Bit Coin and the Challenges for Financial Regulation

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Abstract

Introduction: The main aim of this study is study is to understand the challenges that are faced by Bitcoin in financial regulation. Bitcoin helps to attract investors on a public ledger, which helps them to get back a significant return. Research objectives and research questions are highlighted in this section.

Literature Review: Based on the research objectives, thematic analysis is highlighted. Therefore, Cryptocurrencies and Bitcoin in general have imposed numerous challenges in financial matters. The challenges Bitcoin faces due to its unique characteristics and decentralized phenomenon. Regulators are allowed to balance encouraging innovation in blockchain. Therefore, financial stability has to be maintained which helps to protect customers. After that, a clear tax guideline is required for the investors which help them to ensure compliance.

Methodology: This study is based on the primary data collection method. Therefore, researchers used quantitative methods for collecting data. In this study, researchers can create a questionnaire set based on the 10 survey questions. In which 3 questions are based on demographic questions and 7 questions are based on variable-related questions. After that, researchers were able to collect information with the aid of 58 respondents.

Findings: In this study, researchers are allowed to analyze the collected data with the aid of SPSS software. After that, based on the demographic test, researchers are able to identify the response rate of the participants. After that, "descriptive analysis", and "hypothesis testing" play a significant role within this study

Discussion: Overall discussion about the research study is highlighted in this section. Therefore, challenges of Bitcoin transaction process is discussed within this section.

Conclusion: This research study is based on the analysis of the challenges that are faced by investors during the transaction process. After that, basic knowledge about this study is gained by this study.

Keywords: Bitcoin, Cryptocurrencies, Transaction process, Security, Freud detection, Financial Innovation, Investors

Introduction

Bitcoin refers to a cryptocurrency, which is an effective currency design, therefore, it is an act of money, and it is a form of the payment process. Third-party involvement during the payment process has to be eliminated with the aid of Bitcoin; therefore, financial transactions become easier. Bitcoin operates on a decentralized network, which helps to make it difficult for governments to exert control or enforce regulations (Fauzi, Paiman & Othman, 2020).
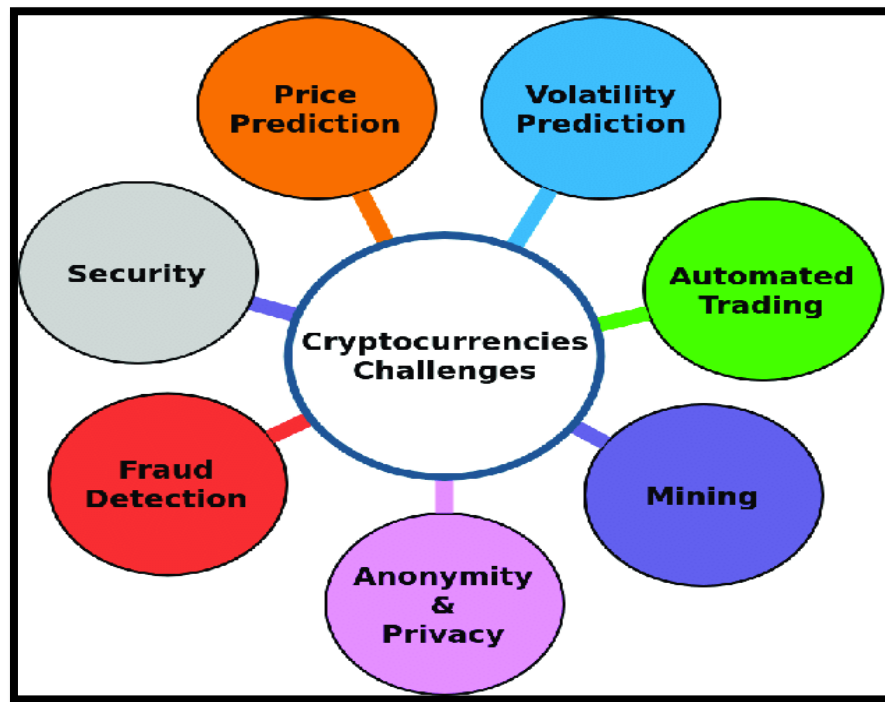
Figure 1: Challenges of using Bitcoin
(Source: Feinstein & Werbach, 2021)

