

# Crypto currency awareness Through Gender Lens

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## **Abstract:**

Crypto currency is the currency that used cryptography for security and transparency, operates in decentralized manner, used block chain technology and operates without any intermediaries. Crypto currency is new investment opportunity but several factors hampered the growth of the currency , especially in India. Awareness level is very low in the country especially in rural areas and semi urban areas. The present study focused to measure the awareness level of people, basically technological knowledge, type of crypto currency, various medias that effect their decision to invest. The study is conducted in areas of Hisar and Sirsa and based on primary data collected through structured questionnaire that was framed on basis of literature review. The questionnaire was sent to 400 people but only 254 people have given responses. Various statistical tools are used to analysis the data .

**Keywords:** cryptocurrency, awareness, block chain technology, cryptography

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## **I. Introduction:**

### **Concept of Crypto currency**

Crypto currencies operates in decentralized manner and used cryptography to record data and transactions .The transaction when initiated by user is sent to network of computers called nodes and the nodes validate and verified its authenticity. Verified transactions are grouped with other and validated through mechanism such as proof of stake. Miners , the crypto currency network participants, confirmed and validate the transactions and add new blocks, maintain the security of network and enables secure transactions without any intermediary

" A crypto currency is a peer to peer digital currency system that uses cryptographic techniques to secure transactions and control the creation of new units"- Nakamoto,S.(2008): A Peer-to-Peer Electronic Cash system

"Crypto Currencies is a type of digital currency which relies on cryptography, usually alongside a proof-of-work scheme, in order to create and manage the currency"(Ahmad, Nair & Varghese, 2013).

According to Indian Law,(Finance Bill 2022),The Indian legal definition of crypto currency, as of the Finance Bill 2022, . A VDA is defined as "any information, code, number, or token generated through cryptographic means, providing a digital representation of value with inherent or stored value."

The entire crypto system function on the core elements ,called pillars. The main pillars are:

### **Important Pillars of Crypto Currency:**

1.**Mining:** Miners verify the transactions and creates new blocks. The miners solve the puzzles , get the rights to add new block and rewarded with new generated coins with transaction fee.

2.**Exchange:** A Crypto Exchange is a digital platform to buy, sell and trade crypto currencies like Bitcoin, Ethereum etc . Some Exchanges operates on central basis by a company like Binance, Coinbase ,Wazir X called and some works without any centralized authority used smart contract.

3.**Wallet:** The wallet are digital tools that are used to store, send, receive crypto currencies.Wallet can be hot wallet such as mobile or cold wallets like hardware.

4.**Decentralisation:** Crypto currencies operates on peer to peer network where control is distributed not centralized, eliminates intermediaries and reduce the risk of manipulation.

### **5.Block chain**

A distributed ledger introduced by Satoshi Nakamoto records transactions in chronological manner and ensure that all transactions are executed directly without the involvement of any regulatory bodies .

### **6.Cryptography**

Cryptography secure and protect information through mathematical techniques such as hash functions, digital signatures which ensures integrity and authenticity by producing unique fix length values.. Cryptography make block chain system secure, safe and transparent that is crucial for crypto currency.

## **II. NEED FOR THE STUDY:**

Crypto currency is the currency which witnessed significant growth in last years . As the regulations are still not clear , high price volatility, making it essential to know about awareness and study the perception of people

towards crypto currency especially in small cities. The present research will help the investors and advisors to understand the problems related to the investment in crypto currency that helps them in decision making practices.

### **III. Review of literature:**

**Poongodi and Anandraj (2023)** identified govt. regulation as an most important factor for influencing the investment in crypto currency. The findings of the study suggested that awareness and regulatory measures could drive people to invest in cryptocurrencies and making it an economic indicator like the stock market.

**Ruban and Nithya (2023)** analysis the effect of seven socio-demographic variables of the cryptocurrency awareness level among women teaching fraternity in Chennai. The study used data from primary and secondary source and by applying chi square test, concluded that 77% of the women teachers were aware of cryptocurrency. Age group, nature of employment, place of college education, and net salary were correlated with cryptocurrency awareness, while education level, place of school education and school stream are not.

**Chary et al. (2022)** studied and identified factors effect the decision of investing of crypto currency. The study identified Occupation, Education, social status, product price, social media, and working environment as most influential factors for consumers. The primary data is collected from businessmen through questionnaire and analysed by using multiple correlation techniques and collected secondary data from various websites and other authentic sources.

