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The Appreciation of Cryptocurrency: A Study on Digital Asset Knowledge among Rural Bank Personnel in the Second District of Albay Province

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ABSTRACT

The COVID-19 pandemic is a modern problem brought about by ease in travel, advanced trade and industry, and the like. This global health concern requires solutions to limit face-to-face interactions, such as cryptocurrency. The researcher makes an effort to use less fiat, which results in paperless transactions. With this system already in place, this study examined how rural bank personnel appreciate cryptocurrency. This study used the descriptive research design and an online survey as its data gathering tool. The respondents were regular employees of rural banks in the second district of Albay who consented to participate in the

study. The statistical methods used in the study were the Kendall Coefficient of Concordance W and Chi-square. The findings are the following: the rural banks' managers were less appreciative of cryptocurrency, and supervisors and office staff felt indecisive about their appreciation. Also, there is a significance of agreement among the respondents in terms of knowledge, regardless of rank. In general, the respondents were not ready to understand and accept cryptocurrency. This study recommends further research to involve other professionals in Albay. The rural bank personnel may also attend webinars regarding digital assets and cryptocurrency. It also recommends the collaboration of banks to improve cryptocurrency appreciation and related concerns.

Keywords — Social Science, cryptocurrency, digital asset, knowledge, rural bank personnel, descriptive, Philippines

INTRODUCTION

When it comes to the capacity to apply traditional valuation procedures to crypto-assets, there is a healthy amount of skepticism. The extraordinary volatility of Bitcoin and other cryptocurrencies has heightened this during the last year. The Technology Quarterly of The Economist magazine claimed in August 2018 that there is no reasonable way to value cryptocurrencies (Johnson et al., 2019). However, traditional valuation methodologies and principles remain suitable and applicable to these assets, with a focus on assessing basic worth. Such strategies should take into account the assets' inherent volatility or riskiness, and they're never more vital than when marketing exuberance and the underlying emotions of greed and fear drive values.

The Philippines has the second-lowest cryptocurrency adoption rate in the world, at 2.9 percent, after only Singapore at 3.3 percent. Furthermore, by the end of 2015, knowledge concerning cryptocurrencies, such as Bitcoin, had only reached roughly half of the adult population in the United States, implying that it will take another decade before the bulk of customers is aware of its existence (Doblas, 2019). While several variables have been researched to lead to adoption, the most common antecedents to explain actual behavior are awareness and attitude, which in this study points to appreciation. This is due in part to a number of technology adoption models and theories that include the identified needs.

The purpose of this study was to determine the cryptocurrency appreciation among rural bank personnel in Albay's second district and how this would lead to the province's eventual adoption of cryptocurrency. This research will be useful in establishing baseline knowledge for determining the parameters that influence the level of success in the implementation of monetary systems like the topic examined. Furthermore, the findings will add to useful knowledge about the potential degree of cryptocurrency adoption in developing economies like the Philippines based on a variety of factors.

FRAMEWORK

In the field of Information Systems (IS), technology adoption is a mature stream that has tried to recognize the factors that lead individuals in organizations to try to eventually implement new information technologies (IT) in the workplace. According to Daniel F., 2011, various theories and models have been proposed to describe the acceptance of technology, the most popular of which are the Silva (2015) Davis' Technology Acceptance Model (TAM) (1989) and Venkatesh et al. (2016) Unified Theory of Acceptance and Use of Technology (UTAUT). TAM's basic principle is that the purpose of an individual to try a new technology (intention to use behavior) and the actual use of it (use behavior) are related positively to that user's perception of how useful the technology is "Perceived Usefulness" (PU) and how easy it is to use, that is "Perceived Ease of Use" (PEU). PU is formally defined as the degree to which an individual believes that using a specific system will boost his or her job performance, while PEU is the degree to which an individual believes would be effortless to use an IT system. The UTAUT defines a direct and positive influence of performance expectancy, social norms, and facilitating conditions on the intention to use technology.

According to Venkatesh et al. (2016), performance expectancy is the degree to which an individual considers using a specific technology useful to their performance. Performance expectancy is the degree to which an individual considers using a specific technology useful to their performance. Effort expectancy is the degree of ease associated with the use of a particular technology. Social influence is the degree to which an individual perceives that others believe that they should use a particular technology. Facilitating conditions are the degree to which an individual believes that he or she has the necessary organizational and technical infrastructure to use a particular technology.

The researchers see UTAUT as a theoretical basis for this study, especially in the formulation of the objectives and in coming up with the answers to the research questions. In general, this study describes the acceptance of cryptocurrency among the rural bank personnel in the second district of Albay province, as evidenced by their appreciation of the subject matter.