The Bitcoin transaction process is considered a pseudonymous process, therefore, it faces challenges for the authorities to monitor and trace transactions for legal activities. Moreover, tax evasion, and money laundering process become easier with the aid of this Bitcoin transaction process (Rysin & Rysin, 2020). After that, for the cross-border transaction process, a mediator is required which has a negative impact on the transaction process. International transactions have become complex due to regulatory approaches in several countries. It is a highly volatile process, which helps to provide market stability. Therefore, it also helps to establish safeguards to protect the investors (Ferreira & Sandner, 2021). On the other hand, lack of consumer protection is an important challenge that is faced by using this transaction process. Investors face various risks like fraud, loss of funds, and hacking which destroy their business structure. Regulators are allowed to balance encouraging innovation in blockchain. Therefore, financial stability has to be maintained which helps to protect customers (Huang, 2021). After that, a clear tax guideline is required for the investors which help them to ensure compliance. The legal structure of Bitcoin is varied worldwide. Diversification is an important tool that is served by Bitcoin. Therefore, it has a significant effect on the investment portfolio. After that, transparency of the investment process has to be facilitated with the support of this Bitcoin transaction process. After that, it helps to foster transparency and the trust of the investors (Corbet, 2021). On the other hand, Bitcoin helps to attract investors on a public ledger, which helps them to get back a significant return.

Aim

The main aim of this study is study is to understand the challenges that are faced by Bitcoin in financial regulation.

Research Objectives

There are four research objectives are mentioned below:
RO 1: To identify the challenges that is faced by investors by using the Bitcoin transaction process
RO 2: To describe the negative impact on regulatory uncertainty by using Bitcoin
RO 3: To identify the positive impact of using Bitcoin transaction
RO 4: To analyze the role of Bitcoin in financial innovation

Research Questions

Research questions are highlighted below which are based on the research objectives.

RQ 1: What are the challenges that are faced by investors by using the Bitcoin transaction process?

RQ 2: What is the negative impact on regulatory uncertainty of using Bitcoin?

RQ 3: What are the positive impacts of using Bitcoin transactions?

RQ 4: What is the role of Bitcoin in financial innovation?

Hypothesis

H 1: There is a positive correlation exists between taxation and the use of Bitcoin

H 2: There is a significant relationship between the use of Bitcoin and financial aspects

H 3: There is a relationship highlighted between Bitcoin and the investment process

Blockchain technology was introduced by Bitcoin, which has a positive application in Cryptocurrency, voting systems, and supply chain management. Moreover, financial inclusion is a very effective process that has been fostered by this transaction process. A fixed supply cap is introduced by Bitcoin which is 21 million coins, therefore, it is deflationary by nature (Nabilou, 2019). After that, the concept of digital currency is another important factor that has been introduced by Bitcoin. Moreover, it helps to operate decentralized networks. Additionally, along with these, the pseudonymity and global reach of Bitcoin also imposed diverse challenges upon it.

Literature Review

Critically discuss the challenges faced by Bitcoin for financial regulation

Cryptocurrencies and Bitcoin in general have imposed numerous challenges in financial matters. In this context, Stringham (2023) stated the challenges Bitcoin faces due to its unique characteristics and decentralised phenomenon. In terms of a decentralised network, the operation of Bitcoin and transactions in the global marketplace takes place decentralised where no one monitors any transitions. Here, Tsindeliani (2019), mentioned financial laws are hard to imply in case of no proper monitoring of transitions which makes the financial market volatile. Along with these, the pseudonymity and global reach of Bitcoin also imposed diverse challenges upon it. According to, Nabilou (2019), blockchain is the ultimate public ledger that records the transactions of Bitcoin which users rectify through cryptographic addresses instead of their real identities. This pseudonymity creates difficulties in identifying the users who are involved with the transaction; thus, in fraud cases, there is no legal action take place. It can be seen that the space of cryptocurrencies is evolving rapidly and the use of the newest technologies and assets are emerging regularly. Regulators have no such string framework to cope with such a rapidly evolving system of cryptocurrency to impose proper guidelines for use.
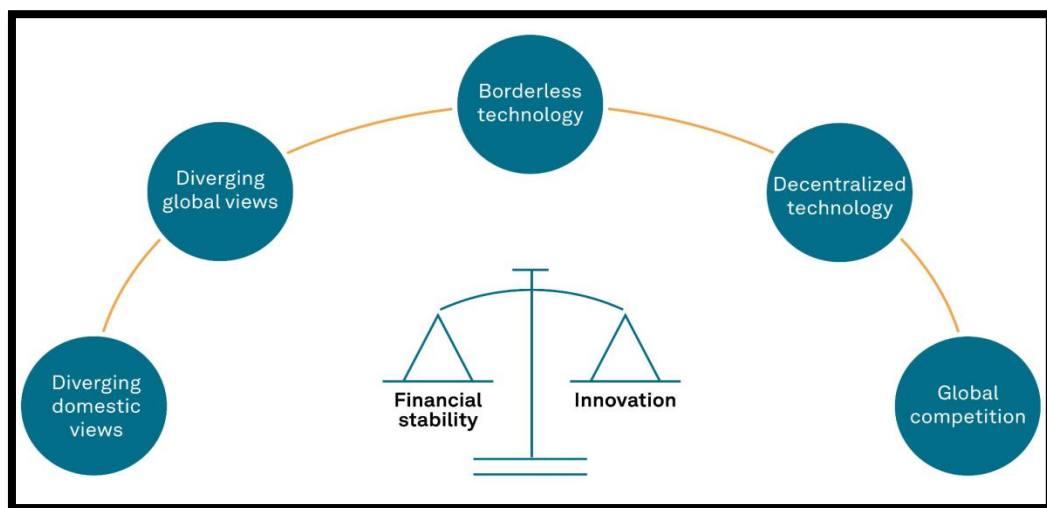

