 Introduction

Throughout this chapter, this paper aims to outline the findings concluded from the data gathered through the phenomenological qualitative research approach previously discussed. The data collected is that of both primary and secondary sources. The primary data which was derived from the ten semi-structured interviews conducted with Irish male millennials who were identified as adopters of cryptocurrency. This data will be analysed to develop insightful conclusions to the objectives of this paper. The main objective of the interviews was to conduct a private discussion with each individual participant using questions derived from the adapted UTAUT2 model. The objective of these discussions was to identify the principal factors influencing the behavioural intention of millennial males in their adoption.

5.1 Organisation of Data

After the ten audio recordings were transcribed and read multiple times, the author began to categorise the findings of the interviews into key themes. Strauss and Corbin (1990) refer to this process as 'open coding'. The purpose of this process enabled the author to identify commonalities from different participants and to collate the data into a legible format making it possible to derive the important findings, accurately. From the data analysis process carried out, six major themes were identified:

- Theme 1: Appreciation for New Technology (Behavioural Intention)
- Theme 2: Relative Advantage (Performance Expectancy)
- Theme 3: External Influencing Factors (Social Influence)
- Theme 4: Risk & Regulation (Facilitating Conditions)
- Theme 5: Return on Investment (Price Volatility)
- Theme 6: Overall Experience (Hedonic Motivation and Habit).

For validity purposes, the information identified from the transcripts will be linked into the overall findings of the research. The participants will be referenced throughout the findings using important and valuable quotes obtained from the interviews and each participant will be assigned an identity code in the form of P1, P2, P3 etc to maintain anonymity throughout (Brown, 1996). This process was necessary because it was crucial for the participants for their personal information to be kept anonymous. It also provided them with the confidence to speak their minds knowing the information they provided couldn't be linked back to them

5.2 Findings/Results of the Research Interviews

The findings identified within this research report were derived from the qualitative research conducted in which ten male millennial adopters of cryptocurrency were identified and interviewed to develop a clear understanding as to the primary motivations in influencing their adoption of cryptocurrency. The interview questions were based on the adapted UTAUT2 model which was identified as the most suitable method available for collecting such rich and insightful data from a phenomenological study. In addition to this, a quantitative study 'Understanding Bitcoin Adoption' (Silinskyte, 2014) provided a suitable approach in which the questions were framed. The UTAUT2 model ,oypream lso provided ,oypream fr,oypream was applied in conjunction with the literature review to ,oypream ssist the development ,pam,oyproam,oypceam,oypss am.ypoam,oypfa3S The framework

3. **Performance Expectancy:** The overall influence the performance of cryptocurrency had on the participant's adoption or otherwise.
4. **Effort Expectancy:** The effort required to adopt cryptocurrency and its influence on the participant.
5. **Social Influence:** The influence the external environment had on the participant's adoption i.e. social media, friends, family colleagues etc.
6. **Facilitating Conditions:** The influence from the lack of security and risk on the participant's intention to adopt cryptocurrency.
7. **Hedonic Motivation:** The users overall experience from the adoption of cryptocurrency i.e. enjoyable, thrilling, scary etc.,
8. **Price Value:** The cost to the participant of adopting cryptocurrency and its influence on their decision.
9. **Habit:** Understanding if habit will be a deciding factor on the participant's intention to use cryptocurrency long term.
10. **Price Volatility:** The volatility of the cryptocurrency market and its influence on the participant's intention to adopt the currency.
11. **Conclusion:** An insight into any further aspects the participant felt would be relevant for the purposes of this study.

The following section will summarise the main insights, the reoccurring trends and the themes identified from the transcribed interviews. These findings will be further supported by specific quotes captured from the interviewed participants in their response to the research questions.

5.2.1 Theme 1 Appreciation for New Technology

At the beginning of the interviews, a general discussion was held regarding the candidate's general perception of technology and the factors encouraging them to adopt. All ten interview participants expressed extreme interest and love for technology. They explained that, as millennials, their entire upbringing was centered around the constant introduction of new technology in all aspects of their lives and as a result they consider technology second nature to them. The participants expressed that new technology (no matter how complicated it may appear

to other demographics) never feels ‘alien’ to them. They are more often than not, able to grasp new technology concepts almost instantly and if not, minimal effort or assistance is required.

