ISSN (Online) 2394-2320

International Journal of Engineering Research in Computer Science and Engineering (IJERCSE)

Vol 10, Issue 4, April 2023

Customer Attitude towards Bitcoin Adoption in the Banking System in Mauritius

[1] Eric Bindah

[1] University of Mauritius
Corresponding Author Email: [1] bindahe@yahoo.co.uk

Abstract*— Bitcoin is a decentralized electronic currency that may be used everywhere in the world. Peer-to-peer transactions fuel the network, and encryption is employed to confirm the validity of these transactions worldwide. Block chain technology may be used to maintain a public distributed ledger. Generally, the public is entitled to obtain newly created Bitcoins as a reward by participating in a process known as "mining." Investors may also think of it as a feasible investment due to the possible future earnings this cryptocurrency may provide. The goal of this study is to determine the extent to which Bitcoin can be integrated into Mauritius' financial system given that it is at its infancy stage in the financial system of the Mauritian market and is therefore relatively new. Furthermore, comparatively with other markets in the region, and despite being a desirable platform for mining and investing, Bitcoin poses a challenge to traditional financial institutions and policy makers. This study employs a qualitative research design to assess the opinions and viewpoints of executives in the banking industry to gauge their views on the state of the digital currency acceptance in the local market. The study included respondents who were familiar with both Bitcoin and traditional transaction techniques. The study's findings indicated that Bitcoin has the potential to replace the current monetary system in the future, but only if there is enough awareness, a user-friendly interface, real-world benefits, and efficient risk management.

Keywords: Bitcoin, cryptocurrency, banking sector, customer knowledge, customer use, customer benefits, perceived risks.

I. INTRODUCTION

This research is focused with the newly emerging topic of Blockchain technology, which was created by Satoshi Nakamoto to act as the accounting system for the cryptocurrency Bitcoin and has since gained widespread acceptance (2008). Because of the extensive interest in the underlying technology since its inception, a slew of research and articles have been published, as well as increased media attention, which has resulted in considerable enthusiasm among technology enthusiasts. Specifically, according to the Association of Computing Machinery, it is expected that blockchain disrupt any industries on a worldwide scale, as well as redefine financial transformation on a global scale, allowing for secure and rapid, trustworthy, and transparent solutions, due to irreversible nature, transparency, and redefined trust to be created (Underwood, 2016).

As a cryptocurrency, Bitcoin was initially designed with the anonymity of users and the delocalization of transactional activity as its guiding principles (Barber et al., 2012). Following its initial adoption by a small number of inspired followers, bitcoin became widely accepted by the general public, who utilized it for legally structured transactions like as investments and purchase agreements. In tandem with technological advancement has come a rise in the popularity of private digital currencies, which are digital in the sense that they have no physical presence anywhere in the world. Unlike public digital currencies, which have a tangible presence somewhere in the world, private digital currencies do not have such a representation. What is being described here are virtual currencies that have characteristics similar to those of money. In addition to its many other uses, cryptocurrencies serve as a measuring system, a means of trade, and a gauge of worth, among other things. As far as digital currencies are concerned, the ultimate objective is for them to function independently of intermediaries and without the intervention of a centralized issuing body.

Digital currencies, in contrast to traditional currencies, which are issued by a central bank and kept by an institution such as a commercial bank or transmitted through the credit card sector, are established directly by the government and are not held by any institution. Because no third-party intermediary is used, user involvement is handled directly and anonymously between the two parties engaged in the transaction (Nakamoto, 2009). Furthermore, digital currencies have the potential to be used to assist developing economies in overcoming their challenges, according to Grinberg (2011), as a result of these circumstances. According to Grinberg (2011) digital currencies represent a significant and radical transformation in the notions of finance and market liberalization, respectively. As a consequence of technical improvement, developing nations have been able to bypass the costly and time-consuming installation of cable telephone infrastructure and instead rely on mobile cellphones to communicate with their citizens. Users of the internet are utilizing peer-to-peer digital currencies, which are not controlled by the government, in a manner similar to how traditional financial institutions are being circumvented by users of the internet.

ISSN (Online) 2394-2320

International Journal of Engineering Research in Computer Science and Engineering (IJERCSE)

Vol 10, Issue 4, April 2023

In Mauritius, the Bank of Mauritius has been careful in its strategy to cryptocurrencies thus far. As such, a notice alerting members of the public to proceed with caution and diligence when attempting to deal with cryptocurrencies, and further describing that members of the public should be prepared to cope with unregulated virtual currencies risks, which do not provide the same layer of safety as 'hard' or 'real' money.