Figure 2: Regulating Cryptocurrencies
(Source: Fosso Wamba et al. 2020)

Bitcoin is a form of digitalized financial aid that cans the course of economic conditions of many knowledgeable users. However, Huang (2021), mentioned on the contrary, Bitcoin is a borderless digital money that can make transactions internationally without having any intermediates or involvement of regulatory bodies. This is a situation of breaking traditional jurisdiction frameworks of countries and Bitcoin transactions can face immense challenges accordingly. In addition to this, Fauzi et al. (2020), mentioned Bitcoin is highly efficient in allowing illicit activities such as tax evasion, fraud and illegal transactions. Financial regulatory bodies face the threat of restraining such actions while holding a balance with legitimate use cases. According to, Ilham et al. (2019), the determination of taxing and holdings of Bitcoin is highly complex and tax authorities worldwide are struggling to classify the regulation of taxing the cryptocurrencies. The use of Bitcoin has no such authorised monitoring system thus inconsistencies in regulations and reporting requirements can be observed.

Analyze the role of Bitcoin in the investment process

The market of cryptocurrency is severely volatile and speculative in which maintaining adequate safety is tough. In this matter, Badea & Mungiu-Pupăzan (2021), explained investors in Bitcoin often face financial manipulation due to the exposure of the classified information. Cryptocurrency legislation differ greatly from one jurisdiction to the next. This regulatory fragmentation can provide difficulties for businesses operating in numerous countries as well as individuals navigating the legal system. Here, Wronka (2023), stated technological advancement has made it hard to understand the nature of Bitcoin operation and regulatory bodies struggle to capture all the data due to its complex underlying tech system. This can limit the ability of regulatory bodies to foster an effective policy that takes into consideration the particular characteristics of digital assets. It is often highly troublesome to put a balance between the requirement for financial transparency and anti-money laundering or AML (Cumming et al. 2019). It can be seen providing security to the privacy of users is highly difficult due to the nature of Bitcoin and its functioning in the international market. Thus, getting the correct balance of privacy and compliance is a difficult undertaking.
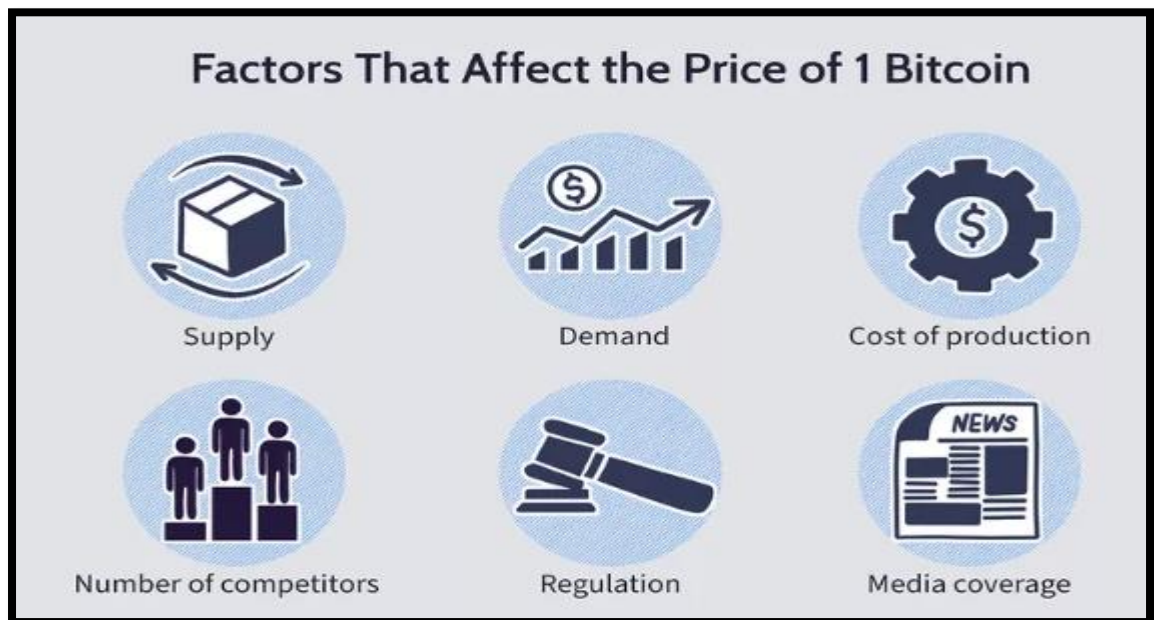

