

Investor Insights: Risk Perception and Attitudes Towards Precious Metals in Chennai's Commodity Market"

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Abstract

The investment culture of a country is a crucial for the accumulation of capital and the rapid development of its economy. Investment culture encompasses the beliefs, understandings, and readiness of individuals and institutions to allocate their savings/earnings into different financial assets, popularly referred to as securities. India offers a wide range of investment options to investors. The financial instruments include shares, derivatives, debentures, bonds, commodities, and other similar assets. Each financial product carries inherent risk. The commodities market is a crucial component of the financial market and commodity futures trading is a significant investing option. However, investors still tend to favour traditional investing options such as gold, real estate and other tangible assets. Thus, it is important to analyse the perception and preferences of investors in relation to the commodities market.

This study aims to acquire a comprehensive understanding of the perspectives and attitude held by traders in the commodities derivatives market, with a specific focus on the Chennai Region, Tamilnadu. The primary objective of the study is to analyse the impact of different influencing factors on the investors' perception toward commodity trading with special focus on precious metals. The influencing factors considered were "Market Related Factors", "Risk Related Factors" and "Return on Investment Factors". The results of the structural equation modelling analysis showed that all the three factors have significant and positive impact on the perception toward commodity trading. The findings and results of the empirical analyses provide valuable inputs for financial planners and market regulators by providing insight on the perceptions, attitude, satisfaction, risks perceptions, awareness and preferences of investors in commodity markets.

Keywords: Commodity markets, Derivatives, Future trading, Perception, Risks, Return.

1. Introduction

A commodity market enables the trading of different types of commodities through spot market or a derivatives market. In a spot market, commodities are exchanged for immediate delivery, whereas in a derivatives market, different financial products linked to commodities are traded. Financial products such as futures are exchanged on exchanges. Commodity markets provide many investment opportunities that differ from typical alternatives such as stocks, bonds, and real estate. Gaining a more comprehensive understanding of commodities markets and being knowledgeable about the services they offer may enhance an investor's profits while simultaneously reducing their risks. There is a prevailing apprehension among the populace that the majority of investors experience financial losses in the realm of commodities

marketing. This phenomenon occurs exclusively when market players fail to trade with discipline and succumb to the temptations of greed and fear.

The commodity market holds significant importance within the financial market. It covers a wide range of products including metals, crude oil, precious metals, energy, and soft commodities like coffee, wheat, cotton, palm oil, spices, and more. There are approximately twenty products traded in the commodity market. It functions as a structured marketplace for the sale of standardized goods. Future contracts are a major focus in the world of commodity market operations. Futures trading provides a convenient avenue for investors to secure capital investments (Gopinath et al. 2019).

2. Indian Commodity Exchange Market

A commodity is a tangible or intangible product with economic worth and may be bought, sold, or traded in the marketplace. It may be manufactured, purchased/traded, in a solid form, and consumed. Commodities are essentially the output of the primary sector of an economy. The primary sector of an economy focuses on agriculture and the exploitation of raw materials, such as metals and energy sources like crude oil and natural gas. These raw resources are essential inputs for the secondary sector of the economy. These commodities include Bullion (Gold, Gold Mini, Gold Guinea, Gold Petal, Silver, Silver Mini, Silver Micro), Base Metals (Aluminium, Aluminium Mini, Copper, Lead, Lead Mini, Nickel, Steel Rebar, Zinc, Zinc Mini), Energy (Crude Oil, Crude Oil Mini, Natural Gas, Natural Gas Mini), Agri Commodities (Cotton, Crude Palm Oil, Soya Oil, Coffee, Pepper, Wheat, Rice, Cashew, Mentha Oil, etc).

A commodity market is a marketplace where goods are exchanged. The commodity market refers to the derivative market in the country where numerous commodities are traded on an exchange. Commodities are often traded on commodity futures exchanges. A commodity exchange is a marketplace where a wide range of commodities and derivatives are traded.