This research seeks to offer insight on the road and challenges to Bitcoin and blockchain technology adoption, covering two primary groups of participants: developers and users. It examine the features of perceived ease of use, perceived utility, and perceived risk for each kind of stakeholder and feature of technology by means of the TAM as the analysis framework. It also seek to investigate the difficulties that may arise in the introduction of Bitcoins in the Mauritius financial system. This study also seek to address what is the present level of Bitcoin comprehension among potential end users; How does the quantity of information influence one's opinion on Bitcoins? And lastly, what are the key factors that influence a person's likelihood of adopting Bitcoins?

II. LITERATURE REVIEW

An examination of the literature serves as the foundation for the discussion of Bitcoins. Blockchain technology, which was first introduced in 2009, as a mean for establishing a secure, peer-to-peer network for the transmission of digital currency. Bitcoin, the world's first and most widely used cryptocurrency, is helping to the reduce the use of long-established and unchangeable financial payment systems that have been in place for decades. Traditional fiat money is not expected to be replaced by cryptocurrencies, but the Internet-connected global financial markets may be able to alter the way cryptocurrencies interact with one another by reducing barriers such as those linked with traditional currencies and exchange rates. Bitcoin and other cryptocurrencies have the ability to completely change digital trading platforms by eliminating transaction costs.

According to Baratt (2012), contrary to popular belief, Bitcoin has been linked to criminal web trade sites. However, fundamental nature of such technology is intended for creating instead of undermine confidence. According to Kaplanov (2012) despite the fact that the participants in the transaction are unknown to one another, the present operation, like with all cryptocurrencies transactions, is visible to adherents of such platform since it is recorded on the Bitcoin blockchain. Nakamoto (2008) mentioned that this method ensures the validity and provenance of the bitcoins in circulation.

The public blockchain will allow users track out where the bitcoins came from and how they were transferred if one is a computer scientist who is competent of doing so, and this will be open to everyone. For Brito & Castillo (2013), Bitcoin, contrary to common assumption, is not a viable option for the transfer of unlawfully obtained funds, at least not at this time. When it comes to money laundering, private bank networks are preferred over public bank networks (Brito, 2015; Singh, 2015).

Cryptocurrency in Mauritius

As of late, Mauritius has been a "regional sanctuary" for cryptocurrency revolution, as it is seen as one of the technologies offering promising new opportunities throughout Africa and the globe. A public distributed ledger called blockchain is crucial to this study since it is widely recognised as bitcoin's main technical accomplishment. To further its goal of establishing Mauritius as a start-up center point for this technology, the policy makers have supported many subsidies with the intention of expanding their operations across Africa, Asia, and beyond. It follows the BOI's recent introduction of the Regulatory Sandbox License ("RSL"). The government and private institutions of Mauritius have taken different approaches to the rise of cryptocurrencies like bitcoin. The Bank of Mauritius (BOM) has met some of the central banks overseas in warning the population about the dangers of utilising cryptocurrency like bitcoin.

According to the BOM's notification, users of virtual currencies as a payment or investment method are not protected by any regulations. Nevertheless, some banks have chosen a very different tack when it comes to cryptocurrency and the blockchain. The SALT (Secured Automated Lending Technology) lending platform accepts Bitcoin and Ethereum as collateral, as some financial institution publicized their goal to work with the Fintech company.

This move is in line with the country's vision of becoming a "breeding ground" for blockchain businesses by creating a "Ethereum Island," which would serve as a testing ground for new blockchain technologies and a gateway to emerging markets in Africa and Asia. The island nation of Mauritius hopes to become a "major player" in the blockchain industry. The topic of this research paper is crucial because it will allow for the creation of an appropriate regulatory framework for blockchain technology, cryptocurrencies, and bitcoins in Mauritius.

At present policies are currently being set on cryptocurrencies like bitcoin to regulate it by law. The FSC and the BOI, among other financial regulators, need to draught industry-specific fintech laws. The adoption of such regulations is to solve issues like asset opacity, taxation, and anti-money laundering, while also bolstering the security of the blockchain and cryptocurrency communities at large.