Figure 3: Factors that affect the Bitcoin investment process
(Source: Fosso Wamba et al. 2020)

Bitcoin is allowed to serve as a diversification tool in case of an investment portfolio. Therefore, a low correlation with the traditional asset has to be highlighted which helps to spread risk. On the other hand, Bitcoin is sometimes used as a hedge against inflation. Moreover, devaluation of the fiat currencies has to be facilitated. After that, long-term store value has to be addressed with the aid of this Bitcoin transaction process (Cuervo,

Morozova & Sugimoto, 2020). Moreover, it helps to balance the risk and return of the investors. Moreover, Bitcoin is used as an alternative source of traditional assets. Therefore, economic uncertainty is the major drawback of this Bitcoin investment process. Blockchain technology is required for investing in Bitcoin, and it brings potential innovation to the financial sector. After that, this volatile process has several risks related to the regulatory changes, and market sentiment which have a negative impact on the investment outcomes. As commented by KC, Hyde & Thomas, (2022), investors need to be more careful about their investment goals, and risk tolerance capacity; therefore, the overall portfolio of the investors is based on these factors. Moreover, implementing an effective investment process helps to foster the growth of the investment process.

Methodology

This study is based on the primary data collection method. Therefore, researchers used quantitative methods for collecting data. In this study, researchers can create a questionnaire set based on the 10 survey questions. In which 3 questions are based on demographic questions and 7 questions are based on variable-related questions. After that, researchers were able to collect information with the aid of 58 respondents. Therefore, statistical pieces of information are collected with the aid of this data collection process. On the other hand, in this study, researchers are capable of using the "Positivism" research philosophy which helps to collect accurate and real-time pieces of information. Moreover, accurate and up-to-date pieces of information are collected with the aid of this research method (KC, Hyde & Thomas, 2022). Objectivity is the main factor of this data collection process, therefore, bias has been eliminated with the aid of this type of data collection process. Reliable, generalised, and standardizable data are collected with the aid of this data collection process. Moreover, with the support of the different types of statistical tests, researchers are capable of collecting real-time pieces of information about this study. Additionally, this primary method helps to collect a wide range of data with the help of a short period. After that, the authenticity of the collected data has been measured by this process.

In this study, researchers are allowed to analyse the collected data with the aid of SPSS software. After that, based on the demographic test, researchers are able to identify the response rate of the participants. After that, "descriptive analysis", and "hypothesis testing" play a significant role within this study (Cumming, Johan & Pant, 2019). Moreover, significant relationships among the variables have to be identified with the aid of this numerical testing. With the support of this data analysis process, researchers are capable of identifying the diverse effects of Bitcoin in the financial aspects.

Finding and Analysis
Demographic Analysis
Gender

What is your gender?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		3	5.2	5.2	5.2
	Female	22	37.9	37.9	43.1
	Male	24	41.4	41.4	84.5
	Prefer not to say	9	15.5	15.5	100.0
	Total	58	100.0	100.0	

Table 1: Gender
(Source: IBM SPSS)