P4 replied: ***“I am a keen observer and adopter of new technologies. I am always interested in the latest gadgets and technology innovations, even if I don’t always buy them”. P7*** *answered* ***“I would consider my appreciation for new technology part of my personality. I’m regularly on forums such as reddit discussing and reading reviews on the latest upcoming innovations and disruptive ideas”***

It was identified through the interviews that part of the reasoning for millennial interest in technology is due to the fact that throughout their lives, the level of change in terms of technology introduction has been exponential. **P4** explained ***“during my childhood, many technology advancements were being made. The computer revolution was in full flight and going mainstream, the gaming industry was booming and on top of all that, the internet was born and came to Ireland in 1991.***

Additionally, it came to light that millennial’s in general have a natural draw towards new technology that some of them define themselves by. **P2** outlined that ***“I am passionate about most new technology items and suffer from the itchy trigger finger syndrome whereby I like to purchase new shiny items, TV’s, laptops etc., that I don’t necessarily need but it usually means I’m an early adopter”.***

From the opening discussion with the interview candidates, it was unanimous that they all had similar connotations towards new technology and their overall perception (for discussion)

5.2.2 Theme 2: Relative Advantage

This theme was identified from the discussion regarding the performance expectancy participants assumed they would receive. The participants

outlined the value propositions that appealed to them the most from cryptocurrency in comparison to alternative solutions and the level of influence this added value had on their overall intention to adopt the technology.

P5 explained that ***"having friends and relatives in numerous parts of the world, I liked the idea of having the ability to make instant payments without the obscene charges that accompany international payments with a regular bank or other financial institutions.*** **P8** also made a similar point and further added that ***"having the option of making completely anonymous payments available is a novelty I enjoyed regardless of the fact if I were never to use it".***

P9 explained ***"I have previously been a victim of fraud and was also financially crippled as a result of the 2008 recession. Because of those reasons, having a fully decentralised payment system while potentially 'unbanking' the banks within the process is extremely attractive to me".***

P10 identified that ***"the decentralised nature of the technology was extremely appealing. I appreciate the immutable nature of payment transfers and the fact fraud or duplicate payments would be virtually eliminated due to the transparency available for all users on the network.***

However, it's not as simple as convincing the population to switch from our current monetary system to a cryptocurrency solution. **P3** explained ***"From a technical standpoint, the technology is better and more efficient than a lot of legacy systems such as SWIFT for payments. Unfortunately, though, it is not user friendly, with very little recourse if a user makes a mistake. In the payments field they are not only competing against traditional banks but also Fintechs both new and old. Paypal for example offers a lot of the same benefits as Bitcoin***

where you can send payments instantly to other people all over the world and is widely accepted for purchases online".

5.2.3 Theme 3: External Influential Factors

It was very apparent by the end of the interview process that certain external factors played and are still playing a significant role in influencing the rapid adoption of cryptocurrency. Some of these influencing factors are so powerful, the participants simply couldn't resist.

P9 responded by explaining the influence social factors had on his adoption decision: ***"I barely knew what cryptocurrency was let alone how to purchase it, but as soon as my friends began discussing its potential and return on investment they had already made, I really felt the impact of fomo"*** (a mnemonic used by the cryptocurrency community referring to 'fear of missing out').

P4 similarly explained: ***"I was seeing daily posts regarding Bitcoin on my Facebook profile and constantly hearing discussions about the astronomical increase in its price on a weekly basis. It got to a point where I could no longer ignore the consistent influence from these external forces and decided to buy in".***

P8 outlined that: ***"articles were becoming more and more frequent with stories of people finding old hard drives containing thousands of Bitcoin and becoming extremely wealthy overnight. That combined with 'analysts' on YouTube promising that Bitcoin will reach prices of anywhere between $100,000 and $1,000,000 by 2022 made it an option I just couldn't refuse in the slight possibility it became a reality".***

P3 was unique in terms of external influences. He was the only millennial of the group that had adopted cryptocurrency before any social influence had a chance to impact his decision: ***"I had been using cryptocurrency in one form or another since its conception. I used to mine Bitcoin***

as a hobby, purely out of interest of this new technology when the majority of people didn't even know it existed"

5.2.4 Theme 4: Risk & Regulation

It is common knowledge within the cryptocurrency community that investing in this highly volatile market is not without some potentially devastating consequences. Particularly prevalent is the activity of hacking and also cryptocurrency losses through the unregulated nature of the crypto exchange process. Due to the lack of regulation or regulating body responsible for overseeing the operation of the decentralised, virtual, financial exchange, there are no formal processes to reverse or recall any fraudulent transactions. Essentially, once a transaction has been released from the user's wallet, there is no recourse in the event of error or fraud. For these reasons, the participants expressed that this was a major adoption consideration and strongly influence their investment or otherwise.

