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AWARENESS AND ADOPTION OF BLOCKCHAIN: CUSTOMER'S INTENTION TO USE BITCOIN IN PAKISTAN

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Abstract

There is incredible discussion on Blockchain especially Bitcoin and Fintech. As this is the time of emerging technologies and advancement in technologies. Social Media is a big source to get up to date information, the discussion about Bitcoin on social media has increased the prevalence over the last few years. However, the payment method by the use of digital currencies has not kept a step. This study aims to explore the awareness, ownership usage and adoption of Bitcoin

in Pakistan. We used survey method to collect information about these elements; we focused on Bitcoin, the most popular digital currencies around the globe. The findings of this study indicate that overall 67% of Pakistanis are aware of Bitcoin. Male gender is more aware as compare to females. On the other hand, statistics show that 84.3% of male gender reported ownership of bitcoin while only 15.7% females reported ownership of Bitcoins. Moreover, 66.5% of the respondents prefer to use credit card to make purchase online. They prefer not to use bitcoin. Study provides some suggestions to bring improvement in future investigations on digital currencies. This study aims to contribute by providing initial empirical and economical findings that describe Pakistani consumers' knowledge and understanding about Bitcoin and other virtual currencies.

1. Introduction

Emerging technologies and industrial revolution have great impact on economies. In finance technology, known as Fintech. Fintech is a new advanced method that is changing the traditional financial services with new innovative services. Blockchain is a technology which was introduced in 2008. This is a new kind of electronic currency, Bitcoin. Blockchain provides a database to records and generate ledger for all transactions or digital events which are shared and execute between the participants of parties. Urquhart (2018) explains that bitcoin is a cryptocurrency that relates to peer to peer payment structure. Although in recent times, some researchers have documented blockchain and Bitcoin as the same technology, however, Bitcoin is simply one application of the new digital technology that is known as blockchain (Yaya et al., 2021; Corbet et al., 2018). Cryptocurrency payments and Blockchain technology are broadly known as pioneering innovations in technological. Cryptocurrency is a digital currency with independence of a particular government ownership or regulations and geographical area (Lennon & Folkinshteyn, 2017).

Developing countries are those who are not highly industrialized. Developing countries face economic problem as economic conditions of developing countries are not stable (Pennathur et al., 2012; Lee et al., 2014). Further, economic environment in developing countries is different than developed countries (Hunjra et al., 2020). These nations have less economic activity with less per capita income. But such nations have high potential growth rate (Kshetri & Voas, 2018). They still need knowledge and identification of such new payment technology. In emerging economies, financial system is still not very strong. However, digital currency such as bitcoin has been emerging as a strong mean to approach people and businesses in marginalized and remote areas (Lagarde, 2018).The recognition of cryptocurrency as commodity, investment product or currencies is still under debate (Baek & Elbeck 2015; Carrick, 2016; Hong, 2017; Baur et al., 2018). It has been estimated from the report of ICT Facts & Figures (2017), that 42.9% of people living in developing countries have access to internet. As Smartphone usability is increasing and becoming trend especially among youth, so this percentage (42.9%) in increasing rapidly (Kshetri & Voas, 2018).

Ahishakiye et al. (2018) explain in their research that emerging technology such as Blockchain, allows keeping the record of transactions over many computers. This record cannot be altered without making change in all the data. Many industries are attracted towards Blockchain from past few years. People in the developed economies are carrying transactions by Bitcoin (a crypto currency). But this is not the case with developing countries; people in such nations are not highly educated and are unaware of modern world technologies.

There are some features of bitcoin as a payment technique. Main feature of bitcoin is , when the transactions are recorded on a public ledger, that's considered to be 'pseudonymous,' so that particular individual cannot trace the address in the blockchain(Mishra, 2018). Another feature of Bitcoin is that there is no need of third party to verify Bitcoin transactions that means there is direct transfer of value between two parties all around the world through internet facility. Consequently, with the increment in awareness of Bitcoin and other digital currencies, individual should understand drivers behind Bitcoin use and adoption with latent consequences for cash.

We investigate Bitcoin in this study despite of the fact that there are different other digital currencies available. The reason is that Bitcoin was the first digital currency in history called 'cryptocurrency,' which was unique and different from other electronic forms of payments distinguishing itself from other electronic forms of payment in share in taking a decentralized instrument for reimbursement of transactions. The dominance of bitcoin is notable because of its first mover effect. There are 740 digital currencies available currently. However, Bitcoin has twice the market capitalization in the US dollars compared with its nearest competitor (Ethereum), and almost ten times that of the next biggest competitor (Ripple). A similar dominance is observed with respect to trading volumes.

Bitcoin is appealing very low transaction fees as compare to credit cards. The currency's volatility has slowed broader acceptance. The founder of Bitcoin Investment Trust, Silbert claim that adoption of Bitcoin follows five phases. First phase is the experimentation Phase (2009–2010): there were no real values associated with bitcoin in this phase. Developers and hackers were playing around with the source code experimenting with Bitcoin as a medium of exchange (Tsanidis et al., 2015). Second phase is the Early Adopters Phase (2011–2013): in this stage investors' interest started to grow (Tsanidis et al., 2015). With the poor management first generation companies of bitcoin started for example, exchanges, merchant processors, wallet providers, etc. Venture Capital Phase is the third phase (2013–2015): Bitcoin firms were capturing the interest and the World-class VCs started investing in Bitcoin companies. Forth phase was Wall Street Phase (2015-present): Institutional investors, banks, and broker-dealers begin moving money into Bitcoin. Rising price and volume (in addition to development of derivatives) become the catalyst for mass adoption as retail investment follows. Fifth phase was the Global Consumer Adoption Phase (undefined)and this stage would only be happened when companies make it easy for customers and consumers to buy, spend and hold Bitcoin secondly, for the acceptance of payment through bitcoin by large merchants should be expands dramatically, thirdly, awareness of Bitcoin should raise with these developments globally (Maudlin, 2014).

The use, awareness, and adoption of virtual currencies are correlated with different economies and various demographic characteristics of consumers. Previous researches, based on the surveys (Tsanidis et al., 2015; Mishra, 2018;) enlighten awareness, adoption and use of virtual currencies in their respective economies. There is a lack of studies in developing countries where virtual currencies are at the initial stages of awareness. Businesses in developing countries like Pakistan also at growing stage. Generally, in Pakistan, virtual currencies' is on its earlier stages. Consumers of Pakistan who are earning high income and are highly educated are more expectedly aware of virtual currency than consumers without these characteristics. To study more deeply about this phenomenon there is a need of investigating the attitudes of Pakistani consumers towards Bitcoin in terms of its awareness, adoption and use. On the basis of above needs, current study aims to explore awareness and adoption of this technology (bitcoin) and to find out customer's intention to use bitcoin as a mode of payment.