The International Coordination Agency for Crime Prevention is worried that the use of bitcoin and other cryptocurrencies could lead to an increase in criminal activity and drug trafficking in Mauritius. For instance, the Mauritius Securities Act of 2005 does not consider cryptocurrencies to be "securities," hence it does not apply to them ("MSA-

ISSN (Online) 2394-2320

International Journal of Engineering Research in Computer Science and Engineering (IJERCSE)

Vol 10, Issue 4, April 2023

2005"). Investors may be put off by the lack of regulation in Mauritius regarding this emerging form of fundraising due to the rising popularity of virtual currencies. Foreign investors who are interested in the country's potential in the area of blockchain technology are hampered by the absence of an appropriate regulatory framework.

However, blockchain technology start-up businesses who are aiming to expand into the African and Asian markets are drawn to Mauritius because of its commitment to improving its regulatory system. As a result, the Government of Mauritius has announced the establishment of a new regulatory board, the Regulatory Committee on Fintech and Innovation-driven Financial Services ("the Committee"), with the mission of "paving the way for appropriate regulatory frameworks for encouraging and supporting Fintech development in Mauritius."

Technology Acceptance Model (TAM)

For the purpose of fulfilling this research, this study adopts a qualitative method inspired by Davis' (1989) Technology Acceptance Model (TAM). Despite the growing excitement for technology, particularly in a challenging economic situation, how well-prepared people are for the challenges of the next generation remain unclear. If a technical breakthrough is to be completely realized, it is critical that society is fully incorporated with that achievement, especially if it is of social importance. Davis (1989) made the TAM as a way to figure out how well a proposed computer or information system would work for a certain group of people. The Theory of Reasoned Action, which tried to explain why people buy things, was first put forward by Fishbein and Ajzen (1975). Scholars have paid a lot of attention to TAM as a powerful tool for analysing the social aspects of technology adoption.

Perceived Usefulness (PU)

Conventional wisdom says that a person's subjective opinion of a technology's ability to improve job performance affects the user's final decision to use the technology through a middleman called "perceived utility" (PU). People are more likely to use a programme if they think it will help them get their jobs done faster and easier. The most important of these is how useful something is thought to be (Davis, 1989). According to the concept of perceived usefulness, a system is helpful if the user sees a positive link between how it works and how it makes them feel (Davis, 1989). One possible definition of perceived usefulness (PU) is "the degree to which a person thinks that using a certain technology will help him or her do a better job." Because there weren't many applications for end users.

Perceived Ease of Use (PEU)

The perceived ease of use (PEU) is someone's impression of how intuitive a technology is, which in turn affects how likely that person is to use that technology." Even if people could see how useful a piece of software is, they might decide that it's not worth the time it would take to learn how to use it. That is, people think that, in addition to usefulness, perceived ease of use has an effect (Davis, 1989). If a user thinks that an app is easier to use than its competitors, they are more likely to use it. "Easy" is defined in the dictionary as "free from difficulty or major effort" (Davis, 1989). Last but not least, PEU can be thought of as "how much a person thinks it would be easy to use a certain system." (Davis, 1989). Using PEU, it is possible to get a very accurate picture of how users accept and use new technologies.

Perceived Risk (PR)

The deployment of Blockchain-based applications (BBA) have certain parallels, since they involve the transfer of value across an unprotected, digital, and global network. As risk is an inherent part of electronic commerce, it must be included in any Blockchain study. Many, but not all, subsequent studies of risk perception have relied on Bauer's (1960) identification of uncertainty and consequences as key structural elements of risk. He stressed that he cared only about perceived risk and not actual danger. Therefore, public relations may be described as follows: "Perceived risk in consumer behavior involves risk in the sense that any action of a consumer will produce consequences which he cannot anticipate with anything approximating certainty, and some of which at least are likely to be unpleasant."(Bauer, 1960). For Bensaou & Venkatraman (1996), there are two types of inherent uncertainty: behavioural and environmental uncertainty Risk is either technologically-driven or relational according to Ring & Van De Ven (1994). The distributed and anonymous structure of Blockchain's value transactions may raise red flags among e users, despite the technology's promise of a safe and transparent network. Pavlou (2003) identified instances of product deception, fake identity demonstrations, data breaches, deceptive advertising, and warranty rejections are all instances of behavioural risks from the perspective of the final consumer.