P6 responded to this section by highlighting how he was nearly completely put off by the dangers he had read about: ***"The thoughts of having my hard earned money taken from an account with no traceability really frightened me. However, considering I'm having this interview it obviously wasn't a significant enough deterrent to turn me off completely. I was cautious and still am. I ensure I have every security measure available in place. I even store my currency in a secure ledger wallet to mitigate the risks.***

P4 replied with similar precautions taken: ***"I started with only a small initial investment because I wanted to see how that got on before investing anything substantial. It was pretty much a trial run on the process and just generally getting familiar with using the systems, like how to transfer from one wallet to another and knowing how to securely store them offline so I would have peace of mind my money would be relatively safe. Once I became familiar with the end to end process, I became more comfortable purchasing larger amounts".***

P10 wasn't as quick to accept the potential risks: ***"Out of my close friends who have adopted cryptocurrency, I was last. I didn't understand the process, I couldn't grasp the notion of a virtual currency, how it could be created from nothing. The whole thing made me extremely skeptical and my gut feeling held me back. After numerous conversations and hours of online research I eventually decided to purchase in early January.***

P3 took a slightly different approach to the potential dangers of the market when ask whether the high risk nature of cryptocurrency had a negative influence on his decision to adopt: ***"No, in fact I enjoy the additional level of risk, as greater the risk the greater the gains".***

5.2.5 Theme 5: Return on Investment

After the ten interviews were complete, and countless literature from secondary sources examined, one particular factor responsible for the adoption process became apparent, above everything else; The extreme volatility within the market that provided a ripe environment for new investors to make exponential return on investments played a significant role in the rise in cryptocurrency adopters.

P1 responded to this with: ***"We were looking at a one-way graph where the prices were just going up and up and up. So you know, I wanted to buy in before the prices peaked. This was a significant factor that encouraged me to rush into purchasing cryptocurrency. Everyone was talking about it and the more I heard about the prices constantly increasing, the more I felt if I didn't act fast I could miss a life changing opportunity".***

P6 similarly identified: ***"There was pressure being received from every social platform, friends, news articles and so on about how Bitcoin and other cryptocurrencies have rising 10 and 20 percent daily. These kind of returns would barely be seen in the stock market on an annual basis. I just couldn't resist".***

P7 also identified that: ***"It just seemed like the right thing to do. Anyone who wasn't purchasing was constantly hearing of how much profit everyone else was making. It was impossible to resist. Also, if you were only looking to purchase one of long standing coins like Bitcoin, Ethereum or Litecoin, it was just so easy. The mobile app from Coinbase made it possible with a few taps on your phone".***

P2 and **P3** were the only two who didn't purchase solely for short term volatility. **P2** expressed: ***"No, I see the volatility of the market as a short term thing while it remains unregulated but have strong belief in the long term success of the technology".*** While **P3** explained: ***"Initially, price volatility wasn't why I purchased crypto, but the potential to make significant gains has made me adopt some currencies purely for speculative reasons".***

5.2.6 Theme 6: Overall Experience and Thoughts

A discussion towards the end of the interviews revolved around the hedonic aspect of the technology and the overall enjoyment levels the participants experienced from the entire cryptocurrency experience: **P5** provided an insightful view on his overall experience: ***"The entire process from start to finish was just edge of the seat stuff. An extremely exhilarating experience. It was so thrilling and exciting, from the volatility to the lack of security and regulation, along with the unfriendly interfaces. It gave me a sense of superiority knowing that most people didn't know how to interact with the platforms necessary to use and store the currencies. I felt a great sense of thrill and achievement knowing I was part of the early adopters that had the risk appetite to put my hard earned money on the line for a chance to make a huge return".***

P7 explained: ***"I don't regret buying cryptocurrency. I'm glad I'm on this journey as I have full belief in the technology and understand***

that the extreme volatility is part of the process and to be expected with anything new and unregulated market like this. If it was a guarantee sure everyone would do it. But it's not. And it's that risk factor and excitement of the unknown that has really made this such an experience for me. No one truly knows what's going to happen but I believe over the next few years the market will easily surpass a trillion dollars and I'm glad to be here during the early years".