**Jenita and Rizwan (2022)** analysed the perceptions of gender towards cryptocurrency investment in Chennai. The study used T-tests for data analysis and applied snowball sampling techniques to conduct descriptive research and concluded that capital appreciation and short and long term earnings are most motivated factor for both male and female investors to utilize surplus money.

**Jishmi et al. (2022)** found that people are aware of crypto currency but they don't want to invest due to the factors like price volatility and regulation. They identified the impact of government regulations very significant on investment decisions and overall portfolio management

**Jora and Nandal (2020)** found that investors of age 18-25 and above 45 consider regulation and privacy in cryptocurrency investments. The study concluded that both male and female investors want to invest in cryptocurrency for returns and transactions but perception of respondents vary with the age and purpose.

**Sahu (2019)** concluded that awareness of crypto currency is high but still future investments are dependent on government regulations.

**Swati and Akshay (2019)** studied the awareness level of crypto currency in Bangalore and that awareness was high but investment was low due to regulatory factors.

### **IV. Objectives of the study:**

1. To study the awareness level of crypto currency on basis of gender
2. To identify the association between gender and crypto awareness

### **V. Research design:**

The proposed plan that explains the process of conducting research to achieve the objectives of the study.

**5.1 Sampling design:** It is the framework that describes the sampling method, sample size and selection process adopted for the study.

**5.2 Type of data:** The study is based on primary data has been collected through questionnaire. Variables were selected on the basis of past literature and items were framed in the questionnaire according to the relevance of the study. Questionnaire were circulated through google form links either through smart phones or by sending on email ids.

**5.3 Sampling units:** The samples has been selected from the population of Hisar and Sirsa Sampling units includes respondents who are basically aware or at least heard about crypto currency and selected from various educational backgrounds and areas.

**5.4 Sample size:** Samples are selected in the present study is on basis of convenience, practical feasibility and topic limitation. Total 400 questionnaire were distributed but only 253 respondents have given responses and 15 responses are eliminated due to inconsistent responses and outliers. Only 239 respondents retained for further analysis.

**VI. Data analysis and Interpretations:**

**Descriptive Statistics:**

**Gender:** Gender is an important variable. Variations in technical knowledge and area of interest between males and females effects decision of investment. It is believed that there is more awareness in males than in females.