Level of Knowledge (LK)

According to Hackeett (2017) there is "no more hyped and less understood concept" and Valenzuela (2015) further sad that knowledge or education is one of the most important aspects of adopting new technologies. The TAM uses self-reported variables like PU, PEU, and PR. Pavlou (2003) suggested adding "Trust" as a mediator. "Level of Knowledge" seems more important than trust in a blockchain setting and was as such used. Those who are knowledgeable with Blockchain are euphoric about the technology, while those who aren't are sceptical.

Resilience and the intention to adopt Bitcoin (BTC)

Researchers have studied resilience for two decades. Macdonald et al. (2018), Scholten et al. (2019), Stevenson & Busby (2015) came forward to say that businesses can benefit

ISSN (Online) 2394-2320

International Journal of Engineering Research in Computer Science and Engineering (IJERCSE)

Vol 10, Issue 4, April 2023

from help anticipating, preparing for, responding to, and recovering from disruptions of all kinds. Wamba et al. (2020) and also Sternberg et al. (2020) claimed that Blockchain Technology (BCT) shortens data-driven choices to heighten and restructure operational procedures and resources, as well as information sharing and collaboration between many stakeholders to prevent operational failures and increase service reliability. By keeping an eye on potential dangers and formulating a strategy, businesses can change quickly and effectively to Volatility, Uncertainty, Complexity and Ambiguity conditions according to Millar et al. (2018). For Rubbio et al., (2019) the influence of resilience on desire to use BCT has never been demonstrated and experimentally explored, despite resilience's importance in all circumstances.

III. METHODOLOGY

Primary data were collected to come with concrete and significant information to address the research questions. Due to its features and exploratory nature, qualitative research was selected as the optimal methodology for this investigation. When studying a new or poorly understood phenomena, Eriksson and Kovalainen (2008, pp. 5-6) argue that qualitative research approaches are particularly useful. The authors also note that the goal of this study is best served by using qualitative research methods because of their emphasis on obtaining in-depth knowledge of a phenomena and its underlying causal links. This study analyse the spread of blockchain technology in the banking industry using semi-structured interviews. It was decided that semi-structured interviews, which are frequently used in qualitative research, were the best technique of research and data collecting for this study.

Kotler and Keller (2006) said the research design's goal is to ensure the data can be utilised to solve the problem statement. "Research design" refers to rules for performing studies using various approaches. TAM was used to assess BBA adoption in Mauritius' banking system (Technology Acceptance Model). Despite TAM provided mainly quantitative outputs, it is not uncommon that it is used to attain informative data. By applying qualitative methods with the TAM, underlying motives, perceptions and definitions that each participant has can be explored fully. The target population were bank employees in Mauritius who serve as the primary point of contact for the study. Primary sources were used for data collection. When a researcher obtains primary data, it comes through first-hand interactions with the people or communities being studied according to Saunders, et al. (2012). This means that the researcher goes straight to the information source and gets data for a given research endeavour. Interviews, direct observation, and surveys are examples of primary data collection methods. Simply said, secondary data are those that have been obtained previously but not by the user (Saunders, et al, 2012). Qualitative research data was utilised to analyse the outcome of the conducted investigation. This strategy is deemed acceptable, as it will allow us to learn all there is to about the topic under investigation.

Interview

Data gathering is as vital as research. Yin (2009) defined six information sources: interviews, direct observation, participant observation, physical objects, and recordings. Interviews were chosen because they reveal respondents' perspectives, ideas, and beliefs better than surveys. According to Bryman & Bell (2001), interviews are employed to collect qualitative data because they allow for in-depth participant descriptions. This method rapidly and successfully gathers information. Gray (2009) says interviews are difficult due of the high amount of involvement between interviewer and responder. Due to poorly written questions or unhelpful prompts, researchers might misinterpret informant responses or acquire erroneous data.

Organized, semi-structured, or unstructured interviews are available. Semi- structured interviews at the intermediate level may overcome these problems. This kind of interviewing uses a list of subjects and questions, but the details vary. Five interviews yielded five data sets during week of July over the phone. According to Langdridge (2007) said the interview guide is important. Interview guides should elicit as much relevant information as possible to address the research question. The interview guide was organised to include straightforward, relevant answers. A data analysis interview schedule was implemented in the study. The objective was to use current theories to determine the best qualitative analytic approach for this topic. Interview transcription was the analytic process since it permitted familiarisation with the information.