Specifically, the direct and positive influences on the respondents' intention to use the cryptocurrency technology can also be classified into performance expectancy, effort expectancy, social influence, and other facilitating conditions. As for the performance expectancy, the respondents' appreciation of cryptocurrency through knowledge, attitude, and interest is applicable. Regarding effort expectancy, the willingness of respondents to adopt cryptocurrency systems in bank services is applicable. The human factors influencing cryptocurrency appreciation can be classified under the social influence, while the security factors can be classified under other facilitating conditions.

The Technology acceptance model (TAM) also serves as the baseline model for this study's conceptual framework. With these two theories and models, the framework portrays a classic input-process-output pathway model. The researchers look at the familiarity and knowledge of the bank personnel with cryptocurrency as factors to perceived ease of use of the IT system. This study's data gathering tool identified the respondents' familiarity and knowledge by answering the most familiar cryptocurrency, token, network, technology, and method for acquiring cryptocurrency and if it does affect the bank personnel's appreciation of cryptocurrency.

OBJECTIVES OF THE STUDY

The objective of the study is to measure the bank personnel's appreciation of cryptocurrency among rural bank personnel in the second district of Albay province. It aims to (1) evaluate appreciation through rural bank personnel's knowledge, interest, and attitude towards cryptocurrency. The study also aims to (2) assess the willingness of respondents to adopt cryptocurrency systems in bank services: bill payments, withdrawal, deposit, and investment. It also (3) identifies the factors influencing cryptocurrency in terms of human and security perspectives. The study also aims to (4) compute the significance of an agreement on the rank order of the respondents' appreciation, willingness to adopt cryptocurrency systems, and factors influencing cryptocurrency appreciation in terms of human and security perspectives and lastly to (5) devise an approach that may help increase the appreciation of cryptocurrency.

METHODOLOGY

Research Design

The study used a descriptive-quantitative research design as the researcher collected quantifiable data from respondents. With this research design, the researcher had the capability to provide clear information on this study and its variables. The researchers focused on the measures of the bank personnel's appreciation of cryptocurrency using this type of research design.

Research Site

The study site was the second district of Albay. As of 2020, Albay has a population of 1,476,639 recorded by the National Nutrition Council in the Philippines. It has three cities, one of which is the study site, the second district of Albay province. As recorded by PSA last 2015, Albay has 107 banks, according to the Philippine Statistics Authority website, 2018. With the total number of banks, a fraction was identified, locating all rural banks in the second district of Albay upon proceeding with the methodology. Primary sources of data were the bank personnel from different rural banks in the second district of Albay province. The participants were bank personnel of the rural banks, from top management to all staff of the bank, composed of 12 managers, 17 supervisors, and 71 office staff.

Instrumentation

The instrument was in a survey in the form of an online survey form as the primary tool in this study. It included a non-disclosure note to put respondents at ease in providing their answers to the questionnaire. It also contains guidelines to respondents for respondents who are not tech-savvy. Survey questionnaires were indicated with the aid of Google Forms as it neatly presents surveys and automatically presents data collected in a chart format. The questionnaire was answerable by only drop-down, ticking, and selecting options for a respondent-friendly survey form. The responses were then converted into data through Google Sheets, which the system of Google automatically generated, to present them in an organized manner.

Research Ethics Protocol

The research was not submitted for ethics review because its procedures entail no more than minimal risks, and the population under study is not vulnerable. Also, recorded information cannot readily identify the respondents, whether

directly or indirectly. The online survey form was designed in consideration of the respondent's rights to confidentiality, voluntariness, and freedom from undue influence.

RESULTS AND DISCUSSION

Cryptocurrency appreciation based on knowledge. The office staff is most knowledgeable on: (1) cryptocurrency, with a weighted mean for an indicator of 2.55; (2) cryptocurrency wallet/s and exchange/s, 2.48; and (3) cryptocurrency token/s. The managers are most knowledgeable on: (1) cryptocurrency, with a weighted mean for an indicator of 2.33; (2) cryptocurrency wallet/s and exchange/s, as well as cryptocurrency token/s, both 2.17; and (3) the method/s of acquiring cryptocurrency, 1.92. The supervisors are most knowledgeable on: (1) cryptocurrency, with a weighted mean for an indicator of 2.59; (2) cryptocurrency wallet/s and exchanges, 2.29; and (3) cryptocurrency token/s, 1.94. As identified in the study of Al-Amri (2019), knowledge is one of the factors influencing cryptocurrency adoption that must be addressed. These results can also imply the respondents' appreciation, based on the findings of Da Silva et al. (2015), that knowledge has an effect on product appreciation.