This study aims to contribute by providing initial empirical and economical findings that describe Pakistani consumers' knowledge and understanding about Bitcoin and other virtual currencies. This investigation provides a detailed discussion of awareness, ownership as adoption of Bitcoin. By using the results of ownership, we intend to discuss the intention to use Bitcoin in Pakistan context. This study is helpful for regulators, policy makers both on government and private level to make the people of Pakistan aware of digital currency and the use of Bitcoin. This study also contributes for the future researches on the Bitcoin ownership and Bitcoin as a mode of payment for online shopping in Pakistan.

The remaining part of this paper is structured as follow: Section 2 reviews literature, whereas Section 3 provides explanation on methodology and data. Section 4 explains findings of the study and Section 5 discusses conclusion of the study.

2. Literature Review

The increasing trend on cryptocurrency and blockchain is creating a new literature recognizing the growing relevance assumed by these pioneer technologies in making different economic domains (Martinazzi et al., 2020). There are theoretical studies explaining the reason of adopting cryptocurrency by businesses and individuals (Dodgson et al., 2015; Cohen 2017; Dierksmeier & Seele 2018). The novelty of bitcoin as payment method is that it has low cost of foreign exchange transaction (Kim, 2017). The study conducted by Nakamoto (2008) helps by providing the starting step for the discussion of terminology and concept of Bitcoin. The main focus of this paper was to create network, a system for the people to pay other people peer to peer payments by the use of online technology, as an electronic form of cash that does not require involvement of financial agencies or institutions as a third party to make the transaction validated. Furthermore, this study provides and proposes advancement in the form of private payment instrument or money, which is not actual currency but has all the characteristics of similar to cash, this mode of payment associated with the privacy or say anonymity for the payee and payer. Nakamoto (2008) suggests that Bitcoin is a relying on cryptographic proof which individual uses instead of involving third- party financial institutes for the verification of transactions via a public ledger. However, trust and privacy have significant effect on the use of cryptocurrency (Palos-Sanchez et al., 2021; Steinmetz et al., 2021).

A study investigated by Roussou et al. (2019) document that awareness regarding benefits of digital currency in a business is one of the factors of using bitcoins. Blockchain is the technology of 21st century; therefore, very few people are aware of Bitcoin. A survey conducted in 2013 revealed that only 25.3% of respondents were aware of cryptocurrency in U.S., 32.2% people heard about cryptocurrency in UK 37.9% people were aware of cryptocurrency in Argentina 32.2%. Maudlin (2014) explains that Barry Silbert who is the CEO of Digital Currency Group (DCG) explains five phases of Bitcoin adoption (i) Experimentation Phase: This phase started in 2009 and ended in 2010. This phase was characterized by lack of awareness among hackers and developer, using it as a medium of exchange only. (ii) Early Adopters Phase: This phase started in 2011 and ended in 2013 awareness among entrepreneurs and investors started to grow. Merchant processors, exchanges and wallet providers were bitcoin related companies. (iii) Venture Capital Phase. Started in 2013 more investment in bitcoins was started. More than $90 million were invested in Bitcoin in 2013. (iv) Wall Street Phase (2015?): Started in 2015 Banks, brokerage firms and institutional investors started to invest in Bitcoin. (v) Global Consumer

Adoption Phase: We did not reach to this phase yet. It can only possible if (a) innovation continues and usability of bitcoin becomes easier (b) increase in bitcoin's volume (c) rise in bitcoin awareness.

Saiedi et al. (2021) point out that low level of usage in bitcoin is associated with weak financial structure, and lack of trust in banks. Bitcoin users' behavior is investigated by using Unified Theory of Acceptance and Use of Technology (UTAUT) model (Silinskyte, 2014). Study conducted on users and non-users of Bitcoin explains that the effort and performance expectancy influences the behavioral intention to use Bitcoin. Study further reveals that bitcoin usage is actually affected by behavioral intention and facilitating conditions. Presthus and O'Malley (2017) document the findings of their study that there is personal reason of technological interest that bitcoin users are keen to use bitcoins.

In 2013, a consumer survey took placed in UK, USA and Argentina , this survey investigated that Bitcoin awareness and adoption in USA is 25.3 % this means that only 25.3% of individuals have heard of the Bitcoin(Tsanidis et al., 2015). In UK 37.9 % of respondent were awarded and interested in adoption of Bitcoin. 32.2% population were intended to use Bitcoin in Argentina. February 2013, the Bitcoin community claimed that average Bitcoin user is male (95.2%), 32.1 years old, libertarian / anarcho-capitalist (44.3%), non-religious (61.8%), with a full time job (44.7%), and is in a relationship (55.6%) (Tsanidis et al., 2015). Some factors affect the behavior of using bitcoin. For example, Nuryyev et al. (2020) conclude that personal characteristics and internet have effect on the use of cryptocurrency. Further, social media has significant influence on the behavior of individuals to use technological payment methods (Khalilzadeh et al., 2017).

Previous studies observe that there is lack of trust for using Bitcoin as a mode of payment. Studies state that non-users of bitcoin wait for others to use this technology first so they can avoid security issues. This concludes that users are having privacy concerns in adoption of Bitcoin technology (Rahman et al., 2018).

3. Methodology

This study investigates to explore awareness and adoption of bitcoin and to analyze customer's intention to use this technology as a mode of payment. Population is the set of people or objects having common characteristics which are defined by sampling criteria that is established by researcher. Targeted population for this research is the residents of Pakistan who use online payment services or online banking, both males and females. Sample is the subset of population, which is selected to study. Present study uses a sample of 200 respondents residing in Islamabad and Rawalpindi. Islamabad is the capital of Pakistan and Rawalpindi is the big city of Pakistan, the purchasing power of the residuals of these cities is high and they are more advanced in technology and are highly educated. Non-probability sampling technique is used for sampling. From the categories of non-probability sampling technique, convenience sampling technique is used. A convenience sample is comprised of people who are accessible and easy to reach. The data for this study is primary that is collected directly from consumers. The tool that is used for the collection of data is questionnaire. Questionnaire is adopted from the study of Henry et al. (2017). Data for the study is collected through informal discussion and questionnaire. Questionnaire was distributed into 3 sections: first section includes the demographic information of the participants that are: their age, gender, level of income, qualification and knowledge about the usage of computer. On the other hand, second section of questionnaire includes the question

related to the awareness of Bitcoin. Third section is about the adoption and ownership of Bitcoin and the last part is about the use of Bitcoin for the payments.