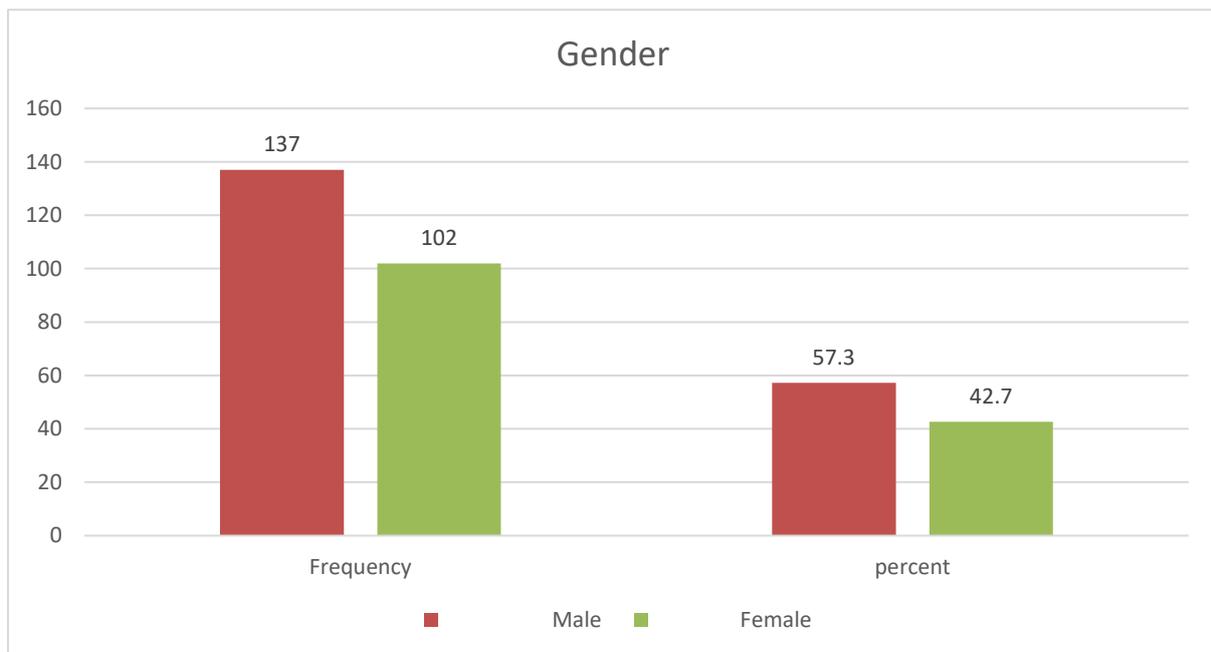
**Frequency Analysis (GENDER)**

**TABLE 6.1**

		Frequency	Percent	Valid percent	Cumulative Percentage
Valid	Male	137	57.3	57.3	57.3
	Female	102	42.7	42.7	100.0
	Total	239	100	100	

The above table indicate the frequency analysis of gender and it was found that out of total 239 respondents , 137 were male (57.3%) and 102(42.7%) were female .

**Chart 6.1**



**Awareness of crypto currency:**

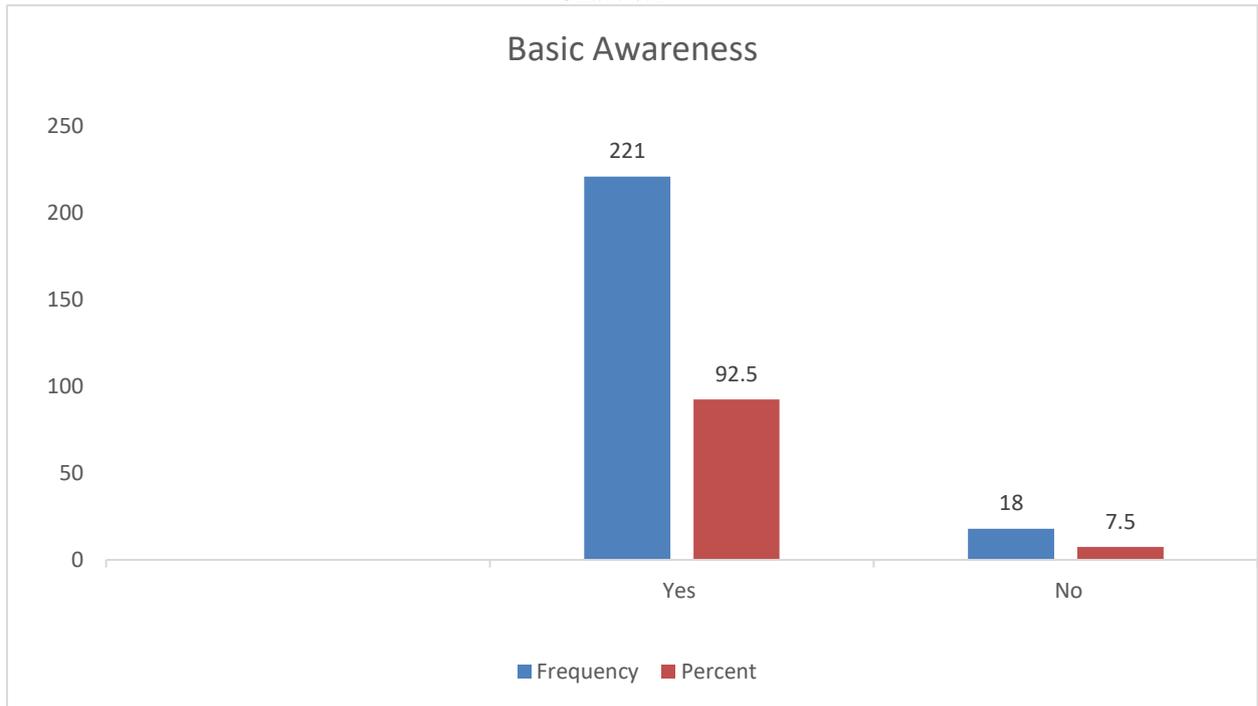
Have you heard about crypto currency?(basic awareness)

**TABLE 6.2**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	221	92.5	92.5	92.5
	No	18	7.5	7.5	100.0
	Total	239	100.0	100.0	

The above table results clearly shows the awareness level of crypto currency as the awareness level is very high . 221 respondents have heard about crypto currency out of 239 respondents. A recent survey of Time of India ,investors in India had surpassed 100 million and our survey also support the view as respondents are aware about crypto currency.