Currently, India has a total of 6 national level commodities exchanges and 20 regional commodity exchanges. The national level exchanges include Multi Commodity Exchange of India (MCX), National Commodity and Derivatives Exchange (NCDEX), National Multi Commodity Exchange (NMCE), Indian Commodity Exchange (ICEX), ACE Derivatives & Commodity Exchange Limited (ACE), and Universal Commodity Exchange (UCX). In India, there are now 26 commodity exchanges that engage in futures trading in a wide range of 146 commodities. MCX is India's first listed exchange, offering a state-of-the-art platform for online trading of commodity derivatives transactions. It serves as a platform for price discovery and risk management. The Exchange, which commenced operations in November 2003, operates within the regulatory framework of Securities and Exchange Board of India (SEBI).

3. Review of Literature

Thirunarayanansamy and Jeyakumar (2018) have conducted a study investors perception toward commodity market, trends and practices of the commodities market in the Virudhunagar district, Tamilnadu. 'The study was aimed to identify the socio-economic elements that impact investors' behavior. A total of 500 participants were identified from the top ten active

stockbroking institutions for the purpose of the study. According to the study, most investors prioritize short-term capital appreciation and place greater emphasis on the return component when making investment decisions.

Gopinath et al. (2019) have examined the attitude and satisfaction of investors towards the commodities market. This study provides valuable insights into the chosen commodity, investment objectives, risk management approaches, motivations for investing in commodities, and challenges in commodity trading. The analysis revealed that investors have allocated their investments to commodities as well as other varied investment options. Investing in commodities was primarily motivated by the low level of risk involved. The investors were really happy with the yield generated from the commodities trading.

Ilyas (2020) investigated the elements that influence the behavior of investors in the commodities market in India. The respondents consisted of three hundred individual retail investors who have been chosen randomly from the Mysore area. The Cronbach alpha technique was utilized to assess the reliability and validity of the data. The primary factors that significantly impacted investors' behavior were determined using a multivariate analytic technique called Principal Component Method of Factor analytic with Varimax Rotation. The descriptive analysis was utilized to examine the extent to which the key components influenced the behavior of investors. The analytic results identified four primary elements that significantly impact investor behavior that included “low risk”, “informational asymmetry”, “high return”, and “objective knowledge”.

Patel and Shah (2021) ascertained the investor's behavior in relation to the Indian commodity market. A sample size of 384 investors has been selected. The study concentrated on the northern part of Gujarat. The districts of Banaskantha, Sabarkantha, Aravalli, Mehsana, and Patan were chosen. The study revealed that the primary goal of investing in the commodities market was to maximize wealth. Furthermore, it identified a discrepancy in the investment objectives between males and females in this market.

Venkatesan (2022) determined the level of investor awareness regarding commodities trading in the specified region and its influence. The sample size for this study was 279. Data was gathered in the districts of Tiruvannamalai, Vellore, and Kallakurichi in South Tamil Nadu. The findings indicated that majority if the respondents lack awareness. Similarly, technical understanding in commodities trading posed a significant obstacle for the respondents to entering the trading market. In addition, majority of the respondents possess limited knowledge and understanding regarding commodities trade. The study recommends that government, policymakers, and trade agencies should come forward in raising awareness and educating the public in order to empower individuals to become prospective investors.

While there is abundant research on investor behavior in capital markets, there is a scarcity of studies examining behavior in commodities markets at both national and international levels. In addition, the studies related with commodity market were highly technical and failed to address the concerns of ordinary investors, who are either unfamiliar with the commodities market or still unaware of the benefits in commodity trading and ignored it as a sophisticated investment vehicle. Due to the limited number of studies that have taken into account the investor awareness, perspectives and cognizance toward commodity markets and trading, the present study has been undertaken to fill the gap in research to study the investor awareness, risk perception and attitude toward commodity market in Chennai city with special focus on precious metals.

4. Objectives

- To study the awareness of investor toward commodity market in India.
- To study the impact of different influencing factors on the investors' perception toward commodity trading with special focus on precious metals.

5. Hypothesis

H₀₁: Market related factors have no significant impact on perception toward commodity trading

H_{a1}: Market related factors have significant impact on perception toward commodity trading

H₀₂: Risk related factors have no significant impact on perception toward commodity trading

H_{a2}: Risk related factors have significant impact on perception toward commodity trading

H₀₃: Return on investment factors have no significant impact on perception toward commodity trading

H_{a3}: Return on investment factors have significant impact on perception toward commodity trading

6. Research Methodology

The study used descriptive research approach and a structured quantitative questionnaire developed by the authors was used for data collection. The study identified four factors based on the review of literature to develop the conceptual model as shown in the Figure 1.