Ethical research aims to preserve the welfare of study participants by ensuring they are not exposed to risks or bad consequences from research techniques. Ethics considerations were considered while acquiring the data form the interviewees. Obtaining the participants' informed consent means they were provided enough information about the research's goals and the interview's purpose. Respondents' anonymity and identities were not compromised since they were not asked for their names in the interview transcripts.

IV. FINDINGS

The general profile of the five respondents was basically the same; they are all evolving in the banking sector at higher level of management where some also provide investment activities. Interview 1, has more than 20 years of experience in the banking sector and has an managerial role. He has been involved in business processes and strategic services. He studied finance and over 20 years in investment management. Interviewee 2, has 15 years' experience as project lead after

ISSN (Online) 2394-2320

International Journal of Engineering Research in Computer Science and Engineering (IJERCSE)

Vol 10, Issue 4, April 2023

more than 10 years in IT programming in banking sector. He has a master in engineering. Interviewee 3, is an experience IT engineer who has several professional qualifications from international institution. Interviewee 4, has 19 years of experience, compromising 3 years in fraud monitoring, 10 years in custodian activities and having a degree in business management with financial risk as specialization. Interview 5, is an IT specialist who studied IT in India, has a Master degree in software engineering and coding.

Following the invitation to interview, the respondents were who all interviewed using the same questions related to set themes which focused on analysing the initial variables, PU, PEU, PR, IU and LK:

They have further been questioned as to what were their definition, perception and what they thought could be the attributed of bitcoin and how knowledge could impact its successfully integration in Mauritius. This part provided unbiased, filter-free responses. Going about the level of knowledge part, they all agreed to some extent that Bitcoin adoption requires a deep documentation and preparation in order to go forward a successful implementation.

“I personally learned about it through a friend. But if I did not make the effort to learn more, to be curious I would not have been able to answer you today. Identically, if the BoM successfully launched the digital currency, which will be mostly present in custodian service, and having investors not willing to deal with digital currency at all, what would have been the use of all this? It can definitely be a very good way to trade but if you are anchored in your traditions, not willing to learn, adapt and follow then, there is no way you can survive technological innovations.” Interviewee 5

“I personally believe that if none of us if take the risk to share what we really know on the subject, we will never know where we stand, what needs to learn or what needs to be worked upon for us, as bankers to be fully equipped to adopt this technology.” Interviewee 2

Perceived Usefulness

Respondents to the interview agreed that the banking sector stands to gain significantly from using blockchain technology. Some of the identified benefits have been demonstrated to be possible, while others are only theoretical and in the early stages of development. It has been determined that the key drivers driving the adoption of blockchain technology are the capacity to store and distribute trustable and verifiable data in a computational form between entities, and the digitization of completing transactions and contracts. These were also considered crucial in deciding the success of blockchains.

Increasing productivity through automation, swift transactions, and low overhead costs was cited as a major advantage. Financial processes are often sophisticated transactions based on the formation of agreements and the execution of contracts between transacting parties. Furthermore, they frequently necessitate the engagement of multiple businesses and intermediaries. This complicates and hinders the entire execution of various procedures, as well as raising transactional expenses. All of the interviewees, however, agreed that blockchain technology may improve the efficiency of completing transactions and contracts and relocating assets.

"Using blockchain technology helps us when we manage a hub in a network that only stores information about our clients. Then, we may safely and effectively share the information throughout the network to carry out the agreements and transactions that have been made." Interviewee 1

"Harmonically labelled information with blockchains boosts efficiency and simplifies various operations Blockchains have the potential to improve efficiency through reliability and openness." Interviewee 2

“All sorts of intricate tasks can be performed in a less complicated fashion. Increased effectiveness in value transfer processes is the potential of cryptographic technology and trust chains." Interviewee 3

"Blockchain technology is a mean toward cost reduction. You see, it eliminates intermediaries which are required in the traditional processes as we know it in Mauritius. Transfers are executed with less efforts and more rapidly." Interviewee 4

"There is an ease in innovation. When we look at other countries, Mauritius is still lagging behind on many points. The usefulness in integrating such technology are that execution of transfers are of high speed, there is disintermediation and more control over one’s own money." Interviewee 5

Perceived Ease of Use

Interviewees have been questioned on how far they can define BTC and BCT as easy to ease. Interviewees 2,3 and 5 all agreed that Bitcoin requires less permission. The original software was an opened-sourced one; they stated it is an easy-to-use interface.