In order to explore awareness and adoption of blockchain technology (bitcoin) data is collected by distributing the questionnaire among customers who were conveniently available and also willing to participate in this survey using online banking services. In-person drop-off method is used to collect data. To explore intention to use bitcoin, both informal discussion and questionnaire are used. In order to analyze data, we used SPSS software. Descriptive data analysis is used to calculate the results of this study. Because this study is based on survey method to find the awareness, adoption and use of Bitcoin in Pakistan, therefore, we used frequency tables and graphs to find out the results of this investigation.

4. Results

This section explains the descriptive analysis of the study into three sections i.e. awareness, ownership/adoption and use of Bitcoin. This also explains the demographic information of users and non-users of Bitcoin, which is followed by exploring the reasons behind ownership and non-ownership. Comparison between different groups is also discussed.

4.1 Awareness

Bitcoin awareness among Pakistani consumers is measured by making its comparison with various demographic factors like gender, age, qualification, professional status, household income, and computer skills. Following tables represent their statistics.

Table 1. Bitcoin awareness among different gender

Have you heard of Bitcoin?

			Gender		Total
			Male	Female	
Have you heard of Bitcoin?	Yes	Frequency	108	53	161
		Percentage	67.1%	32.9%	100.0%
	No	Frequency	26	13	39
		Percentage	66.7%	33.3%	100.0%
Total		Frequency	134	66	200
		Percentage	67.0%	33.0%	100.0%

Table 1 represents statistics of Bitcoin awareness among male and female. Results show that overall 67% of Pakistanis are aware of Bitcoin. Male gender is more aware as compared to females. Level of awareness among male is 67.1% while only 32.9% females reported their familiarity with Bitcoin. Figure 1 represents Bitcoin awareness level among different gender.

Table 2. Bitcoin awareness among different age groups

Have you heard of Bitcoin?

			Age				Total
			20-24 Years	25-29 Years	30-34 Years	35-39 Years	
Have you heard of Bitcoin?	Yes	Frequency	35	62	44	20	161
		Percentage	21.7%	38.5%	27.3%	12.4%	100.0%
	No	Frequency	13	18	4	4	39
		Percentage	33.3%	46.2%	10.3%	10.3%	100.0%
Total		Frequency	48	80	48	24	200
		Percentage	24.0%	40.0%	24.0%	12.0%	100.0%

Table 2 represents statistics of Bitcoin awareness among different age groups. It has been estimated that people with the age group between 25-29 years reported highest level of awareness, 38.5%, which is followed by 27.3% and 21.7% of awareness by the age groups of 30-34 years and 20-24 years respectively. On the other hand, very few Pakistanis who fall in the age group of 35-39 years reported their familiarity with Bitcoin, 12.4%. Figure 2 breaks down awareness level of bitcoin between different age groups.

Table 3. Bitcoin awareness among different qualification levels

Have you heard of Bitcoin?

			Qualification				Total
			Under Graduate	Graduate	Master	PhD	
Have you heard of Bitcoin?	Yes	Frequency	4	62	91	4	161
		Percentage	2.5%	38.5%	56.5%	2.5%	100.0%
	No	Frequency	0	26	13	0	39
		Percentage	0.0%	66.7%	33.3%	0.0%	100.0%
Total		Frequency	4	88	104	4	200
		Percentage	2.0%	44.0%	52.0%	2.0%	100.0%

As shown in the Table 3 above, Bitcoin awareness is increased with higher education. Statistics show that only 2.5% of Under Graduate Pakistanis have knowledge of Bitcoins. This percentage is quite large in case of Graduate and Master's degree holders. Out of total 200 respondents, 56.5% of Master's degree holders reported their awareness with Bitcoin, which is followed by

graduate degree holder, who reported 38.5% familiarity with Bitcoin. Figure 3 shows comparison between awareness level and different age groups.

Table 4. Bitcoin awareness among different professional status

Have you heard of Bitcoin?

			Professional Status				Total
			Govt. Employee	Private employee	Self-employed	Student	
Have you heard of Bitcoin?	Yes	Frequency	13	58	47	43	161
		Percentage	8.1%	36.0%	29.2%	26.7%	100.0%
	No	Frequency	4	18	4	13	39
		Percentage	10.3%	46.2%	10.3%	33.3%	100.0%
Total		Frequency	17	76	51	56	200
		Percentage	8.5%	38.0%	25.5%	28.0%	100.0%

Table 4 shows the statistics of bitcoin awareness across different professional statuses. Results show that employees who work in private sector are more aware of Bitcoin with 36% of agreeableness. Whereas, 29.2% self-employed Pakistanis reported their awareness with Bitcoins. This percentage is followed by students i.e. 26.7%. Figure 4 shows comparison between Bitcoin awareness and different professional status.

Table 5: Bitcoin awareness among different income levels

Have you heard of Bitcoin?

			Income				Total
			>30k	30k-49k	50k-69k	> 70k	
Have you heard of Bitcoin?	Yes	Frequency	13	23	88	37	161
		Percentage	8.1%	14.3%	54.7%	23.0%	100.0%
	No	Frequency	0	5	22	12	39
		Percentage	0.0%	12.8%	56.4%	30.8%	100.0%
Total		Frequency	13	28	110	49	200
		Percentage	6.5%	14.0%	55.0%	24.5%	100.0%

Statistics of Table 5 show that awareness level increases with higher income. For example, 54.7% of Pakistanis with household income of 50k-69k reported their awareness with bitcoin. While >30 k income holders reported only 8.1% of awareness with bitcoin.

Table 6. Bitcoin awareness among technological expertise

Have you heard of Bitcoin?

			Computer Skills				Total
			Beginner	Average User	Above Average	IT Expert	
Have you heard of Bitcoin?	Yes	Frequency	11	39	61	50	161
		Percentage	6.8%	24.2%	37.9%	31.1%	100.0%
	No	Frequency	0	31	8	0	39
		Percentage	0.0%	79.5%	20.5%	0.0%	100.0%
Total		Frequency	11	70	69	50	200
		Percentage	5.5%	35.0%	34.5%	25.0%	100.0%

In Table 6, statistics relate to bitcoin awareness among different technological expertise and show that Pakistanis who are having above average computer skills know more about bitcoin i.e., 37.9% as compare to a beginner who reported 6.8% awareness.