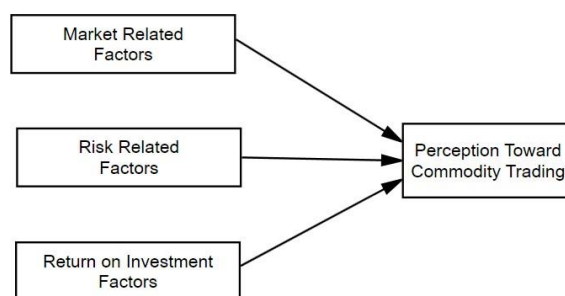


Figure 1 Conceptual Model

The model hypothesizes that different influencing factors in trading in commodity markets like Market Related Factors (MRF), Risk Related Factors (RR) and Return on Investment Factors (RoI) have significant impact on Perception Toward Commodity Trading (PCT). The variable “Market Related Factors (MRF)” was measured using 4 items, “Risk Related Factors (RR)” was measured using 5 items, “Return on Investment Factors (RoI)” was measured using 4 and

“Perception Toward Commodity Trading (PCT)” was measured using 5 items. The measuring items were evaluated using a 5-point Likert scale, with response possibilities ranging from 1 (representing severe disagreement) to 7 (representing strong agreement). The data obtained from the the respondent was analyzed using the statistical software package SPSS 22.5. The study employed Structural Equation Modeling (SEM) analysis with the use of the AMOS 21.0 program to examine the association between the variables.

7. Population and Sample

The study population comprised of investors and traders in share market in the Chennai Region, Tamilnadu, India. Traders of both NSE, BSE, MCX, etc were included in the study. The study included randomly selected sample of 300 respondents. The sample size was determined using Krejcie and Morgan (1970) sample size determination calculations. Over 350 questionnaire were distributed to the investors in the Chennai region. However, after all the preprocessing and filtering, 300 responses were considered for inclusion in the final study. Thus, the response rate was 85.7%.

8. Data Analysis

8.1 Demographic Profile

The demographic profile of the respondents is shown in Table 1.

Table 1: Demographic Profile and General Information in Commodity Trading (N=300)

Variable	Category	Frequency	Percent
Gender	Male	237	79.0
	Female	63	21.0
Marital Status	Married	241	80.3
	Unmarried	59	19.7
Education	Diploma	29	9.6
	Under Graduate	183	61.0
	Post Graduate	58	19.3
	Others	30	10.0
Occupation	Employed	16	5.3
	Business	89	29.7
	Professional	106	35.3
	Retired	62	20.7
	Others (Housewife, Student)	27	9.0
Income	Less than Rs.3 Lakhs	26	8.7
	Rs.3 Lakhs – Rs.6 Lakhs	66	22.0
	Rs.6 Lakhs – Rs.9 Lakhs	113	37.7
	Rs. 9 Lakhs and above	95	31.7
Frequency of Investing/Trading	Weekly	104	34.7
	Monthly	57	19.0
	Quarterly	60	20.0
	Half – Yearly	51	17.0
	Yearly	28	9.3
	Less than 1 year	30	10.0

Variable	Category	Frequency	Percent
Experience in Commodity Trading	1 to less than 3 years	83	27.7
	3 to less than 5 years	120	40.0
	More than 5 years	67	22.3
Preference	Gold	97	32.3
	Silver	131	43.7
	Platinum	22	7.3
	Palladium	28	9.3
	More than one metals	22	7.3
Risk Preference	Low Risk (Blue Investors)	194	64.7
	Medium Risk (Yellow Investors)	92	30.7
	High Risk (Brown Investors)	14	4.7

Majority of the respondents wear male (79.0%) and married (80.3%). 61.0% of the respondents hold under graduate degree, while 19.3% of respondents have a master's degree. 35.3% of the respondents were professionals and 29.7% of the respondents were involved Business. The data clearly showed that professionals and business people are more interested in trading in commodity market. Income level of the respondents revelled that majority has income between Rs.6 Lakhs and Rs.9 Lakhs (37.7%), followed by 31.7% of respondents with income above Rs. 9Lakhs per year.