P1 expressed some of his regret: ***"I suppose when I initially signed up, we were looking at a one-way kind of graph where prices were just going up and up and up. So you know, I wanted to get in before the prices peaked, and you know, it still looked like there were profits to be made. I suppose if I was a new adopter now, looking at the history over the last six months, I think I'd be put off by the extreme volatility that I've seen and you know, in hindsight if I could go back, I probably wouldn't have made the investment that I did.***

Chapter 6 – Discussion of Findings

6.0 Introduction

The previous chapter, through ten semi-structured interviews identified the themes and uncovered the motivational influences driving ten Irish millennial males to adopt cryptocurrency. This chapter will undertake a critical analysis of the information identified from the interviews and draw insightful conclusions referencing as support, the material comprised in the literature review in chapter 2. To accomplish this task, the findings from the qualitative research will be critically examined relative to the overall objectives of this research paper, which were outlined after the exploration of the literature.

To this end, the objectives have been specifically identified and framed as – *"Developing an in-depth understanding of the key critical factors responsible for influencing the behavioural intention of Irish male millennials in adopting cryptocurrency".* Secondly, this research aims to *"identify any shortcomings of the technology that may hinder the adoption process and explore suggested solutions provided by research participants as viable adoption mechanisms".*

In order to effectively present a critical and valuable discussion of the overall findings of this study, the author has decided to categorise the findings in order of their impact on the participants' motivation in their decision to adopt cryptocurrency.

6.1 Influence 1: Price Volatility

One of the most insightful factors identified from this study was the impact that the volatility of the cryptocurrency market had on the intention of Irish male millennials to adopt it. From the open-ended interviews carried out, one of the many interesting findings was the thought process of male millennials in Ireland today. In particular, identifying that some male millennials believe they will never be in a position to own a property of

their own due to the perceived over-inflated housing market. However, even with a housing crisis, the male millennials still feel extensive societal pressure from many social avenues to own a property in order to be perceived successful.

In conjunction with this, as highlighted in the previous chapter, a significant portion of Irish male millennials do not have any major commitments such as a family, mortgage, loans etc., resulting in them having an extensive appetite for risk. For that reason, there were general soundings that they were attracted by the potential opportunity to make significant financial gain from investing in cryptocurrency, regardless of its high-risk investment profile. As identified in the literature review, Pollock (2018) makes specific reference to price volatility of cryptocurrency investment and its minimal impact on investor appetite due to the potential high investment returns. Pollock further spoke of 'adoption syndrome' whereby the price of a particular asset is driven higher purely from the speculation of what that asset will potentially be worth in the future. These factors, combined with a demographic who are extremely risk-tolerant was the perfect cocktail for mass adoption.

Evidently from the analysis of the traditional technology adoption models such as TRA, DOI, TAM, UTAUT and UTAUT2, price volatility is not a comparative metric featured in analyzing specific technology. In the absence of this important metric, the preceding theories lacked the requisite analytical methodology to provide us with the rich data and findings akin to that of the author's study. As a result, the researcher was required to compile a tailored version of the most suitable model identified, UTAUT2, for the purposes of carrying out the most comprehensive research.

6.2 Influence 2: Social Influence

Social influence was undoubtedly a reoccurring theme brought up by the participants in raising their awareness of cryptocurrency. It was identified throughout the interview process that the participants became aware of

bitcoin and other cryptocurrencies predominantly through different social channels. These channels were perceived by the participants as advertising platforms for the digital currency. As outlined in the previous chapter by the participants, “retargeting” marketing was responsible for their heightened awareness insofar as every time a participant logged into Facebook or YouTube, they were constantly made aware of the new heights reached by the cryptocurrency market via the retargeting marketing techniques. Videos and news articles were rampant constantly highlighting the number of overnight millionaires being created from the explosion of the digital currency market. Interestingly, surface investigation into cryptocurrency tended towards the success stories rather than the potential shortcomings of such an investment. The findings of the interviews support and conclude on the same basis as Guzman’s (2018) view as discussed in the literature review, that social media has a highly prevailing influence on millennials in exploring the viability and or adoption of cryptocurrency.

On the basis that the individuals who participated in this research paper are solely one age demographic being Irish male millennials, it is difficult to surmise and conclude that other varying social factors could arise or determine the decision making process in relation to cryptocurrency adoption. This was identified as the notable limitation of this construct. The interviews strongly indicated a commonality of the typical social factors that featured for each of the participants. These being social media, friends, family and colleagues.