Chart 6.2



According to the present study, 221 respondents out of 239 have heard about crypto currency and it can be said that crypto currency is very popular among people regardless of its limitations.

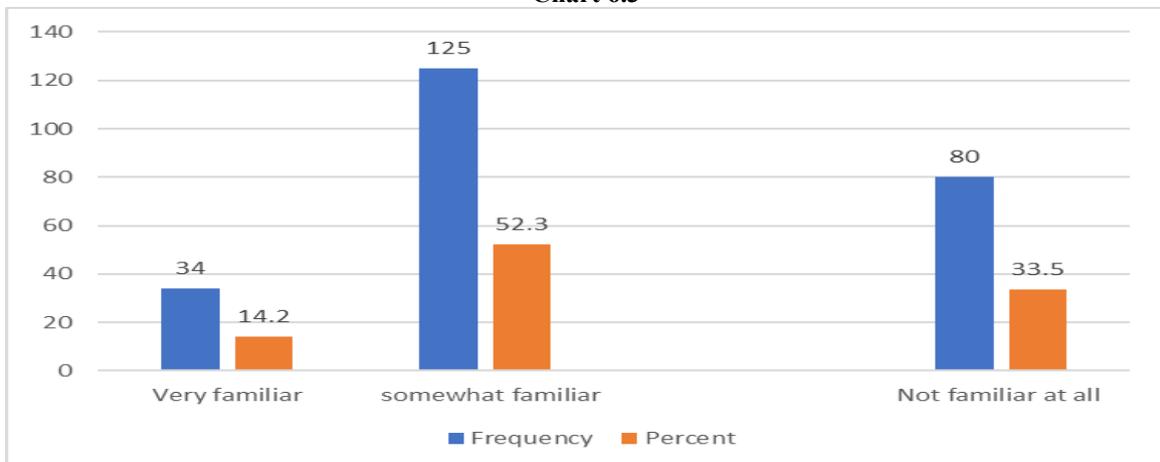
**Awareness(Depth of awareness)**

Are you familiar with the underlying technology behind crypto currencies(block chain technology)( Depth of awareness)

TABLE 6.3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very Familiar	34	14.2	14.2	14.2
	Somewhat Familiar	125	52.3	52.3	66.5
	Not Familiar at all	80	33.5	33.5	100.0
		239	100	100	