The study also collected data pertaining to investment pattern of respondents. 34.7% of the respondents divulged that they trade at least once in a week. 20.0% of the respondents traded at least once in a Quarter. 40.0% of the respondents have experience between 3 and 5 years in commodity trading and 27.7% have experience between 1 to 3 years in commodity trading. Silver (43.7%) and gold (32.3%) were the most preferred precious metals in commodity trading. 64.7% of the respondents divulged that they preferred to be a Low Risk (Blue Investors)

8.2 Descriptive Statistics

Table 2 displays the data that is relevant to the descriptive statistics of the variables. According to Hair et al. (2010), variables with a skewness value below 0.3 and a kurtosis value below 0.3 can be considered as fitting the criterion for normality. The study's obtained values fulfill the specified requirements, indicating that the data satisfies the criterion of normality. Therefore, parametric tests may be confidently conducted using this data.

Table 2 Descriptive Statistics

Variable	No. of Items	Mean	SD	Skewness	Kurtosis
Market Related Factors (MRF)	4	3.92	0.77	-0.95	0.87
Risk Related Factors (RR)	5	4.04	0.62	-0.41	1.19

Variable	No. of Items	Mean	SD	Skewness	Kurtosis
Return on Investment Factors (RoI)	4	4.01	0.61	-0.71	1.00
Perception Toward Commodity Trading (PCT)	5	3.77	0.66	-0.57	0.75

From the above table, the top-rated variable was Risk Related Factors ($M=4.04$, $SD=0.62$), followed by Return-on-Investment Factors ($M=4.01$, $SD=0.61$). The lowest rated variable was Social Influence ($M=5.19$, $SD=1.03$).

8.3 Reliability and Validity Analysis

The measurement model underwent many assessment processes, including both exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). This study utilized convergent validity, a method that evaluates the degree to which the measuring items accurately represent their corresponding construct. Similarly, discriminant validity was assessed to determine the concept validity by examining if the constructs are statistically separate.

The study assessed the convergent validity of the structural equation modeling (SEM) model by examining two parameters: the average variance extracted (AVE) and the standardized factor loadings (Hair et al. 2014). The findings indicated that all AVE (Average Variance Extracted) values in this study above 0.5, ranging from 0.52 to 0.69. The statement suggests that the scale utilized in the study exhibits robust convergent validity (Hair et al. 2014). Furthermore, the factor loading values for each item of the related constructs above 0.5, with a range of 0.502 to 0.948 ($KMO = 0.856$, Bartlett's test of sphericity = 6198.496, $sig < 0.01$). This suggests that the validity of the measures is adequate (Hair et al. 2014). The construct's reliability was assessed by computing composite reliability (CR) and Cronbach's alpha coefficients. The results indicate that the composite reliability (CR) of each factor ranges from 0.81 to 0.90, which surpasses the suggested criterion of 0.7 (Hair et al. 2014). This indicates that the build reliability is considered satisfactory. In addition, all of the Cronbach's alpha values (varying from 0.82 to 0.90) above the threshold of 0.7, indicating a high degree of dependability (Nunnally, 1978). In summary, the results suggest that the validity and reliability measures for all constructs in the research are satisfactory. Tables 3 present the findings of Convergent Validity, Internal Consistency, and Composite Reliability.

Table 3 Convergent Validity, Internal Consistency, and Composite Reliability

Variable	No. of Items	Standardised Factor Loadings	AVE	CR	Cronbach's Alpha
Market Related Factors (MRF)	4	0.88	0.69	0.90	0.89
		0.86			

Variable	No. of Items	Standardised Factor Loadings	AVE	CR	Cronbach's Alpha
		0.81			
		0.78			
Risk Related Factors (RR)	5	0.82	0.62	0.89	0.88
		0.81			
		0.84			
		0.71			
		0.75			
Return on Investment Factors (RoI)	4	0.71	0.52	0.81	0.82
		0.74			
		0.65			
		0.79			
Perception Toward Commodity Trading (PCT)	5	0.681	0.55	0.88	0.90
		0.69			
		0.61			
		0.67			
		0.89			

8.4 Discriminant Validity

The discriminant validity was evaluated by comparing the square root of the average variance extracted (AVE) with the correlation coefficients between factors. Discriminant validity is deemed satisfactory when the square root of the average variance extracted (AVE) for each construct is greater than the correlation between any two constructs (Fornell & Larcker, 1981). The results showed that the square root of the average variance extracted (AVE) for every variable was higher than its correlation coefficients with other variables. Thus, the results satisfy the requirement for discriminant validity.