4.2. Ownership and Adoption

This Section of current study indicates adoption of Bitcoin by asking the questions related to the ownership of this digital currency. The results are shown by using the tables and graphs as below:

Table 7. Ownership and adoption of bitcoin among different gender

Do you currently have or own Bitcoin?

			Gender		Total
			Male	Female	
Do you currently have or own Bitcoin?	Yes	Count	70	13	83
		% within Do you currently have or own Bitcoin?	84.3%	15.7%	100.0%
	No	Count	64	53	117
		% within Do you currently have or own Bitcoin?	54.7%	45.3%	100.0%
Total		Count	134	66	200

	% within Do you currently have or own Bitcoin?	67.0%	33.0%	100.0%

Table 7 shows the statistics regarding ownership and adoption of bitcoin among different gender. However, outcomes show that 84.3% of male gender reported ownership of bitcoin, while only 15.7% of females reported ownership of Bitcoins.

Figure 1.

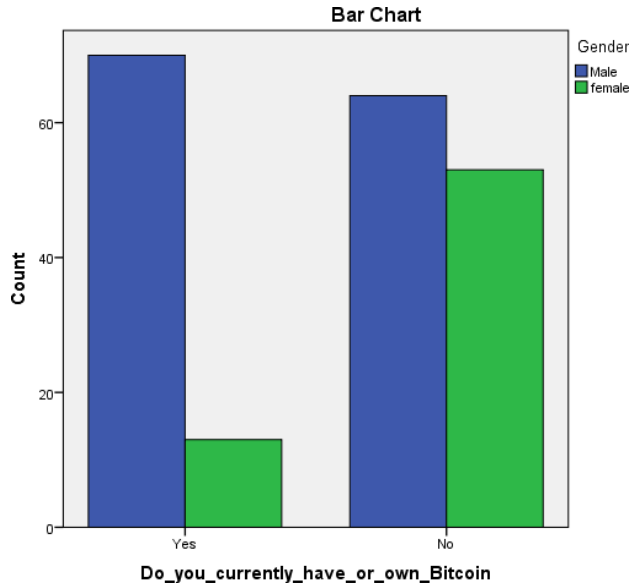


Table 8. Ownership and adoption of bitcoin among different age groups

Do you currently have or own Bitcoin?

			Age				Total
			20-24 years	25-29 years	30-34 years	35-39 years	
Do you currently have or own Bitcoin?	Yes	Count	9	31	33	10	83
		% within Do you currently have or own Bitcoin?	10.8%	37.3%	39.8%	12.0%	100.0%
	No	Count	39	49	15	14	117
		% within Do you currently have or own Bitcoin?	33.3%	41.9%	12.8%	12.0%	100.0%
Total		Count	48	80	48	24	200

% within Do you currently have or own Bitcoin?	24.0%	40.0%	24.0%	12.0%	100.0%

Statistics in Table 8 above show that Pakistanis with highest level of ownership (39.8%) fall in the age group of 30-34 years which is followed by age group of 25-29, 37.3%.

Figure 2.

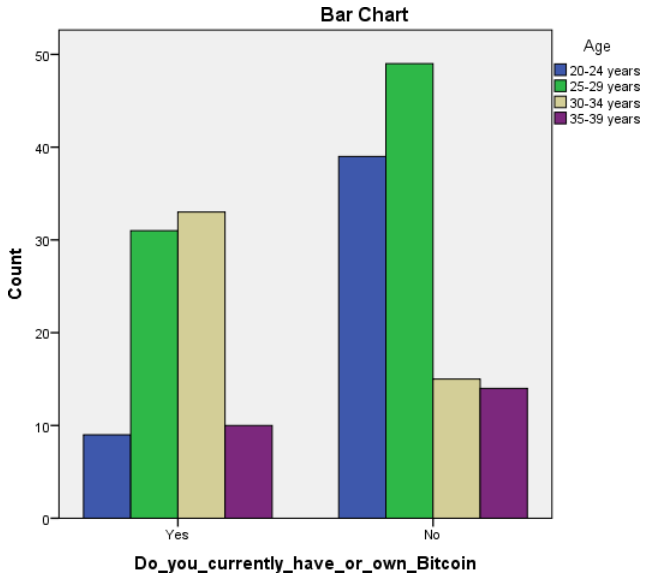


Table 9. Ownership and adoption of bitcoin among different qualification levels

Do you currently have or own Bitcoin?

			Qualification				Total
			Under Graduate	Graduate	Master	PhD	
Do you currently have or own Bitcoin?	Yes	Count	0	46	37	0	83
		% within Do you currently have or own Bitcoin?	0.0%	55.4%	44.6%	0.0%	100.0%
	No	Count	4	42	67	4	117
		% within Do you currently have or own Bitcoin?	3.4%	35.9%	57.3%	3.4%	100.0%
Total		Count	4	88	104	4	200

	% within Do you currently have or own Bitcoin?	2.0%	44.0%	52.0%	2.0%	100.0%

Table 9 shows that ownership patterns are different as compared to awareness among qualification level. 55.4% Graduates own Bitcoin while 44.6% Master's degree holder are having bitcoins. No undergraduate and PhD degree holder owns Bitcoin.

Figure 3.

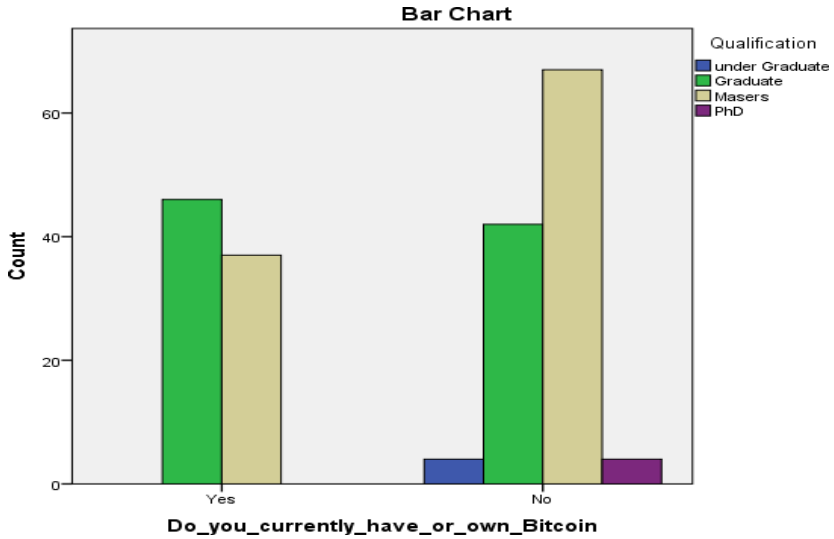


Table 10. Ownership and adoption of bitcoin among different professional status

Do you currently have or own Bitcoin?