“It is very easy to use at least from my point of view. It takes another sense when it comes to developing BBAs.” Interviewee 3

“Available documentations on Bitcoin mechanism makes it a basic thing to understand and use. For banks, we need lot of permissions, a load of programing to synchronise several interrelated applications. Bitcoin however, has no such barriers.” Interviewee 5

Interviewees 1 and 4 however raised another important aspect to the question of the ease of use; the adaptation within the banks when time for change will come.

"Indeed, we are talking about innovating and going a step ahead in the Mauritian Banking landscape. But do you think it will be that easy firstly for employees who have been working for years in a way and to suddenly stop and change? It will be the same for many customers as well. The learning stage might be long and costly for banks." Interviewee 1

ISSN (Online) 2394-2320

International Journal of Engineering Research in Computer Science and Engineering (IJERCSE)

Vol 10, Issue 4, April 2023

"It can be implemented here in Mauritius and in banks but not at every level. Some departments must still continue in the traditional way. Look at the trading activities, it will never be as easy as it can be with such technology. The difficulty can reside in the way how newly transformed departments such a custody or the Payments department, will easily switch from the old way of doing to the new one." Interviewee 4

Perceived Risk

When talking about perceived risk, interviewees pointed out the increased security. A great deal of trust is necessary for the provision of financial services and products, and substantial amounts of reliable data are routinely exchanged between parties in order to forge bonds of understanding and carry out dealings. As a result, safe and trustworthy distributed networks such as blockchains are extremely valuable to the banking sector. They make it possible to conduct digitally signed transactions and contracts that can be validated by all nodes in the network.

Moreover, the implementation of such transactions and contracts may be monitored closely because of tracking and accessibility. The end result is a more secure and risk-free design.

“By using digital and cryptographic signatures, we have a legally binding contract that we can monitor in real time, allowing us to evaluate the risks involved and take appropriate action.” Interviewee 1

One of the benefits of blockchain technology, according to Interviewee 1, is that it is resilient since there is no central point of failure. Intermediary financial institutions and organisations routinely play a key role in the execution of transactions and contracts that span many systems. In the case that the network supporting the execution of transactions and contracts is centralised, there is a high probability of failure. However, because a decentralised network has several nodes, the danger of failure is reduced. As a result, resilience is an advantage that leads to robustness and enhanced availability of financial services.

"In contrast to having a failing centralised service, we can now continue to do business even if one or two nodes fail. This is an advantage made feasible by decentralisation." Interviewee 1

Interviewee 1 further said that blockchain technology has increased knowledge of the potential ways in which various financial sector activities might be carried out and introduced new ways of doing business. They also said that this change in outlook is helpful to the development of the financial industry since it facilitates the delivery of novel solutions to persistent problems. As a result, the financial industry as a whole works together to identify methods to make systems more reliable and secure.

"This new style of working together promotes open-mindedness [...]." This shift will aid us in moving forward." Interviewee 1

Intention of Use

The interviewees have been questioned on their intention to use BTC/BCT. Since it is not yet implemented for the moment and none of them is directly dealing with it, their answers have shed the light on what according to them could influence the adoption of bitcoin in banks. It is noticed that the intention of use is linked to the infrastructure support, security and regulatory frameworks mostly.

"IT infrastructure, including hardware, software, and network systems, is especially important for Bitcoin's success since it allows different Bitcoin systems to communicate and function together. Public or/vs. private concerns might arise with regards to technological matters including interoperability, data security, design, and permissions. Strengthening Bitcoin's underlying technology requires a focus on privacy and experience.” Interviewee 2

“The widespread adoption of innovative technologies like bitcoin depends in large part on their security. Hacking and modifying on a peer-to-peer basis places a premium on the research, development, and design of decentralised operating systems. Advanced technical solutions should be employed to secure user systems (financial) to avoid breaches resulting to loss of money and to build stronger consumer trust, all of which would help spread the word about bitcoin and boost its adoption." Interviewee 5

Factors Affecting the Adoption of Bitcoin in Mauritius

The respondents have further been questioned as to what were their perception on the factors which could affect the implementation of such technology in Mauritius. Their responses provided an array of aspects. Interviewee 1 conceded that the regulatory framework could represent a major point.

Their responses provided an array of aspects. Interviewee 1 conceded that the regulatory framework could represent a major point.