Table 1 is based on the demographic analysis of the respondents. Therefore, based on this table, it has been noticed that 22 females take part in this data collection process. After that, 24 male participants played a significant role in this data collection process. Moreover, 9 participants do not prefer to say their gender.
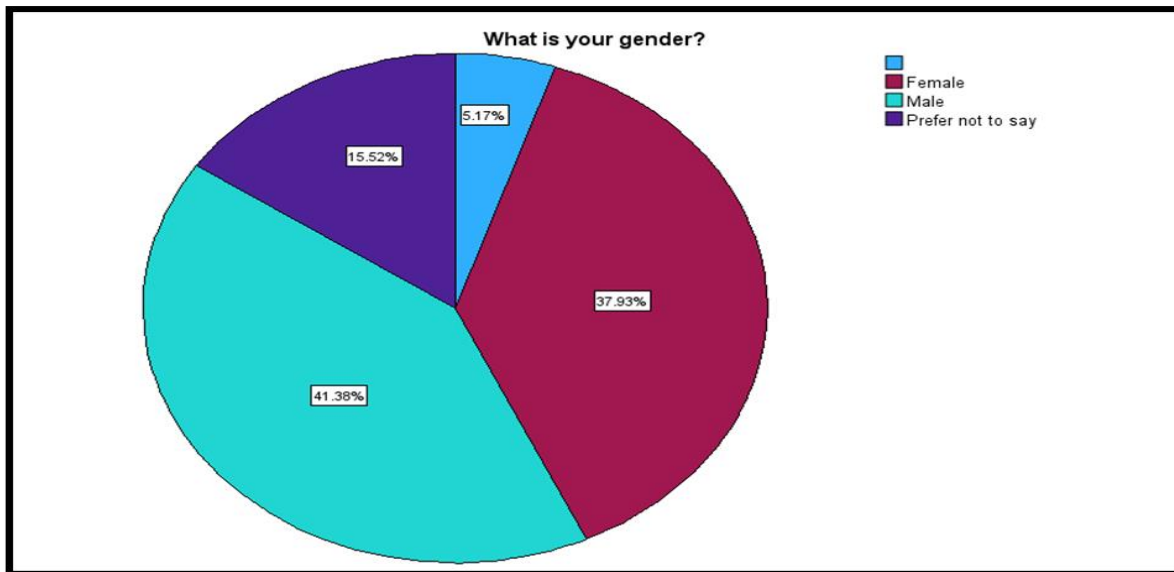

Figure 4: Gender
(Source: IBM SPSS)

Figure 4 is based on the response rate of the participants as per their gender. Moreover, this table indicates that 37.9% of females are capable of taking part in this data collection process. Therefore, 41.4% of male participants have taken part in this data collection process. Additionally, the male participants are the maximum response rate participants. After that, a 15.5% response rate is carried out by the "preferred not to say" category. Moreover, they are the minimum response rate participants.

Age Group

What is your age group?				
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3	5.2	5.2	5.2
25year-35years	9	15.5	15.5	20.7
35year-45years	10	17.2	17.2	37.9
45years-55years	21	36.2	36.2	74.1
55years-66years	15	25.9	25.9	100.0
Total	58	100.0	100.0	

Table 2: Age Group
(Source: IBM SPSS)

Table 2 is based on the frequency of the participants as per their age group. Therefore, this table helps to understand that, 9 participants belong between the 25 years to 35 years of age group. Therefore, 10

respondents belong between 35 years to 45 years age group. After that, 21 number frequencies is carried out by the 45 to 55 years age group. Lastly, 15 participants are belonging to between 55 to 66 years age group.
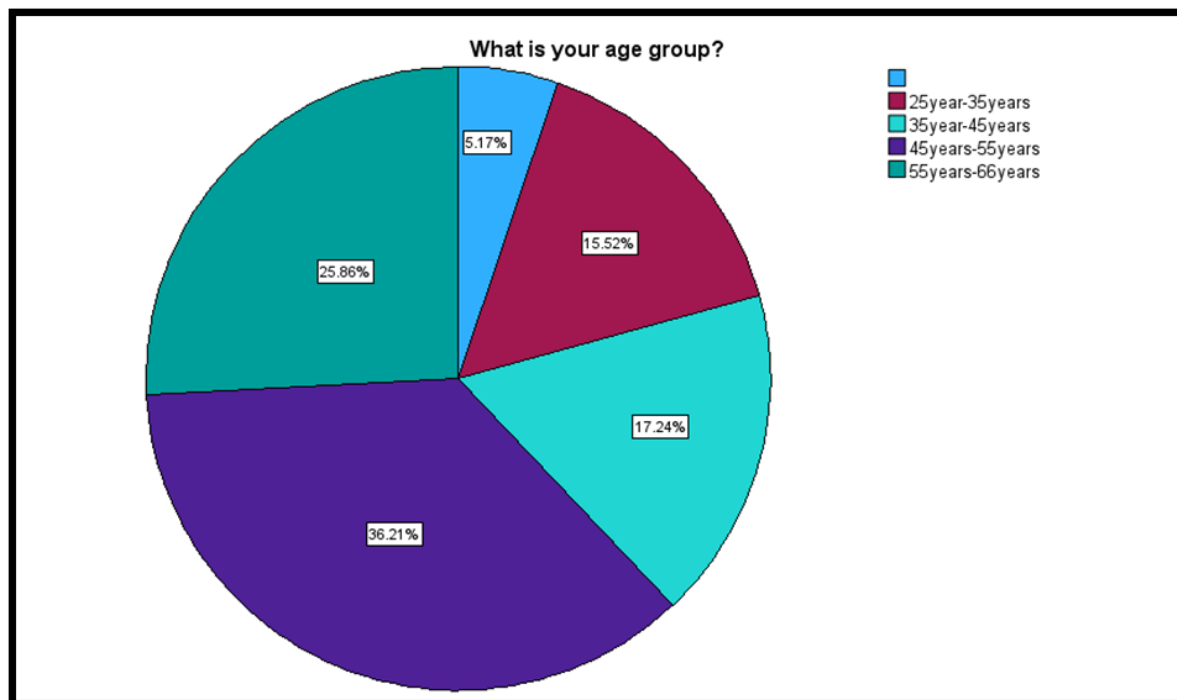