6.3 Influence 3: Instinctive Draw Towards Technology

It was strongly emphasised and recognised by the participants that they felt no sense of intimidation or incompetency about their ability to use new technology. Instead, each of the participants explained their natural and instinctive attraction towards technology. As highlighted by P3 during the interview process, one of the reasons attributed to this fact is that male millennials grew up immersed in a technologically advanced environment including the established mainstream internet era and gaming revolution

of the early 90's. New technology introduction and adoption have been a regular and reoccurring theme throughout their lives and as a result, male millennials, without consciously realizing, are constantly waiting in anticipation for the next big innovation. From an objective perspective and a critical assessment of the data gathered from the interviews, it would appear that male millennials' appetite for new technology is never quenched. Once they become au fait and comfortable with a certain technology, they return to a state of anticipation and are eagerly awaiting the next technology advancement. This constant sense of un-fulfillment is potentially one of the reasons why male millennials are so quick to adopt new technology despite some of the factors that might deter other demographics from adoption. This coincides with the study outlined in the literature review by Lynch (2016) who identified millennials as the demographic most easily 'bored'. They are constantly seeking something new to meet their entertainment demands and as highlighted by Lustig (2017), this has become an addiction epidemic that is leaving millennials in a constant state of seeking their next dopamine high, potentially exposing them to mental health issues such as depression and unhealthy addiction in their use of technology.

The epidemic in the addictive nature and unhealthy use of technology is raising ethical concerns and dialogue between medical experts that some class of intervention to counter this issue is required. This would mean, at a minimum, stronger communication and education of the dangers and risks associated with excessive use of technology. By highlighting the negative aspects of technology addiction to our youths, at least they would become aware and gain a better understanding of the risks, so that they may make a more informed choice of their technology use.

6.4 Influence 4: Relative Advantage

It became very apparent from the interviews that still, ten years on from the financial crisis, the relationship of trust between customers and their financial institutions, including banks has yet to be fully restored. The interview participants were particularly attracted to the instantaneous

nature of cryptocurrency to make a monetary transfer anywhere in the world within a matter of minutes and without any exorbitant transaction fees levied by third parties. However, one of the more prevailing points was the focus on the decentralised nature of the technology. The unique benefit of the decentralised structure is that risk can be more easily managed and mitigated because no one third part has sole responsibility for managing the security of payments when compared to the traditional banking structure. Furthermore, another key feature of decentralization is the fact that fraudulent activity can be more easily managed because of the transparent nature of the decentralised infrastructure. This affirms the views of both World Crypto Index (2018) and Buterin (2017) who highlighted these similar advantages of the technology over traditional centralised models. They outlined that fraud prevention, faster transaction times, increased financial efficiency and an effective store of value are all the compelling advantages experienced from using a decentralised cryptocurrency model.

However, notwithstanding the advantages highlighted above, the participants raised a particular concern about the unsophisticated shortfalls of key features such as the user interface and user experience (in particular sending and or storing cryptocurrency). The participants expressed that mass adoption may be hindered because of the difficulty and inconvenience users had experienced with these features to date. They advised that the obvious solution required was future upgrades so as to simplify these processes making them user friendly for all demographics.

6.5 Influence 5: Risk and Regulation

During the interview process, it was identified that the reoccurring theme of major risk and the absence of regulation were key pre-investment considerations for all participants. The participants were particularly concerned by the prospect of these issues and were fully aware that these were unavoidable issues should they invest or adopt cryptocurrency. As these issues were constantly featured in the media and in particular the

media focus on the serious issue of sizeable hacking crime, the participants always had at the forefront of their minds (in the absence of any major inroads in resolving the unregulated environment), that they had to concede to this major red flag issue upon investing or otherwise.

One of the characteristics of cryptocurrency exchange is the matter of anonymity and consequently traceability, or lack thereof. A lot of the transactions are untraceable, meaning in the event of a hack or wallet theft, often because of the lack of traceability, there is no means of recourse or paper trail to identify the guilty party. Neumann (2018) and Antoncic (2017) both outlined similar arguments in the literature review regarding the dangers and extensive risk currently posed to both current cryptocurrency holders and new adopters. This factor is a serious consideration that all the participants raised as a major deterrent, driving them to undertake extensive and significant research on cryptocurrency security and fraud preventative measures before deciding on adopting.