Chart 6.3

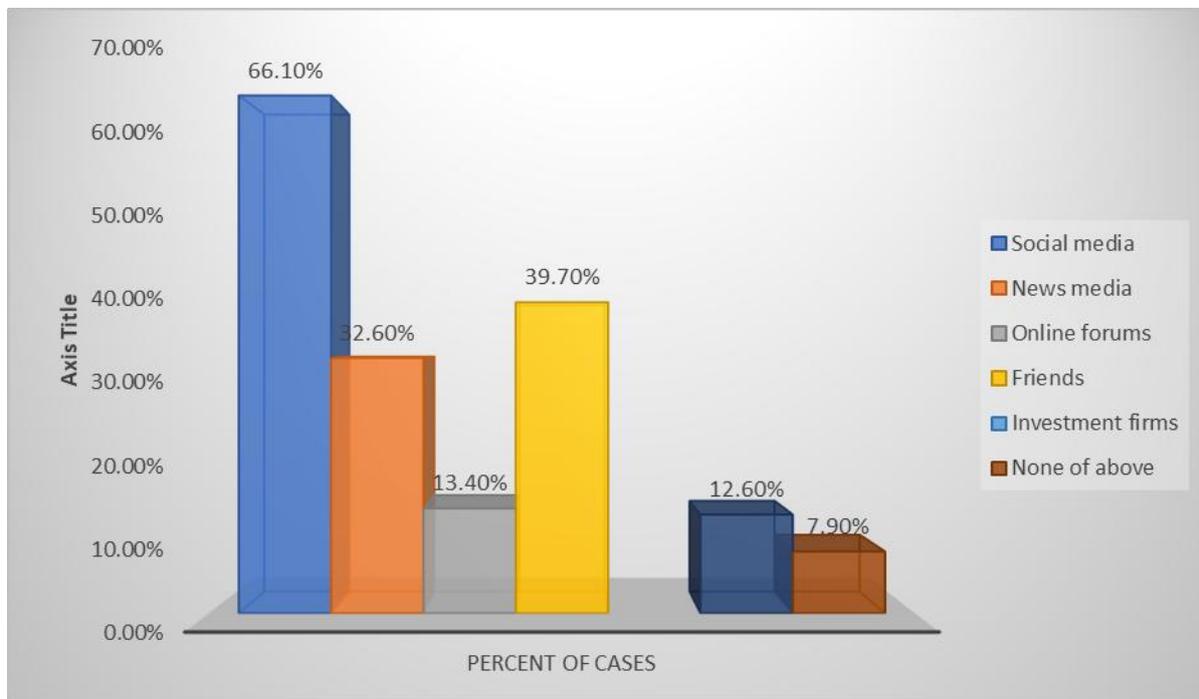


From the above table results ,it is clear that 125 respondents have aware of technology but level of awareness is very low as said somewhat familiar, 80 people said not familiar and only 34 respondents said that they are very familiar with crypto currency technology Percentage analysis has been applied and results clearly shows that most of the people have heard about crypto currency but advance knowledge related to the currency technology is very low.

**From which source you heard about crypto currencies(Information channels)**

**TABLE 6.4**

	Source	Responses	Percent of cases
Valid	Social media	158	66.1%
	News media	78	32.6%
	Online forums	32	13.4%
	Friends	95	39.7%
	Investment firms	30	12.6%
	None of above	19	7.9%
			412



**Chart 6.4**

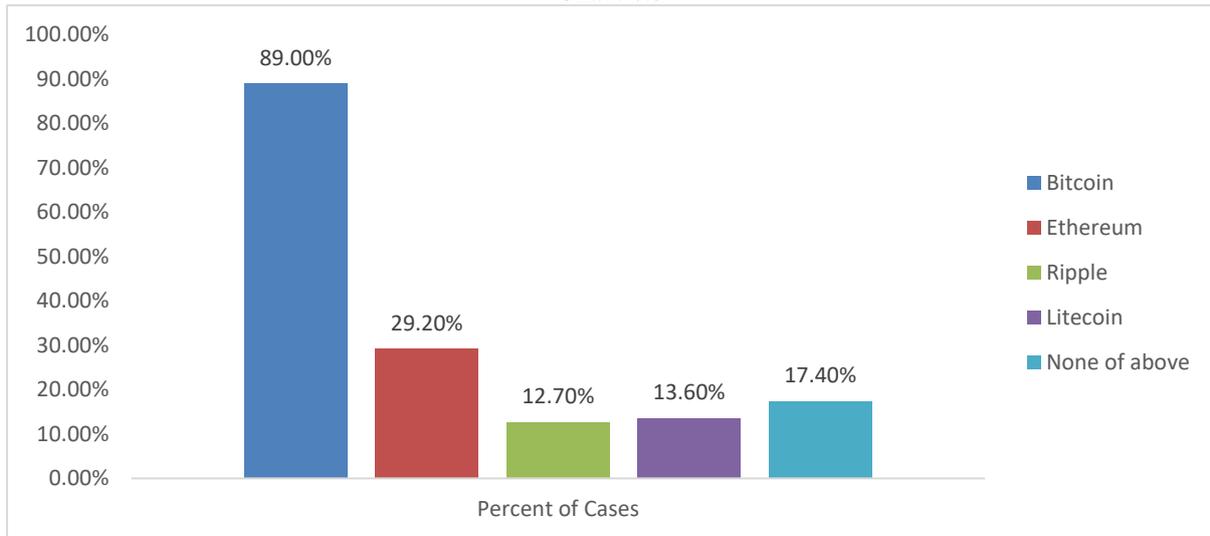
The chart clearly shows that the popularity of social media for information related to crypto currency as 66.1% of the respondents used social media as source of information related to crypto currency.

**Type of crypto currency**

**TABLE 6.5**

	Currency	Percent of Cases
Valid	Bitcoin	89.0%
	Ethereum	29.2%
	Ripple	12.7%
	Litecoin	13.6%
	None of above	17.4%

Chart 6.5



According to above chart, it is clear that Bit coin is the most popular currency because most of the respondents knows about bit coin(89%), 29.20% of respondents have knowledge of Ethereum and 17.40% people give response that they have not any knowledge about any currency.