			Professional status				Total
			Govt. employee	Private employee	Self-employee	Student	
Do you currently have or own Bitcoin?	Yes	Count	17	45	16	5	83
		% within Do you currently have or own Bitcoin?	20.5%	54.2%	19.3%	6.0%	100.0%
	No	Count	0	31	35	51	117
		% within Do you currently have or own Bitcoin?	0.0%	26.5%	29.9%	43.6%	100.0%
Total		Count	17	76	51	56	200

	% within Do you currently have or own Bitcoin?	8.5%	38.0%	25.5%	28.0%	100.0%

Table 10 above shows that mostly private employees with percentage of 54.2 own bitcoin followed by government employees 20.5%.

Figure 4.

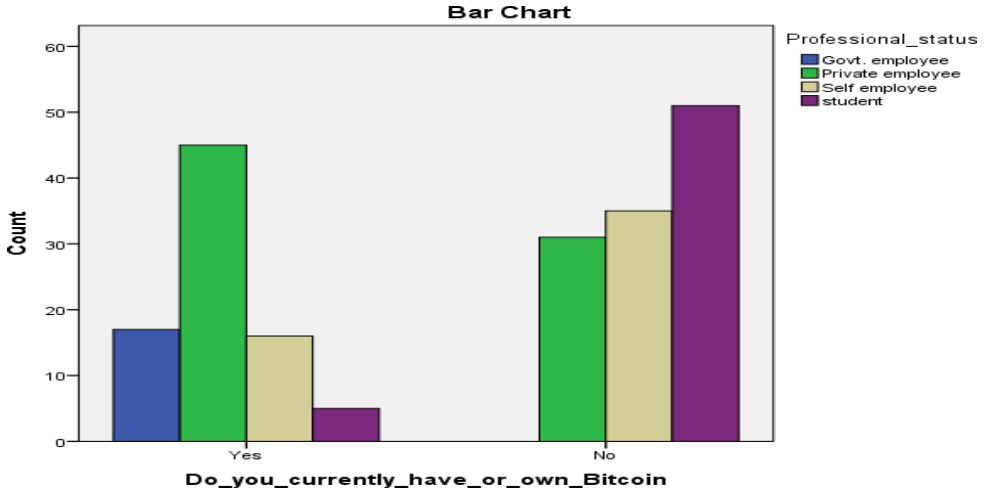


Table 11. Ownership and adoption of bitcoin among different income levels

Do you currently have or own Bitcoin?

			Income				Total
			>30k	30k-49k	50k-69k	> 70k	
Do you currently have or own Bitcoin?	Yes	Count	0	4	63	16	83
		% within Do you currently have or own Bitcoin?	0.0%	4.8%	75.9%	19.3%	100.0%
	No	Count	13	24	47	33	117
		% within Do you currently have or own Bitcoin?	11.1%	20.5%	40.2%	28.2%	100.0%
Total		Count	13	28	110	49	200
		% within Do you currently have or own Bitcoin?	6.5%	14.0%	55.0%	24.5%	100.0%

Table 11 shows that Bitcoin ownership increased with increased income levels,. Most of the Pakistanis with 50k-69k income levels reported ownership of Bitcoin, 75.9%.

Figure 5.