Cryptocurrency appreciation is based on attitude. The supervisors have a neutral attitude toward cryptocurrency, with a weighted mean for W1 of 3.12. Their appreciation of cryptocurrency based on attitude is shown through the following indicators: (1) the belief that it is possible to transact online using cryptocurrencies, as well as the belief that business transactions will change due to cryptocurrency, both with weighted mean for an indicator of 3.41; (2) the recognition of cryptocurrency as a medium of exchange, 3.00; and (3) the belief that cryptocurrencies can be used in hedging funds, as well as the belief that it is possible that cryptocurrencies will replace monetary regulators and financial intermediaries, both 2.88. The office Staff also have a neutral attitude toward cryptocurrency, with a weighted mean for W1 of 3.04. Their appreciation of cryptocurrency based on attitude is shown through the following indicators: (1) the belief that it is possible to transact online using cryptocurrencies, with a weighted mean for an indicator of 3.35; (2) the belief that business transactions will change due to cryptocurrency, 3.24; and (3) the belief that it is possible that cryptocurrencies will replace monetary regulators and financial intermediaries, 2.93.

On the other hand, the managers are less likely to appreciate cryptocurrency based on attitude, with a weighted mean for W1 of 2.08. So far, their appreciation

of cryptocurrency based on attitude is shown through the following indicators: (1) the belief that it is possible to transact online using cryptocurrencies, with a weighted mean for an indicator of 2.5; (2) the belief that cryptocurrencies can be used in hedging funds, 2.25; and (3) the recognition of cryptocurrency as a medium of exchange, as well as the belief that business transactions will change due to cryptocurrency, both 2.00. These results partly agree with the inference made by Doblas (2019) that the negative attitude of respondents reflects their skepticism and view of cryptocurrencies being risky and thus less attractive as an investment.

Cryptocurrency appreciation based on interest. All groups are interpreted to be neutral in terms of their appreciation of cryptocurrency based on interest: the Supervisors having a weighted mean for W1 of 3.18; the Office Staff, 3.03; and the Managers, 2.39. Supervisors and Office Staff are mostly interested in cryptocurrency as a payment method, with weighted means for an indicator of 3.29 and 3.14, respectively. At the same time, Managers are mostly interested in cryptocurrency as knowledge. This neutral interest in cryptocurrency among the respondents can still be implicated in their skepticism and view of such as risky.

Willingness to adopt cryptocurrency systems in bank services. In all activities that serve as indicators for the respondents' willingness to adopt cryptocurrency systems in bank services, both Office Staff and Supervisors are neutral with weighted means of 3.05 and 3.02, respectively. At the same time, the Managers are only slightly willing, with a weighted mean of 2.13. In terms of bill payment, the Office Staff and Supervisors are neutral in their willingness to adopt cryptocurrency systems in bank services, with weighted means for an indicator of 3.11 and 2.94, respectively. On the other hand, the Managers are only slightly willing to adopt cryptocurrency systems in bill payment, with a weighted mean for an indicator of 2.17. As to cryptocurrency deposits, the Supervisors and Office Staff are neutral in their willingness to adopt cryptocurrency systems in bank services, with weighted means for an indicator of 3.12 and 3.01, respectively. At the same time, the Managers are only slightly willing to adopt cryptocurrency systems in deposits, with a weighted mean for an indicator of 2.17. In terms of withdrawals, the Office Staff and Supervisors are neutral in their willingness to adopt cryptocurrency systems in bank services, with weighted means for an indicator of 3.06 and 3.00, respectively. On the other hand, the Managers are only slightly willing to adopt cryptocurrency systems in withdrawals, with a weighted mean for an indicator of 2.08. As to cryptocurrency investments, the Office Staff and Supervisors are neutral in their willingness to adopt cryptocurrency systems in bank services, both having a weighted mean for an indicator of 3.00.

On the other hand, the Managers are only slightly willing to adopt cryptocurrency systems in investments, with a weighted mean for an indicator of 2.08. The results show that the respondents, who are Filipinos, still have a low willingness to adopt cryptocurrency systems in different transactions or activities, such as bills payment, deposits, withdrawals, and investments. This opposes the result of a simple survey by Arias-Oliva et al. (2019), which, found in her paper, analyzes the key factors for the successful development of a cryptocurrency from a consumer-behavior perspective. Using a technology acceptance theoretical framework, we test a model able to explain almost 85% of the intention to use cryptocurrencies.