Table 4 Discriminant Validity

Variable	MRF	RR	RoI	PI
Market Related Factors (MRF)	0.95			
Risk Related Factors (RR)	0.39**	0.89		
Return on Investment Factors (RoI)	0.42**	0.67**	0.81	
Perception Toward Commodity Trading (PCT)	0.37**	0.39**	0.38**	0.88

8.5 Evaluation of Conceptual Model

The empirical evaluation of the conceptual model is presented in Figure 2 and Table 5.

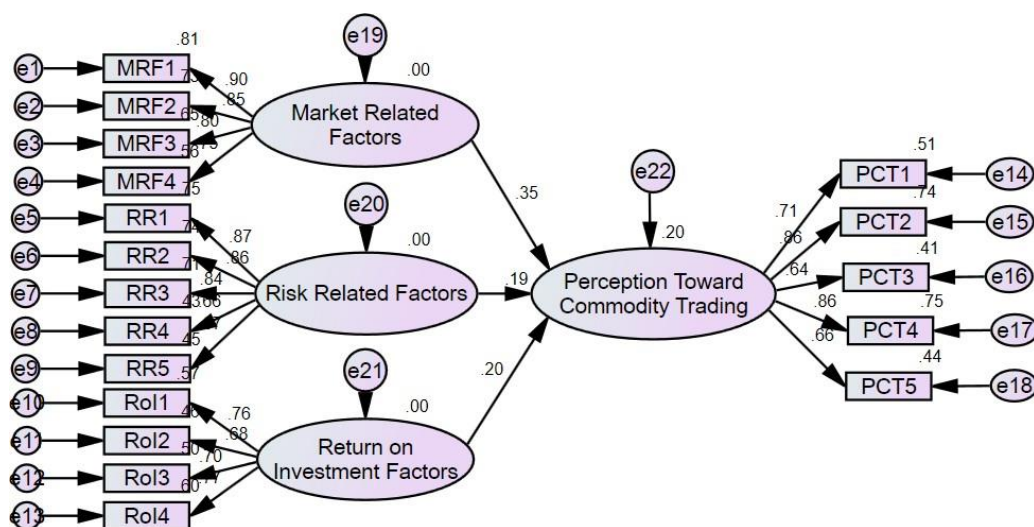


Figure 1 Evaluation of Conceptual Model

Table 5 Standardised Regression Weights

Dependent Variable		Predictor Variable	Estimate	S.E.	C.R.	p-value
PCT	<---	MRF	0.35	0.05	7.24	***
PCT	<---	RR	0.19	0.06	4.14	***
PCT	<---	RoI	0.20	0.05	4.02	***
MRF4	<---	MRF	0.75	-	-	-
MRF3	<---	MRF	0.80	0.06	18.18	***
MRF2	<---	MRF	0.85	0.06	19.33	***
MRF1	<---	MRF	0.90	0.07	20.35	***
RR4	<---	RR	0.66	-	-	-
RR3	<---	RR	0.84	0.07	15.99	***
RR2	<---	RR	0.86	0.08	16.19	***
RR1	<---	RR	0.87	0.08	16.30	***
RR5	<---	RR	0.67	0.08	13.25	***
RoI4	<---	RoI	0.77	-	-	-
RoI3	<---	RoI	0.70	0.07	14.32	***
RoI2	<---	RoI	0.68	0.06	13.84	***
RoI1	<---	RoI	0.76	0.06	15.18	***
PCT3	<---	PCT	0.64	0.06	15.46	***
PCT4	<---	PCT	0.87	0.04	23.17	***
PCT5	<---	PCT	0.66	0.06	16.20	***
PCT1	<---	PCT	0.72	0.05	17.90	***
PCT2	<---	PCT	0.86	-	-	-

Table 5 illustrates the influence of the predictor factors on the dependent variables. Below are the summarized findings of the hypothesis testing.