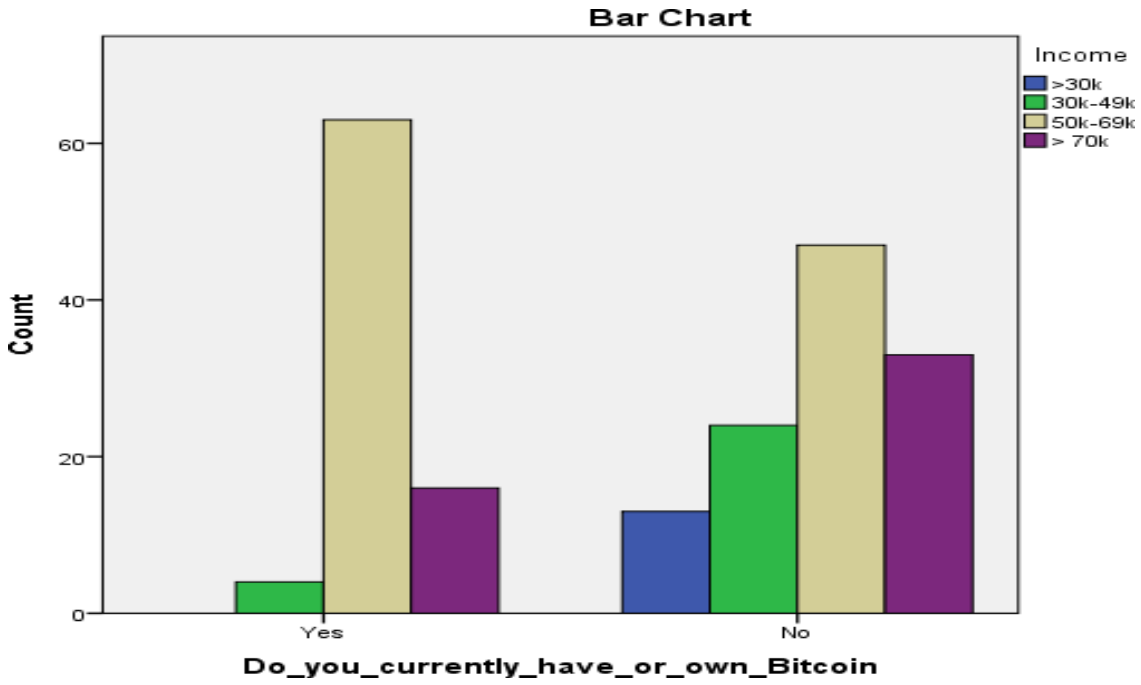


Table 12. Ownership and adoption of bitcoin among technological expertise

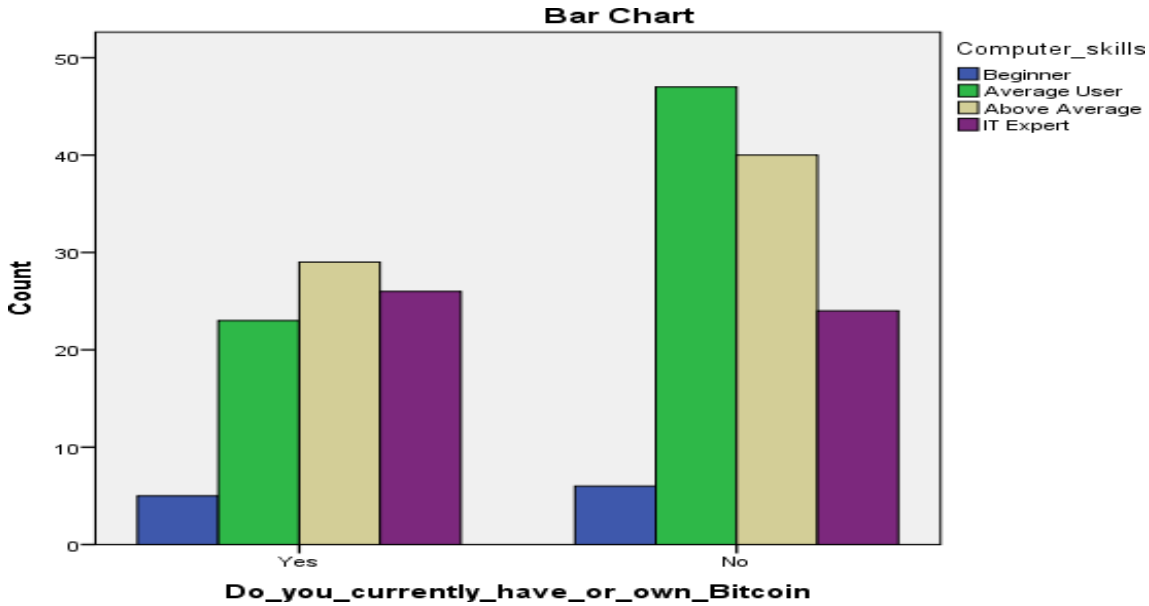
Do you currently have or own Bitcoin?

			Computer Skills				Total
			Beginner	Average User	Above Average	IT Expert	
Do you currently have or own Bitcoin?	Yes	Count	5	23	29	26	83
		% within Do you currently have or own Bitcoin?	6.0%	27.7%	34.9%	31.3%	100.0 %
	No	Count	6	47	40	24	117
		% within Do you currently have or own Bitcoin?	5.1%	40.2%	34.2%	20.5%	100.0 %
Total		Count	11	70	69	50	200

	% within Do you currently have or own Bitcoin?	5.5%	35.0%	34.5%	25.0%	100.0 %

Table 12 shows that Pakistanis with above average computer skills own bitcoins. Among Pakistanis 34.9% people with above average computer skills own bitcoin.

Figure 6.



4.3. Use on Bitcoin

Use of Bitcoin was measured by asking the questions about number of Bitcoin owned, reasons of owing and not owning the Bitcoins, and habit of use and preferred method of online payments. The results are explained by tables and graphs as below:

Table 13. Reason for owing bitcoin

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I am interested in new technologies	115	57.5	57.5	57.5
	It is an investment	48	24.0	24.0	81.5
	I use it to buy goods and services in physical stores in Pakistan	4	2.0	2.0	83.5
	It allows me to make payments anonymously	5	2.5	2.5	86.0

	It uses secure blockchain technology to prevent loss and fraud	10	5.0	5.0	91.0
	I do not trust banks	5	2.5	2.5	93.5
	I do not trust the government or Pakistani Rupee	13	6.5	6.5	100.0
	Total	200	100.0	100.0	

Table 13 shows the statistics about reasons of using bitcoin. However, results of the table show that interest in new technology is found to be the main reason for owning Bitcoin among respondents.

Figure 7.

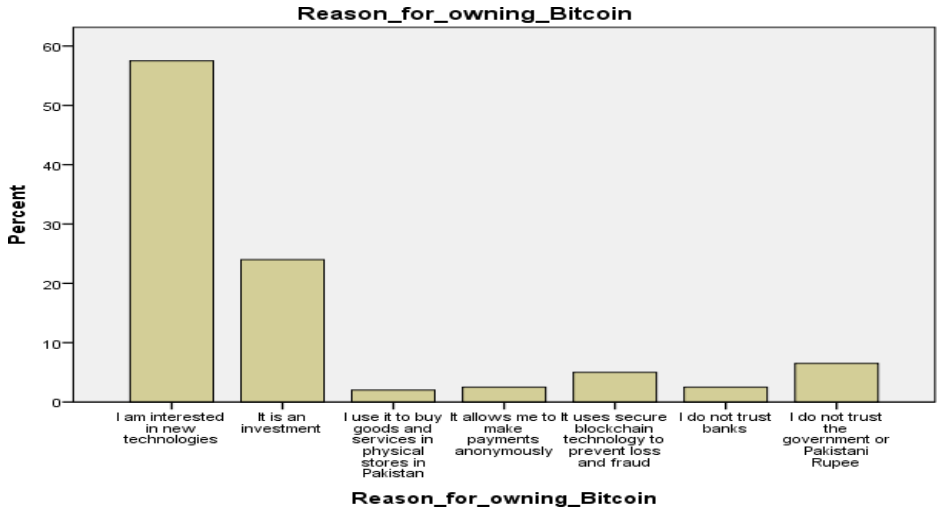


Table 14. Number of bitcoins owned

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	None	120	60.0	60.0	60.0
	Less than 1	38	19.0	19.0	79.0
	1 to 5	27	13.5	13.5	92.5
	Unsure/would rather not say	15	7.5	7.5	100.0
	Total	200	100.0	100.0	

Table 14 above shows statistics about number of bitcoins owned. Results of the table show that mostly people of Pakistan don't own bitcoin, 60%. Even if they own, it's just less than one 19%. Very few Pakistanis own Bitcoin.

Figure 8.