In addition to this, the participants acknowledged that the constant noise from various large governments voicing their opposing views of cryptocurrency and threatening to hinder investment through heavy regulation or abolition of its use, was another key adoption concern. This concern is supported by Weaver (2018) who explains that a central authority has the ability to intervene and 'completely abolish' cryptocurrency.

These issues undoubtedly proved extremely influential on the participant's adoption process, whether it drove them to further research, hindered their level of investment or extended the contemplative process pre-investment. Overall, the perceived level of risk is having a significantly negative impact on the level and rate of cryptocurrency adoption and evidently, until such time that proper regulation has been implemented, this issue will hinder attracting investors of mass adoption.

6.6 Influence 6: Overall User Experience

The overall user experience and their perception of cryptocurrency adoption provided this study with some interesting and beneficial insights. One of the primary factors highlighted during the user experience analysis was the thrill provided by an extremely volatile market. It is commonplace in the cryptocurrency market to see daily fluctuations in the range of hundreds of percent and as a result, the attention of a large number of first time investors is secured. The participants described it as ‘edge of the seat stuff’ and experienced instantaneous feelings as one quoted that it was ‘an extremely exhilarating experience’.

In addition to the initial positive emotional stimulation of investing, the participants expressed that they felt a certain prestige in being the early crypto investors, ‘the first to the table’. They relayed that there was a special feeling of accomplishment of being investors in the early stages.

As cryptocurrency is still in its infancy, there is a limited amount of available evidence supporting the common themes on user experience. Therefore, the findings of this study on this particular theme of user experience is by reference to the discussion findings only of the participants interviewed. Notably, the participants experienced positive emotional highs from early investment and the risk factor associated with this unregulated industry.

Chapter 7 – Conclusion and Recommendations

From the extensive literature review and the valuable information obtained from the ten open-ended interviews, there are a lot of positive perceptions for the future of cryptocurrency. Many of the academics referenced throughout believe it definitely has a place in our future, however, it is uncertain as to the exact form or whether that form has even been discovered yet. Kumar (2018), has compared cryptocurrency to Netscape, a company that IPO'd in Silicon Valley over 20 years ago. They launched a web browser called Netscape Navigator which was responsible for providing millions of people with access to the internet for the first time. He outlines that as more and more people adopt cryptocurrency, he is reminded by the similarities from over two decades ago to which he has compared cryptocurrency as the Netscape of the 90's "*signaling the evolution of a new industry".* Undoubtedly if cryptocurrency is adopted to the same extent as the internet, it will be an integral part of our lives, whether in the form of a new financial payment mechanism, a store of value, a portion of pension investments or one of many other potential possibilities.

After the analysis of the interview data, followed by the completion of the discussion and findings, one particular adoption influence was prominent above all others. Price volatility seems to have been the primary factor responsible for the significant increase in cryptocurrency adoption, further supported by social media and the fact that millennials are more predisposed to taking a higher risk opportunity by virtue of their exposure to volatile economic conditions of the last decade. As was highlighted throughout the interview process, a portion of male millennials believe they will never be in a position to purchase their own property and therefore, when it was recognised the cryptocurrency market had continuously risen from June 2017 to January 2018, they felt compelled to avail of this potentially life-changing opportunity. In addition to this, social media played an extensive role in the influencing process with

constant articles and stories of overnight fortune. They also expressed that Facebook news-feeds potentially impacted their decisions by constant alerts of stories, positively communicating huge increase in market capitalization on a daily basis, therefore becoming commonplace conversation amongst friends and colleagues. Furthermore, a mobile application 'Coinbase', made the purchasing process for a number of cryptocurrencies extremely fast and user-friendly easing any negative perception of barriers to entry. Undoubtedly, the makeup of influencing factors was critical in contributing to one of the largest and explosive financial growths in the global market.

The cryptocurrency space is still extremely speculative and volatile. The markets are unpredictable and still particularly vulnerable to external influencing factors such as government regulation, theft, fraud and further dangers that potential investors should be fully appraised before considering the adoption of cryptocurrency. However, as the cryptocurrency environment continues to grow and develop, regulation to some extent will be required if mass adoption is to be achieved. There are still unresolved key concerns and barriers to entry preventing the average prudent investor considering cryptocurrency as an investment avenue. Innovation in areas such as the user interfaces and online support will need to be either modernised or in some cases introduced.