Figure 5: Age Group
(Source: IBM SPSS)

According to Figure 5, the response rate of the participants age per their age group has to be addressed. 25 years to 35 years age group participants carried out the response rate is 15.5%. Therefore, a 17.2% response rate is carried out by 35 years to 45-year-old age group participants. Moreover, a 36.2% response rate is carried out by the 45-year-old to 55-year-old age group, and they are the maximum response rate participants. After that, a 25.9% response rate is carried out by 55 years to 66 years age group of participants. Moreover, the minimum response rate of participants is between 25 years to 35 years age group.

Profession

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		3	5.2	5.2	5.2
	Business man	15	25.9	25.9	31.0
	Doctor	9	15.5	15.5	46.6
	Professor	25	43.1	43.1	89.7
	Students	6	10.3	10.3	100.0
	Total	58	100.0	100.0	

Table 3: Profession
(Source: IBM SPSS)

Table 3 is based on the profession of the participants. Therefore, as per the table, 15 businessmen take part in this data collection process. Moreover, 9 doctors and 25 professors are capable of taking part in this data collection process. Moreover, 6 students are capable of taking part in this data collection process.
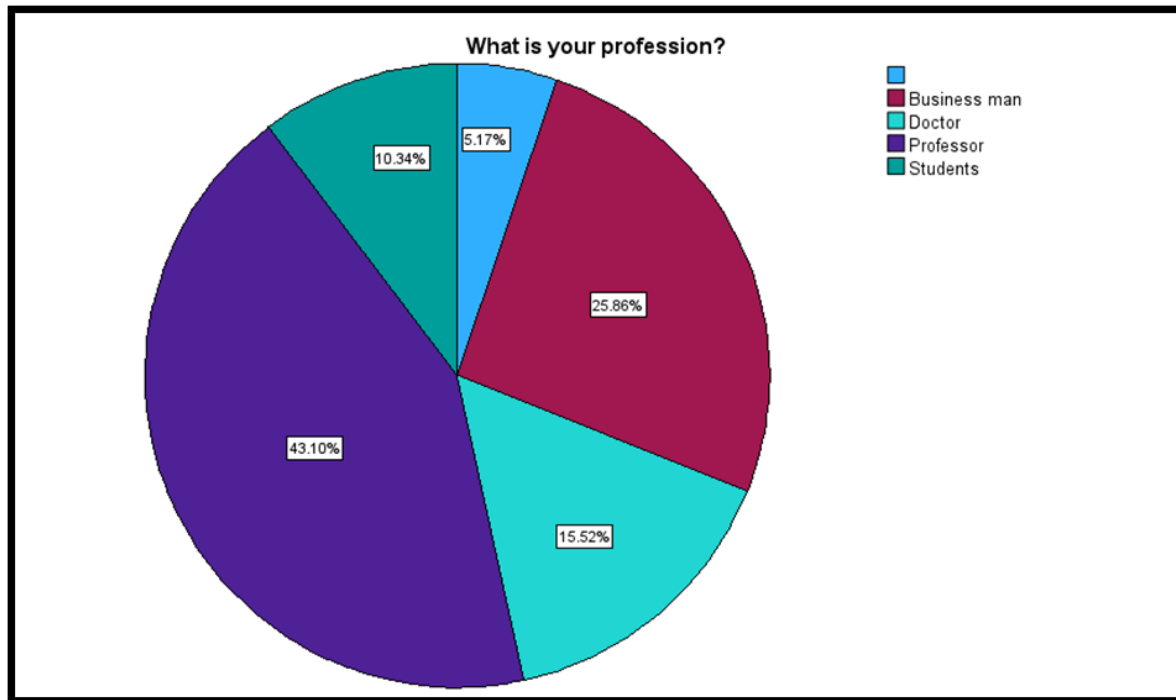

Figure 6: Profession
(Source: IBM SPSS)

According to Table 6 response rate of the participants based on their profession is addressed. After that, the businessman category is carried out 25.9% response rate. Moreover, a 15.5% response rate is carried out by the doctor category. Moreover, the maximum response rate for participants belongs in the professor category and their response rate is 43.1%. On the other hand, the minimum response rate for participants belongs in the student category, and their response rate is 10.3%.