“Yes, we have heard that the government is seeking to go forward to more digitalization, mainly the digital currency. But none of us have heard more about the regulations, how it will work, who will work on in and who will be regulating that is barely known to many of us. It still represents a risk if proper documentation and guidelines are not created and shared to all the stakeholders.” Interviewee 1

Another factor identified unanimously was the lack of knowledge itself. All interviewees said that if one is not acquainted or even not willing to learn what it is all about, there is no way this could be a successful innovation.

“When talking in the adoption in banking sector, the less attractive part is that users, once educated on Bitcoin, will be able to handle the transactions themselves. Banks will find themselves losing revenues generated from transactional related services.” Interviewee 3

The professionals who were questioned stated that it is difficult to locate skilled developers of decentralised

ISSN (Online) 2394-2320

International Journal of Engineering Research in Computer Science and Engineering (IJERCSE)

Vol 10, Issue 4, April 2023

architecture that possess the necessary competence and are up to date with current trends. In addition, even if these competent engineers could be found, it would be difficult and expensive to get them to participate in activities linked to blockchain technology.

This is because of the industry's complexity and the fierce rivalry within it. This will remain true regardless of where they are on the planet. According to the second and fifth interviews, the configurations and designs of blockchains that are appropriate to the financial industry have only been developed to a very limited level up until this point. This is still true even though blockchain technology has been available for a while.

In addition to this, they made the observation that after the initial presentation, the manufacturing stage of the process is reached by a limited number of networks only. As a direct consequence of this fact, it is very feasible that discovering and constructing decentralised architecture will be a challenging endeavour. It has been shown that there is a barrier in the form of a lack of awareness and information regarding blockchain technology; hence, there is a necessity for increased understanding and knowledge regarding this technology.

V. DISCUSSION AND CONCLUSION

The participants in this interview were unanimous in their belief that the potential benefits given by blockchain technology outweighed the risks inherent in the process. While some of the benefits that were mentioned have been shown to be beneficial in practise, others are still in the conceptual and experimental stages of development at this point. The capacity to carry out transactions and contracts digitally, as well as the capability to store and move trustworthy and verifiable data across organisations in a computational manner, are some of the drivers that are propelling the use of blockchain technology.

Additionally, the ability to conduct transactions and contracts digitally opens up the possibility of new business models. It was also anticipated that the degree to which these factors would affect the practicability of blockchains would vary greatly. The findings indicate that the potential influence that blockchain technology might have on the financial industry of Mauritius should not be understated. Based on the interviews, it seems that the banking business in Mauritius has a greater influence, both positively and negatively, on the banking industry in other countries.

Due to an insufficient number of pertinent replies, the survey was severely flawed in several respects. Only a small fraction of respondents had information on how the TAM framework has been used to the study of blockchain technology's uptake.

The descriptive analysis revealed that most respondents do not have enough knowledge on BBAs and/or BTC. The respondents of the survey also believe that their implementation are negatively affected by the lack of knowledge and their associated risks mainly. Though there are still sight of huge benefits for the banking industry in Mauritius, there are threats through the uncertainties represented in the regulations and legal aspects of the technology themself. It is time for great changes in the Mauritian banking industry. Despite the speed with which BBAs deliver services, respondents are more trusting in banks when conducting financial transactions.

BBAs and BTCs have an influence on the Mauritian banking business, both positively and negatively. In terms of the positive effect, the banking sector is improving their services and offering clients with more efficient communication and contact. However, the negative consequences mostly include security breaches in banks. The negative consequences also include a lack of well-equipped followers if the technology is to be adopted quickly.

Addressing Research Questions

One might conclude that the revised TAM model was a valid tool for gauging people's openness to new forms of technology. The drivers of "Level of Knowledge," "Perceived Ease of Use," "Perceived Usefulness," and "Perceived Risk" have been shown to accurately predict the anticipated use and, therefore, the adoption of Blockchain. The constructions utilised to make predictions about future use were solid, and every research question tested out to be.

The answer to the issue of whether banks are prepared for the impending Blockchain revolution was slightly positive, and this could be highly due to the developmental stage of this technology in the local market, hence not widely accepted yet. Even when looking at a highly educated sample group, there remains a significant knowledge gap. As it turns out, financial institutions do not seem to be ready. This is consistent with the literature, which often draws parallels between the present level of Blockchain development and adoption and the early days of the Internet. Banks may be at a disadvantage in terms of real adoption of Blockchain-based applications due to a lack of understanding. Regulators and corporations may use this lack of understanding to their advantage, limiting and privatising Blockchains at the expense of citizens' economic and social well-being.