The area of cryptocurrency requires a greater deal of research and publication of strong schools of thought to provide confidence to investors and organisations who wish to become players in the cryptocurrency market. The author believes that the findings of a study aimed at an older demographic would prove a useful comparative study and tool to identify further key common areas that should be developed so as to promote the adoption of cryptocurrency across the board.

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Appendix 1 – Participant Letter

Dear Participant,
My name is Conor Walsh, and I am a student studying at the National College of Ireland. As part of my MBA I have undertaken a dissertation concerning the adoption of technology, specifically Cryptocurrency, in Irish male millennials. I would like to hold semi-structured in-depth interviews with ten Irish male millennials who have previously adopted cryptocurrency to understand the motivating factors and concerns behind their adoption decision.
This letter is to invite you to consider participating in this study that I am conducting as part of my MBA. Participation in this study is voluntary. It will involve semi-structured in-depth interviews with ten participants for roughly thirty minutes each the motivational factors behind each participant's adoption of cryptocurrency. The interview will take place at: xxxxxxxxxxx

You may decline to answer any of the interview questions if you so wish. Also should you decide to withdraw from this study at any time you may do so without any negative consequences by advising the researcher.
With your consent, the interview will be recorded to facilitate the collection of information so that it can be transcribed for analysis. A copy of the findings will be made available to you if you require. All information that you provide will be considered completely confidential. Your name will not appear in any reports or the paper written with the findings of this study; however, your anonymous quotations may be used. Data collection from this study will be retained in accordance with the Data Protection Act of 1998.

If you have any questions regarding this study, or would like additional information to assist you in reaching a decision about participation, please contact me at 087XXXXXXX or email at x09557296@student.ncirl.ie
I would like to assure you that this study has been reviewed and received ethics clearance by the Ethics Review Board at National College of Ireland. However, the final decision about participation is yours. I hope that the results of this study will help build an understanding of customer perceptions regarding the introduction of technology within the quick service industry. I look forward to speaking with you and I thank you in advance for the time you have taken to reach a decision about participation in my study.

Kind Regards,
Conor Walsh

Appendix 2 Consent Form

Informed Consent Form: National College of Ireland, MBA, Dissertation Research.

Please complete this form after you have read the Information Sheet and/or listened to an explanation about the research.

Project Title: **Advanced Research Theory & Practice.**
Researcher: **Conor Walsh**

Thank you for your interest in taking part in this research. Before you agree to take part, the person organising the research must explain the project to you.

If you have any questions arising from the Information Sheet or explanation already given to you, please ask the researcher before you to decide whether to join in. You will be given a copy of this Consent Form to keep and refer to at any time.

Participant's Statement

I agree that:

- • I have read the notes written above and the Information Sheet, and understand what the study involves.
- • I understand that if I decide at any time that I no longer wish to take part in this project, I can notify the researchers involved and withdraw immediately.
- • I consent to the processing of my anonymous quotations information for the purposes of this research study.
- • I understand that such information will be treated as strictly confidential and handled in accordance with the provisions of the Data Protection Act 1998.
- • I agree that the research project named above has been explained to me to my satisfaction and I agree to take part in this study.
- • I understand that my participation will be tape- recorded and I consent to use of this material as part of the project.
- • I understand that the information I have submitted will be published as a thesis and I will be sent a copy. Confidentiality and anonymity will be maintained and it will not be possible to identify me from any publications.

Signature: Date:

Print Name:

Appendix 3 - Submission of Thesis to Norma Smurfit Library

Submission of Thesis to Norma Smurfit Library, National College of Ireland

Student name: Conor Walsh. Student number: x09557296.

School: School of Business. Course: MBA.

Degree to be awarded: Masters of Business Administration.

Title of Thesis: An Insight into the Key Motivational Influences Responsible for the Adoption of Cryptocurrency Among Irish Male Millennials.

One hard bound copy of your thesis will be lodged in the Norma Smurfit Library and will be available for consultation. The electronic copy will be accessible in TRAP (http://trap.ncirl.ie/), the National College of Ireland's Institutional Repository. In accordance with normal academic library practice all thesis's lodged in the National College of Ireland Institutional Repository (TRAP) are made available on open access.
I agree to a hard bound copy of my thesis being available for consultation in the library. I also agree to an electronic copy of my thesis being made publicly available on the National College of Ireland's Institutional Repository TRAP.

Signature of Candidate: _____

For completion by the School:
The aforementioned thesis was received by_____ Date: _____

This signed form must be appended to all hard bound and electronic copies of your thesis submitted to your school