Statistical Analysis

Descriptive Analysis

Descriptive Statistics

| | N | Minimum | Maximum | Mean | | Std. Deviation | Kurtosis | |
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Std. Error
DV	55	1	5	3.51	.158	1.169	.156	.634
IV 1	55	1	5	3.89	.161	1.197	.072	.634
IV 2	55	1	5	3.69	.170	1.260	.013	.634
IV 3	55	1	5	4.04	.158	1.170	1.407	.634
IV 4	55	1	5	3.89	.148	1.100	.794	.634
Valid N (listwise)	55							

Table 4: Descriptive analysis of different variables
(Source: IBM SPSS)

As per Table 4, the descriptive statistics of the four variables are highlighted. Therefore, the "mean, median, standard deviation and standard error" values of the variables are highlighted within this section. The "mean value" of the first variable is 3.89, moreover, the "standard error value" of this variable is .161. According to this table, the "standard deviation value" is 1.197. Additionally, the second variable is carried out with a 3.69 "mean value", and .170 "standard error value". After that, as per this table, 1.260 is the "standard deviation value" of the second variable. The "mean value" of the third variable is 4.04, and as per this table the "standard error value" is .158. Additionally, the third variable is carried out 1.170 "standard deviation" value. According to this table, the "mean value" of the last variable is 3.89, therefore, this variable is carried out .148 "standard error value". On the other hand, the "standard deviation value" of this fourth variable is 1.100.

Hypothesis 1

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
					Change Statistics					
1	.807[a]	.651	.644	.604	.651	98.776	1	53	<.001	2.286

a. Predictors: (Constant), Distant learning (IV1)
b. Dependent Variable: Technology (DV)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	36.019	1	36.019	98.776	<.001[b]
	Residual	19.327	53	.365		
	Total	55.345	54			

a. Dependent Variable: Technology (DV)
b. Predictors: (Constant), Distant learning (IV1)

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	.972	.287		3.385	.001
	Distant learning (IV1)	.707	.071	.807	9.939	<.001

Table 5: Linear regression analysis
(Source: IBM SPSS)

Table 5 is based on the linear regression analysis of the variables. As per this table, the "R-value" of the variable is .807. After that, as per this table, the "R square value" is .651. Additionally, the "adjusted R square value" is .644. As per the "ANOVA table", the significance value of the variable is 0.001, which is less than, 0.05. After that, a significant relationship is highlighted between these two variables. As per the "coefficient table", the "t value" is 9.939. After that, this table referred to the "beta value" as .707.

Hypothesis 2

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
					Change Statistics					
1	.740[a]	.547	.539	.688	.547	64.087	1	53	<.001	1.932

a. Predictors: (Constant), Learning quality (IV2)
b. Dependent Variable: Technology (DV)

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	30.293	1	30.293	64.087	<.001[b]
	Residual	25.052	53	.473		
	Total	55.345	54			

a. Dependent Variable: Technology (DV)
b. Predictors: (Constant), Learning quality (IV2)

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.339	.310		4.315	<.001
	Learning quality (IV2)	.636	.079	.740	8.005	<.001

Table 6: Linear regression analysis for Hypothesis 2
(Source: IBM SPSS)

Table 6 is based on the linear regression analysis of the variables. As per this table, the "R-value" of the variable is .704. After that, as per this table, the "R square value" is .547. Additionally, the "adjusted R square value" is .539. As per the "ANOVA table", the significance value of the variable is 0.001, which is less than, 0.05. After that, a significant relationship is highlighted between these two variables. As per the "coefficient table", the "t value" is 8.005. After that, this table referred to the "beta value" as .636. Based on this significant value, it is noticed that there is a significant relationship between the use of Bitcoin and the financial aspects

Hypothesis 3

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
					Change Statistics					
1	.670^a	.448	.438	.759	.448	43.095	1	53	<.001	2.333

a. Predictors: (Constant), Physical and emotional health of students (IV3)
b. Dependent Variable: Technology (DV)

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.821	1	24.821	43.095	<.001^b
	Residual	30.525	53	.576		
	Total	55.345	54			

a. Dependent Variable: Technology (DV)
b. Predictors: (Constant), Physical and emotional health of students (IV3)

Coefficients^a

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	1.453	.359		4.051	<.001
	Physical and emotional health of students (IV3)	.564	.086	.670	6.565	<.001

Table 7: Linear regression analysis for Hypothesis 3
(Source: SPSS)

Table 7 is based on the linear regression analysis of the variables. As per this table, the "R-value" of the variable is .670. After that, as per this table, the "R square value" is .488. Additionally, the "adjusted R square value" is .438. As per the "ANOVA table", the significance value of the variable is 0.001, which is less than, 0.05. After that, a significant relationship is highlighted between these two variables. As per the "coefficient table", the "t value" is 6.565. After that, this table referred to the "beta value" as .584.