- Market Related Factors($\beta=0.35$, $p=0.00$) has significant impact on Perception toward Commodity Trading. The null hypothesis that “Market related factors have no significant impact on perception toward commodity trading” was rejected. On the other hand, the alternate hypothesis “Market related factors have significant impact on perception toward commodity trading” was accepted at 0.01 level.
- Risk Related Factors ($\beta=0.19$, $p=0.00$) have significant impact on Perception toward Commodity Trading. The null hypothesis that “Risk related factors have no significant impact on perception toward commodity trading” was rejected. On the other hand, the alternate hypothesis that “Risk related factors have significant impact on perception toward commodity trading” was accepted at 0.01 level.
- Return on Investment Factors ($\beta=0.20$, $p=0.00$) have significant impact on Perception toward Commodity Trading. The null hypothesis that “Return on investment factors have no significant impact on perception toward commodity trading” was rejected. On the other hand, the alternate hypothesis that “Return on investment factors have significant impact on perception toward commodity trading” was accepted at 0.01 level.

Table 6 Model Fit Indices for Structural Model

Variable	Recommended Value	Obtained Value
Chi-square value	-	413.11
df	-	132
P value	-	0.00
Chisq/df	< 5.0 (Schumacker & Lomax 2004)	3.12
RMSEA	< 0.09 (Hair et al. 2014)	0.05
RMR	<0.07 (Diamantopoulos & Siguaw, 2000; Steiger, 2007)	0.04
GFI	> 0.90 (Hair et al. 2014)	0.94
AGFI	> 0.90 (Hair et al. 2014)	0.95
CFI	> 0.90 (Hu & Bentler, 1999)	0.95
TLI	> 0.90 (Hooper et al. 2008)	0.96

The data shown in the above table presents the calculated values for indices such as the GFI (Goodness of Fit Index) (Hair et al 2011), the AGFI (Adjusted Goodness of Fit Index) (Hair et al 2011), and the CFI (Comparative Fit Index) (Hu & Bentler 1999) have exceeded the suggested threshold of 0.9. This illustrates the effectiveness of the model when applied to the measurement specific case (Hooper et al. 2008). The Root Mean Square Error of Approximation (RMSEA) fell below the threshold of 0.08, suggesting that the model is very accurate and may be considered a perfect match (Hair et al. 2011). In general, the obtained values for model fit indices and measurements fall within an acceptable range. Thus, it might be argued that the SEM model is appropriate.

9. Conclusion

Indian commodity market has experienced significant transformations as a result of the evolving global economic landscape, resulting in the emergence of numerous opportunities.

The current study has specifically examined the investor awareness, risk perception, and perception toward of investors towards the commodities market. This research provides valuable insights into several aspects of commodity trading, including the preference in selecting commodity for trading, frequency and tenure of trading in commodity market, and perceived risk preference. The study analysed the impact of different influencing factors like “Market Related Factors”, “Risk Related Factors”, and “Return on Investment Factors” on “Perception Toward Commodity Trading”.

The results of the empirical analysis revealed that silver and gold were the predominant choice for respondents in commodity market. The respondents have fairly better exposure in commodity market with 40% of them were trading between 3 to 5 years in commodity market. Frequency of trading was also optimum as 34.7% of respondents trade on a Weekly basis. The trading motto in the commodity market for majority of the respondents was low risk (Blue Investors) and preservation of capital. The results of SEM analysis have revealed that all the three influencing factors like “Market Related Factors”, “Risk Related Factors”, and “Return on Investment Factors” have significant impact on “Perception Toward Commodity Trading”.

The study found that participation of women in trading is lower in commodity market. The study recommends that targeted awareness program may be conducted to persuade female investors, particularly homemakers, to engage in income generation from home through commodities market transactions. Overall, the participation of inventors and traders in commodity market is not optimum compared with equity markets. The study suggests that the financial institutions should encourage their clients to engage in commodities market operations by facilitating the establishment of Demat accounts and overseeing the procedure. In the future, a greater number of customers may have the opportunity to participate in commodities market activities.

10. Limitations and Future Directions

The study identified two limitations. Firstly, study was limited to one region of Tamil Nadu, namely, Chennai. The sample size was small, consisting of just 300 respondents. If the number of size of the sample were expanded, there is a greater likelihood that the results of the study might change. The study included only respondents who are investors/traders in stock market. The current is a part of an ongoing research on commodity trading in India. The variables in the model will be expanded to analyse the mediation and moderating effects. The impact and role of demographic characteristics of the respondents on different study variables and factors has to be explored as a separate study.

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