The research is useful for gaining insight into the kind of individuals who will be impacted by the Blockchain technology breakthrough and how to approach them. Based on a consumer-centric framework, the research pinpointed four key features that should form the backbone of any Blockchain deployment. If customers were to use the technology, lowering their anxiety about it is of paramount importance.

The variable labelled "Perceived Risk" had the greatest effect in foretelling adoption. A reduction in perceived danger and an increase in acceptability might result from education on security features and a growth of trust in the technology and supplier. Educative advertising might be used

as a strategy to reinforce such effects by increasing broad levels of knowledge. Banks may boost Blockchain's perceived utility and simplicity of use among prospective consumers by creating applicable real-world applications, which will aid society in understanding the scale and socio-economic potential of Blockchain and establishing acceptability.

Blockchain is predicted to be one of the next major technical revolutions, alongside the Internet, personal computers, and smart phones, according to literature. In order to ensure the long-term viability of their business, bankers and related authorities should keep abreast of the latest technical developments.

A significant gap was observed in terms of banks perspective and degree of understanding among bankers. Through the TAM, we were able to provide a better picture of banks' present level of understanding, perception, and anticipated usage of Blockchain while also filling in part of the gap. Despite Blockchain's infancy and the participants' mixed levels of familiarity with the technology, this model has been shown to be valid and trustworthy.

REFERENCES

[1] Anagnostopoulos, I. (2018). 'Fintech and regtech: Impact on regulators and banks.' Journal of Economics and Business. doi:10.1016/j.jeconbus.2018.07.003.

[2] Balgobin, Priya & Seeam, Amar. (2020). Developing an Effective Regulatory Framework for Virtual Currencies in Mauritius. 10.1145/3415088.3415126.

[3] Covington, H. and Choi, Y.B. (2019). Blockchain and Bitcoin. International Journal of Cyber Research and Education, 1(1), pp.27–37.

[4] Davis, F. D. (1986). A technology acceptance model for empirically testing new end-user information systems: Theory and results. Cambridge, MA: Massachusetts Institute of Technology.

[5] Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, 13, 319–340.

[6] Duran, R.E. and Griffin, P. (2019). Smart contracts: will Fintech be the catalyst for the next global financial crisis? Journal of Financial Regulation and Compliance, 29(1), pp.104–122.

[7] Elwell, C.K., Murphy, M.M. and Seitzinger, M.V., (2013). Bitcoin: Questions. Answers, and Analysis of Legal Issues, Congressional Research Service.

[8] Fanning, K. and Centers, D.P. (2016). Blockchain and Its Coming Impact on Financial Services. Journal of Corporate Accounting & Finance, 27(5), pp.53–57.

[9] Gulled, A. and Hossain, J., 2018. Bitcoins Challenge to the Financial Institutions: A qualitative study of how Bitcoin technology affects the traditional transaction system. MA, Sweden, UMEA school of business.

[10] Ghassan Karame and Androulaki, E. (2016). Bitcoin and blockchain technology. Boston: Artech House.

[11] Luther, W.J. (2015). Bitcoin and the Future of Digital Payments. SSRN Electronic Journal.

[12] Mazikana, A.T. (2018). The Impact of Cryptocurrencies in Zimbabwe. An Analysis of Bitcoins. SSRN Electronic Journal.

[13] Nabilou, H. (2019). How to Regulate Bitcoin? Decentralized Regulation for a Decentralized Cryptocurrency. SSRN Electronic Journal.

[14] Niels Vandezande (2018). Virtual currencies: a legal framework. Cambridge: Intersentia, Dl.

[15] Reed, C., Sathyanarayan, U., Ruan, S. and Collins, J. (2017). Beyond Bitcoin Legal Impurities and Off-Chain Assets. SSRN Electronic Journal.48.

[16] Sarah Underwood. 2016. Blockchain beyond bitcoin. Commun. ACM 59, 11 (November 2016), 15–17.

[17] Sotiropoulou, A. and Guégan, D. (2017). Bitcoin and the challenges for financial regulation. Capital Markets Law Journal, 12(4), pp.466–479.