The factors influencing cryptocurrency appreciation in terms of human and security perspectives. For the Managers, the human perspective factors that influence their cryptocurrency appreciation are ranked as follows: (1) lack of government support, with a weighted mean for an indicator of 3.00; (2) ease of use, as well as monetary instability, both 2.75; and (3) usefulness, 2.58. As to the Supervisors, the human perspective factors that influence their cryptocurrency appreciation are the following: (1) usefulness, with a weighted mean for an indicator of 3.47; (2) monetary instability, as well as lack of government support, both 3.41; and (3) ease of use, 3.18. For the Office Staff, the human perspective factors that influence their cryptocurrency appreciation are ranked as follows: (1) usefulness, with a weighted mean for an indicator of 3.13; (2) lack of government support, 2.97; (3) monetary instability, 2.94; and (4) ease of use, 3.08. For the managers, the security perspective factors that influence their cryptocurrency appreciation are ranked as follows: (1) financial risk, with a weighted mean for an indicator of 3.42; (2) security risk, 3.42; and (3) time risk, 3.08. As to the supervisors, the security perspective factors influencing their cryptocurrency appreciation have the same order as the managers. Their perceived financial risk has a weighted mean for an indicator of 3.00, 2.94 for security risk, and 2.82 for time risk. The office staff has a ranking of security perspective factors that are different from both the Managers and the Supervisors. The factors influencing this group's security perspective factors in their cryptocurrency appreciation are ranked as follows: (1) security risk, with a weighted mean for an indicator of 3.14; (2) financial risk, 3.13; and (3) time risk, 3.11.

Usefulness is the most common human perspective factor found among the respondents. This factor is validated by the basic principle of the Technology Acceptance Model (TAM) that the purpose of an individual to try a new technology and the actual use of it are related positively to the user's perception of how useful the technology is (perceived usefulness). The Unified Theory of

Acceptance and Use of Technology (UTAUT), the theoretical basis for this study, also validates this top result on usefulness. One of the direct and positive influences for UTAUT is performance expectancy, which is the degree to which an individual considers using a technology useful to his or her performance. Financial risk, which is the most important security consideration among the manager and supervisor groups, is the possibility of losing money on an investment such as cryptocurrency. On the other hand, more important than the financial risk is the security risk consideration among office staff. In the context of this study, the security risk is the possibility of personal accounts containing money, as well as identifying information, being hacked.

The significance of an agreement on the ranks of cryptocurrency appreciation indicators. Among the indicators for cryptocurrency appreciation, only Knowledge is considered to have significant agreement among the ranking determined by the manager, supervisor, and office staff respondents, based on the result Decision on H1 of @0.01. All these groups are interpreted to be slightly knowledgeable on cryptocurrency, with the first two (2) groups both having a weighted mean of 2.02 and the latter having 2.38. The remaining indicators for cryptocurrency appreciation, attitude and interest, are found not to have significant agreements among the ranking determined by all respondents. These are based on the rejected Decisions on H1 for both indicators.

These results show that across all positions in rural banks of the 2nd District of Albay, knowledge is a common area to address to improve literacy on cryptocurrency. At the same time, the attitude and interests of this personnel may be varied and still have to be explored for their possibly multiple and diverse factors.

CONCLUSIONS

The following conclusions are drawn:

(1) In the study setting, rural bank personnel do not seem to prioritize or give weight to the importance of cryptocurrency. Based on their responses, the respondents' insufficient knowledge of cryptocurrency lessens their appreciation. Also noted in this study is the indecisiveness of the respondents as to their attitude toward cryptocurrency. Both the insufficient knowledge and indecisiveness in the attitude of these respondents impact their interest in cryptocurrency, further hindering their appreciation of this digital asset and its benefits. Managers were most likely to slow down cryptocurrency appreciation by other ranks in their respective rural banks, being the leaders and the deciding bodies of their

respective firms. Managers seem to see no pressure from executive management to require their personnel to acquire knowledge of cryptocurrency.

(2) Cryptocurrency services are less likely to be adopted by the rural banks in the 2nd district of Albay. The managers were less willing compared to other ranks. This may be concluded as part of the generation gap issue, assuming managers were of earlier generations, which makes it harder for managers to figure out the appropriate technology to adopt cryptocurrency services. The managers also treat cryptocurrency as a threat to the banking system as they may have misunderstood the concept of decentralization.