Correlation Test

Correlations

		DV	IV 1	IV 2	IV 3	IV 4
DV	Pearson Correlation	1	.875**	.725**	.718**	.563**
	Sig. (2-tailed)		<.001	<.001	<.001	<.001
	N	55	55	55	55	55
IV 1	Pearson Correlation	.875**	1	.640**	.757**	.708**
	Sig. (2-tailed)	<.001		<.001	<.001	<.001
	N	55	55	55	55	55
IV 2	Pearson Correlation	.725**	.640**	1	.623**	.576**
	Sig. (2-tailed)	<.001	<.001		<.001	<.001
	N	55	55	55	55	55
IV 3	Pearson Correlation	.718**	.757**	.623**	1	.737**
	Sig. (2-tailed)	<.001	<.001	<.001		<.001
	N	55	55	55	55	55
IV 4	Pearson Correlation	.563**	.708**	.576**	.737**	1
	Sig. (2-tailed)	<.001	<.001	<.001	<.001	
	N	55	55	55	55	55

**. Correlation is significant at the 0.01 level (2-tailed).

Table 8: Correlation test between a dependent variable and independent variables
(Source: SPSS)

Table 8 is based on the correlation analysis of the variables. As per this table, the significance value of variable 1 is .001, this value is lower than 0.05. Therefore, there is a significant relationship is highlighted between these variables. After that, the second and third variables also have a significance value which is 0.001, moreover, this value is also less than 0.05., after that, a correlation is highlighted among the variables. On the other hand, the fourth variable also has a significant correlation which is their dependent variable as its significance value is 0.005. With the aid of this "correlation table" it is noticed that independent variables such as taxation, financial aspects, and investment processes are highly correlated with their dependent variable which is the Bitcoin transaction process.

Discussion

The overall discussion of the research study is highlighted in this section. With the aid of this research study, it has to be identified that, Bitcoin is an effective currency design, therefore, it is an act of money, and it is a form of the payment process (Singh et al. 2021). After that, this transaction process does not allow the insolvency of a third party involvement. In the introduction portion, basic knowledge about Bitcoin and its negative effects has been discussed. Therefore, the aim of the research study has to be conducted within this study. Research objectives are the main discussed part of this study, and based on the research objectives, research questions are designed which are discussed all over the study (Xie, 2019). This section also helps to understand that, "A fixed supply cap is introduced by Bitcoin which is 21 million coins; therefore, it is deflationary by nature. After that, the concept of digital currency is another important factor that has been introduced by Bitcoin".

In the literature review section, a brief discussion about the negative effect of Bitcoin on the financial aspects is discussed within this study (KC, Hyde & Thomas, 2022). Therefore, based on the research objectives, thematic analysis is entertained within this section of the research. After that, this section helps to indicate that, "In terms of a decentralised network, the operation of Bitcoin and transactions in the global marketplace takes place decentralised where no one monitors any transitions. Here, Tsindeliani (2019), mentioned financial laws are hard to imply in case of no proper monitoring of transitions which makes the financial market volatile.

Along with these, the pseudonymity and global reach of Bitcoin also imposed diverse challenges upon it". Impact of the Bitcoin on the security of investors is also discussed in this research paper. Moreover, financial innovation is highlighted with the support of this Bitcoin transaction process (Cuervo, Morozova & Sugimoto, 2020). Moreover, it helps to provide security to the privacy of users is highly difficult due to the nature of Bitcoin and its functioning in the international market. Thus, getting the correct balance of privacy and compliance is a difficult undertaking.

After that, researchers used a primary quantitative data collection method within this study; therefore, it helps to gather statistical pieces of information about the negative effect of Bitcoin (Fosso Wamba et al. 2020). Moreover, based on the SPSS software, researchers are capable of analyzing the collected data numerically. Additionally, with the support of this data collection method, significant relationships among the variables are highlighted. After that, the findings section helps to analyze the collected pieces of information with the support of the different types of statistical tests like "descriptive statistics, linear regression analysis, and correlation test".

Conclusion

This research study is based on the analysis of the challenges that are faced by investors during the transaction process. After that, basic knowledge about this study is gained by the introduction section, which helps to understand that, lack of security is addressed within this transaction process. After that, the literature review section helps to gain detailed knowledge about this topic which helps to indicate that, the space of cryptocurrencies is evolving rapidly and the use of the newest technologies and assets is emerging regularly. Regulators have no such string framework to cope with such a rapidly evolving system of cryptocurrency to impose proper guidelines for use. A primary quantitative data collection method is used in this section which helps to collect statistical pieces of information about this study.

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