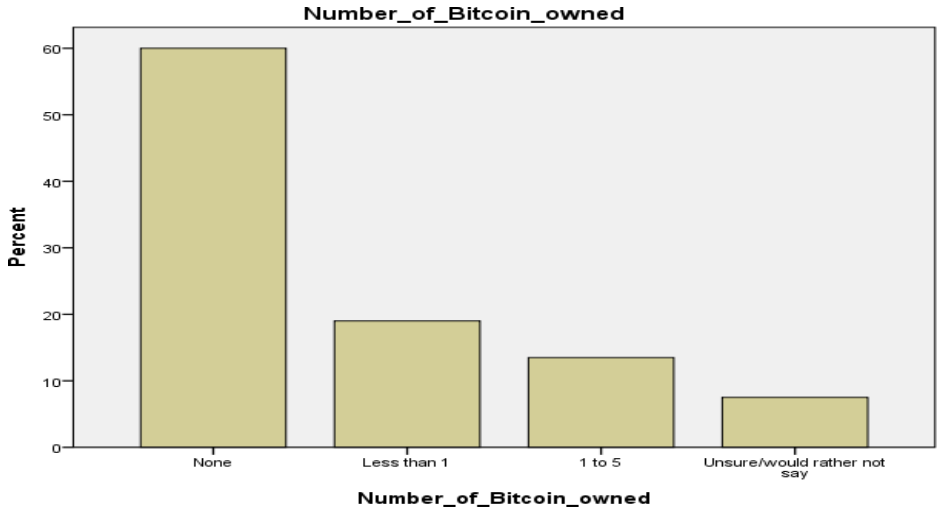


Table 15. Owned bitcoin in past but stopped using it

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	32	16.0	16.0	16.0
	No	168	84.0	84.0	100.0
	Total	200	100.0	100.0	

Table 15 above represents statistics of responses of the people about owing bitcoin in past but then they stopped using it. People responded that very few continued to own Bitcoin i.e., 16%, while most of the Pakistanis used it in Past but stopped using it now, i.e., 84%.

Figure 9.

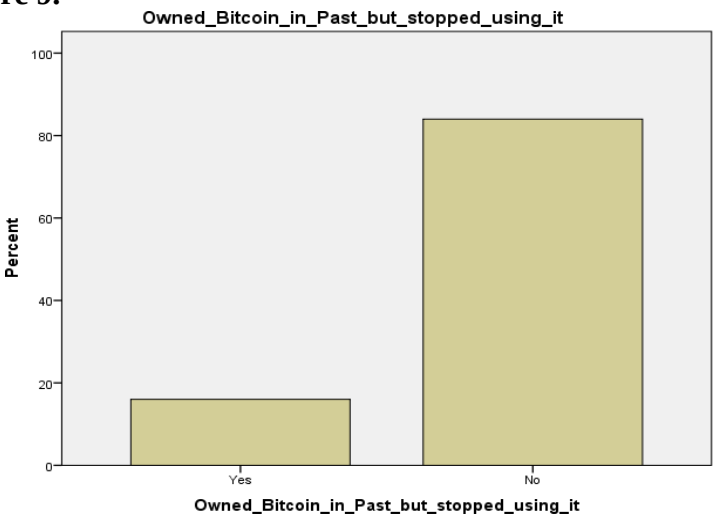


Table 16. Reason for not owing bitcoin

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I do not understand/know enough about the technology	41	20.5	20.5	20.5
	It is not widely accepted as a method of payment	25	12.5	12.5	33.0
	My current payment methods meet all my needs	37	18.5	18.5	51.5
	The value of Bitcoin varies too much	19	9.5	9.5	61.0
	It is not easy to acquire/use	6	3.0	3.0	64.0
	I do not trust a private currency that is not backed by the central government	52	26.0	26.0	90.0
	I am concerned about cyber theft	10	5.0	5.0	95.0
	I use alternative digital currencies instead (e.g. Dogecoin, Litecoin, Ripple, etc)	4	2.0	2.0	97.0
	Other	6	3.0	3.0	100.0
	Total	200	100.0	100.0	

Table 16 above explores the reasons behind stop using the bitcoin. According to statistics of table, 26% people reported that they do not trust any private currency which is not backed by central government. Therefore, people reported trust issues with bitcoin. Moreover, it's not widely accepted mode of payment.

Figure 10.

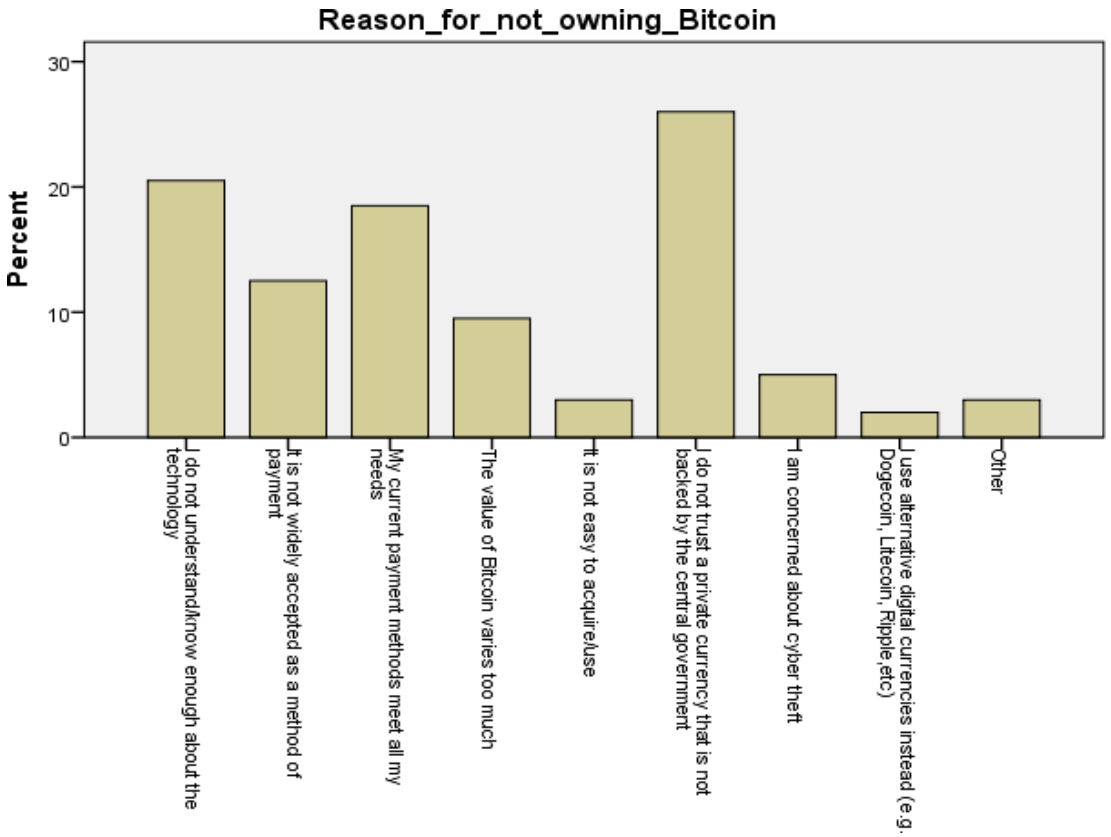
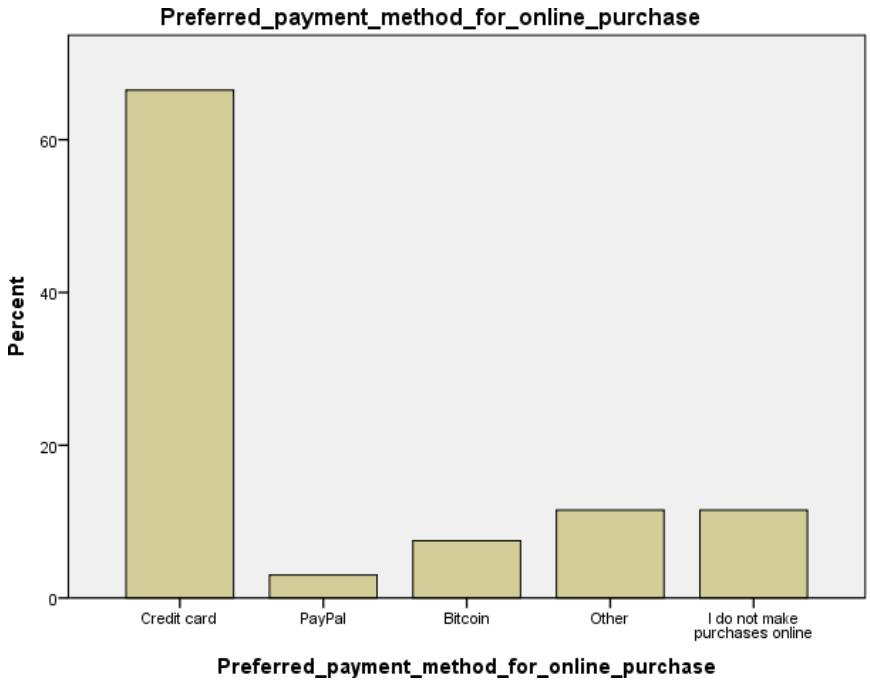