(3) The respondents' uncertain responses on how they view cryptocurrency, along with its human and security risks, show a lack of understanding of cryptocurrency systems. Gray areas exist when it comes to cryptocurrency technologies, based on their perspective.

(4) The significance of agreement in knowledge among respondents signifies that they see cryptocurrency as just another technology and not something of importance in the future. Even with the adoption from some 1st world countries, respondents were not ready to accept cryptocurrency as something to be knowledgeable about. This may be caused by the Philippine government's lack of interest in this topic, that the rural banks need not study this area of the digital asset. The respondents see cryptocurrency knowledge to be less beneficial to them and their firms.

TRANSLATIONAL RESEARCH

To fully appreciate cryptocurrency, the result of the study could be translated through a journal article for international publication, newsletters, radio, social media, and other media for information dissemination and to revisit their marketing strategies. Additionally, the respondents should consider attending seminars on cryptocurrency topics to further increase their knowledge. A well-devised learning design can amplify cryptocurrency knowledge. In addition, the inclusion of a minor subject on digital assets in the curricula of finance and other finance-related courses shall also be considered. This way, future generations can be equipped with proper awareness when dealing with future monetary systems.

For future researchers, cryptocurrency awareness can be first identified within the local community of Albay, aside from bank personnel. Researchers may also conduct future studies correlating the respondents' demographic profile on awareness or appreciation of cryptocurrency. Narrowing down respondents' demographics associated with their awareness or appreciation will lead to better

measures to address skepticism and other negative concerns about the use of cryptocurrency. Future researchers can also recommend better steps to improve cryptocurrency appreciation and awareness from the results of these studies.

The rural banks should also look into collaborations with other banks in terms of improving cryptocurrency appreciation among their personnel. With this, rural bank personnel will be able to better appreciate cryptocurrency and will be able to see its full potential as a monetary system.

Through collaborations, bank personnel may be able to share their expertise and even ideas on new emerging technologies in relation to finance systems. It may highlight the need for other technologies, such as cryptocurrency, for the existing finance system to catch up with the continuous change in society. The future areas of study may look more into management, such as (1) the level of expertise of professionals in terms of cryptocurrency trading; (2) the businesses' acceptance degree of cryptocurrency; and (3) the LGU's understanding of cryptocurrency as far as the current state of cryptocurrency is involved in Albay, or even further. Another area of study may be in health or healthcare, such as (4) the application of cryptocurrency as payment in hospitals. As we move forward, when cryptocurrency is accepted in our society, areas of study may be in finance: (5) the average profit of businesses from cryptocurrency holdings, and information technology, such as (6) the development of applications in handling cryptocurrency. These areas of study are related to business management to add more baseline knowledge and may even lead to practical applications in relation to the discovery of cryptocurrency systems.

The researchers propose a seminar or workshop for students and professionals to improve cryptocurrency appreciation. The proposal is a learning design devised by the researcher, which includes complete details such as the rationale, objectives, methodologies, the use of online platforms, logistics, costing, a program of activities, and evaluation of learning intervention. This proposal will definitely help in raising awareness of this new monetary system, especially during this time of the COVID-19 pandemic, when we look for alternative payment systems to limit face-to-face interactions across the globe.

LITERATURE CITED

Al-Amri, R., Zakaria, N. H., Habbal, A., & Hassan, S. (2019). Cryptocurrency adoption: current stage, opportunities, and open challenges. *International journal of advanced computer research*, *9*(44), 293-307.

Arias-Oliva, M., Pelegrín-Borondo, J., & Matías-Clavero, G. (2019, March 18). Variables Influencing Cryptocurrency Use: A Technology Acceptance Model in Spain. *Frontiers in Psychology*, *10*. https://doi.org/10.3389/fpsyg.2019.00475

Da Silva, O., Crilly, N., & Hekkert, P. (2015). How people's appreciation of products is affected by their knowledge of the designers' intentions.

Doblas, M. P. (2019). Awareness and attitude towards cryptocurrencies in relation to adoption among college students in a private tertiary institution in Cagayan De Oro City, Philippines. *International Journal of Advanced Research and Publications*, *3*(4), 15-19.

Johnson, R., Bufton, J., & Daniel, J. (2019). The valuation of crypto-assets Minds made for shaping financial services.

Silva, P. (2015). Davis' technology acceptance model (TAM) (1989). *Information seeking behavior and technology adoption: Theories and trends*, 205-219.

Venkatesh, V., Thong, J. Y., & Xu, X. (2016). Unified theory of acceptance and use of technology: A synthesis and the road ahead. *Journal of the association for Information Systems*, *17*(5), 328-376.