**Inferential Statistics:**

**Chi-square Test:**

**Hypothesis:**

**Null Hypothesis:** There is no significant association between Gender and awareness of crypto currency

**Alternate Hypothesis:** There is significant association between Gender and awareness of cryptocurrency

**Cross Tabulation of Gender and awareness of crypto currency**

TABLE 6.6

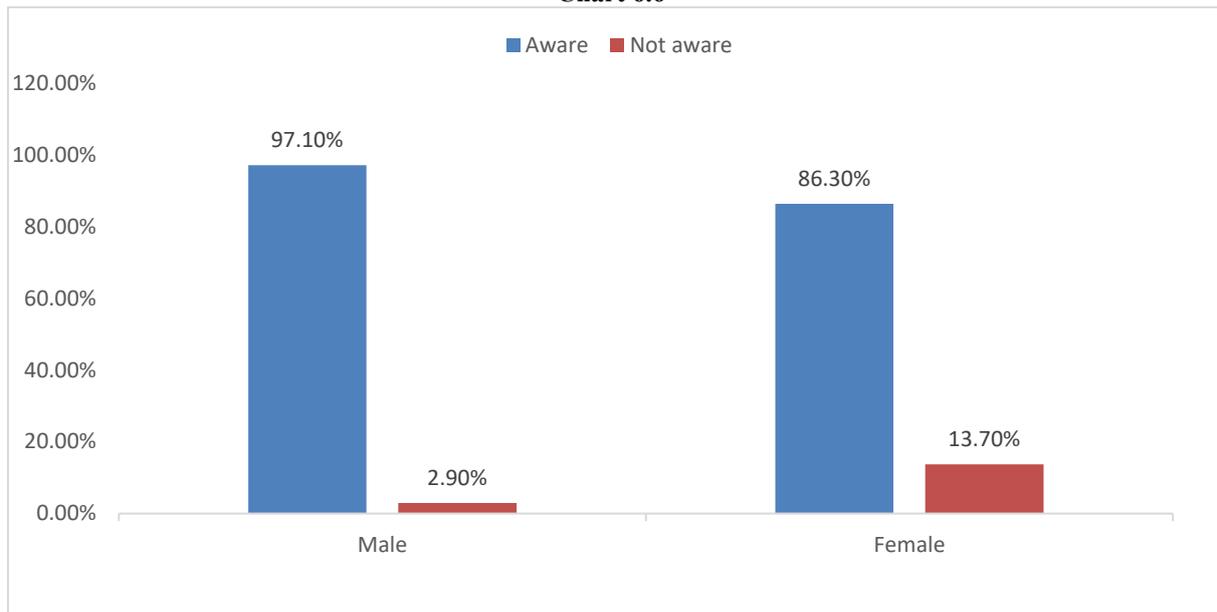
Gender	Aware	Not aware	Total
Male	133(97.1%)	4(2.9%)	137(100%)
Female	88(86.3%)	14(13.7%)	102 (100%)
Total	221(92.5%)	18(7.5%)	239(100%)

TABLE 6.7

Chi-Square Tests			
	Value	Df	Asymp.Sig.(2-sided)
Pearson Chi-Square	9.803	1	0.002
Likelihood Ratio	9.967	1	0.002
Linear-by-linear Association	9.762	1	0.002
N of valid cases	239		

Chi-square test is applied to know the association between gender and awareness of crypto currency .The results clearly indicate that the p-value (0.002) is less than 0.05.The null hypothesis is rejected and indicate that there is significant association between gender and awareness.

Chart 6.6



From the above chart ,it is revealed that both male and female are aware of crypto currency. 86.30% females and 97.10% male respondents have heard about crypto currency but there is little high awareness in males in comparison to females. Chi- square test is applied to know the association between gender and awareness of crypt currency . The result shoes that p-value (0.002) is less than 0.05.the null hypothesis is rejected and it indicate that there is significant association between gender and awareness.

**Gender and awareness level of technology of crypto currency:\**

**Chi square test:**

H0:There is no association between level of technology familiarity related to crypto currency between male and female respondents