Table 17. Preferred payment method for online purchase

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Credit card	133	66.5	66.5	66.5
	PayPal	6	3.0	3.0	69.5
	Bitcoin	15	7.5	7.5	77.0
	Other	23	11.5	11.5	88.5
	I do not make purchases online	23	11.5	11.5	100.0
	Total	200	100.0	100.0	

This study presents preferred payment method for online purchase by Pakistani respondents in Table 17 above. Results show that most of the respondents prefer to use Credit card to make purchase online i.e., 66.5%e. They prefer not to use bitcoin.

Figure 11.



5. Conclusion

The objective of this study is to explore the awareness and adoption of bitcoin and to analyze customer's intention to use this technology as a mode of payment by taking sample of Pakistanis. The study is a preliminary research in the country. To explore about the current statistics of bitcoin users and investigate the potential of Bitcoin in Pakistani market, data was collected from both employees and students, which consisted of users and no-users of Bitcoin. Collected data helped to explain the demographics of users and non-users. It also explores the reason for owning and not owning bitcoin. Data of this study provides useful insights which are summarized in the discussion section. In order to achieve the results, gathered data was run in SPSS. Demographic analysis was performed to explore the characteristic of users and non-users of Bitcoin. Further, comparison between different variable were done by bar charts. Results of the study show that most of the Pakistanis are aware of Bitcoins. Males reported highest score of awareness level than females. People who belong to the age group of 25-29 years are most aware among all the age groups. Overall, Pakistanis who fall in the category of young and early adulthood are more aware of Bitcoin as compare to any other age group. Similarly, people with higher education and higher income levels tend to be more aware of bitcoin. Furthermore, Pakistanis working in the private sector have more knowledge of Bitcoins than any other professional status. Level of awareness varies with technological know-how. Pakistanis having above average computer skills know more about bitcoins.

In addition, results show same statistics for ownership. Male with highest percentage of ownership than females. Ownership statistics for age group are quite different than awareness level. People who belong to age group of 30-34 years have their investments in Bitcoin. Similarly, among qualification levels more graduates own bitcoin as compared to post graduates. Most of the Pakistanis working in private sector have invested in bitcoin. Bitcoin ownership increases with higher income levels. Pakistani who possess above average computer skills own bitcoins. This study also tries to explore the reason behind bitcoin ownership to measure the adoption of Bitcoin in Pakistan. Bitcoin users report that their interest in new technologies urges them to use virtual currencies. Moreover, they also report it as an investment tool. Results also reveal that only few Pakistanis use bitcoin in past and still using it, most of them have stopped using it or they never used it before. In addition to that, study also investigated non-user about main reason for not owning Bitcoin. They reported that they don't trust any private currency which is not backed by central government. Moreover, they also stated that Bitcoin is not widely accepted mode of payment. Therefore, most of the Pakistanis use credit card to make online purchases.

The concept of Bitcoin is a very new concept in Pakistan as well as other developing countries and it needs to be highly promoted to make the people know about Bitcoin and other type of cryptocurrencies which is very useful, simple and decentralized, and keeps the financial institutions out of the part while making transactions. This study concludes that the male customers with high education and with good command on computers are more aware of cryptocurrencies. However, the people who are aware of Bitcoin, adoption of bitcoin among them is very low but still this can appeal customers to use Bitcoin as a financial investment rather than online payment method. This study also explores the users and non-users of Bitcoin and concludes that exiting users of Bitcoin are more motivated to the technology curiosity. Findings of current study suggest that to adopt the Bitcoin as online payment method, awareness of Bitcoin should be brought into the people of Pakistan. Secondly, more networks should be developed regarding privacy to avoid Bitcoin failure in developing countries. Further, there should be some backup procedures to make Bitcoin data accessible in case of any accidental loss of Bitcoin. Meanwhile, that there should be single authority to avoid fraudulent activities associated with Bitcoin.

Although this study contributes to the knowledge, however it has some limitations. First, only two cities of Pakistan were selected for the data collection which may limit the generalizability of findings of the study. Furthermore, we did not consider the cities of rural area, in that regions internet is available and people of rural areas are also involved in online transactions. Future research may be conducted to observe the capacity differences in the values of rural and urban customers. Second, the sample size was small; therefore, future research studies could pursue a large sample size and include as many participants as possible for better results. Furthermore, future researchers can explore the different ways through which bitcoin can be used as a digital mode of payment with the help of this study in developing countries. The study is only related to the awareness, adoption and use of Bitcoin, future work could be done on privacy issues related to the Bitcoin transactions.

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