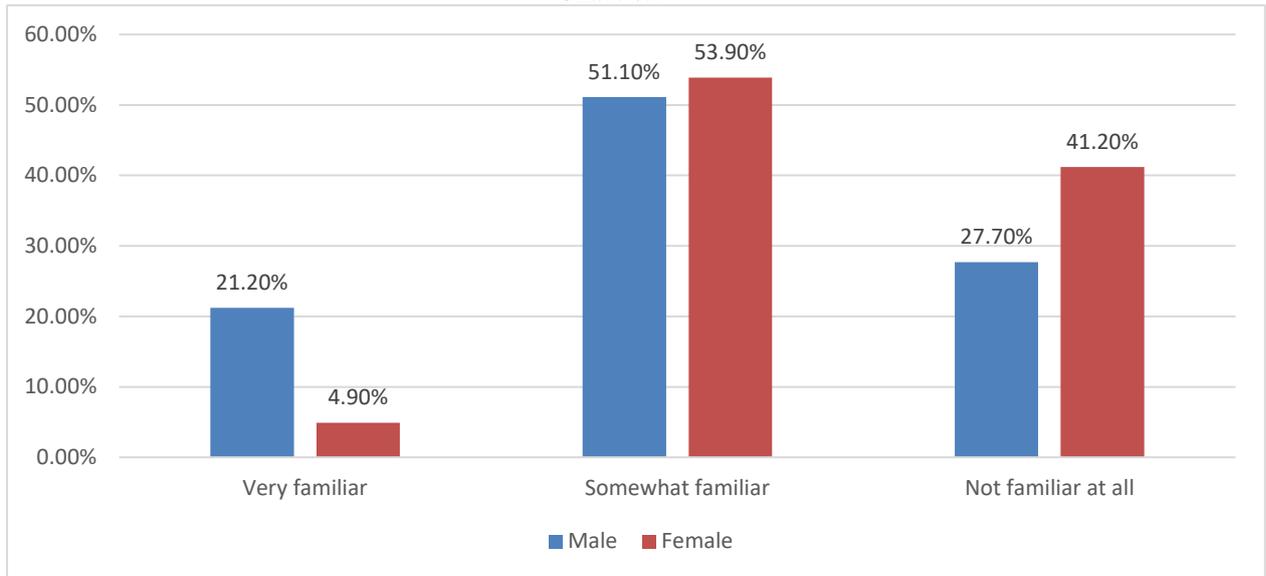
H1: There is no association between level of technology familiarity related to crypto currency between male and female respondents.

**Cross Tabulation**

**TABLE 6.8**

Gender	Very familiar	Somewhat familiar	Not familiar at all	Total
Male	29(21.2%)	70(51.1%)	38(27.7%%)	137(100%)
Female	5(4.9%)	55(53.9%)	42(41.2%)	102(100%)
Total	34(14.2%)	125(52.3%)	80 (33.5%)	239(100%)

Chart 6.7



It can be observed from the above chart that 51.10% male and 53.90 % female are familiar but not in detail and 41.20% female are not familiar with the currency. 21.20% male are very familiar and also said that both male and female are aware of the currency but male are more aware and invests in the currency in comparison to females.

TABLE 6.9

Chi-Square Tests			
	Value	Df	Asymp.Sig.(2-sided)
Pearson Chi-Square	14.118	2	0.001
Likelihood Ratio	15.599	2	0.000
Linear-by-linear Association	11.678	1	0.001
N of valid cases	239		

The cross tabulation results indicate the high awareness of crypto currency in males and the according to the results of chi-square test, p value is less than 0.05 which leads to rejection of null hypothesis confirms that there is significant association between familiarity of technology between males and females.

**VII. Findings:**

- Bitcoin is the most popular crypt currency for investment
- Social media is the most popular source for information related to crypto currency
- 92.3% of respondents are aware and 7.5% are unaware of crypto currency
- 97.10% of males and 86.30% of female are aware of crypto currency
- Awareness level is high in total but in depth awareness of technology is very low as only 14.2% of respondents are very familiar to the currency
- Social media is the most popular source for information related to crypto currency
- There is significant association between gender and crypto currency awareness
- There is association between level of technology familiarity related to crypto currency between male and female respondents

**VIII. Conclusion**

Awareness of crypto currency is increased day by day. Most of the people are aware of crypto currency but they have not in depth knowledge because lack of financial literacy and unclear regulations. As it is assumed that male are more aware in comparison to females but the present study results indicate that both males and females are aware of cryptocurrency, although slight difference in the awareness of the currency,

results also indicate that respondents are familiar but somewhat unfamiliar. The study suggested that there should be more education programs related to crypto currency, financial literacy moves should focus on risk, regulation and security aspects as these are the most crucial aspects for crypto investments. Policy makers should focus on reliable information and ensures that this information should be easily accessible to general public. Clear regulation make it as Economic indicator like stock market and it can serve as a new investment alternative in the future.

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