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Determinants in Investment Behaviour During The COVID-19 Pandemic

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This study investigated the psychological behaviour of investors in the stock market during the period of COVID-19. The survey was conducted between April and June 2020, following the lockdown announcement of the Indian Government on 25th March. There were 400 respondents. This paper has attempted to identify the impact on psychological behaviour during the initial stage of COVID-19 in India. The collected data has been used to determine the psychological factors which may have influenced investment decisions. The statistical tools of Cronbach Alpha, factor analysis, descriptive analysis, and multiple regression techniques were applied using the SPSS 21 package. The study has analysed the psychological dimensions of the behaviour when responding to fear, risk perception, risk propensity, investors' anxiety to market volatility, herding and vaccination updates. The results show that the behavioural response to fear, risk perception, herding and vaccination updates have influenced investors' decision-making during the COVID-19 pandemic.

Keywords: *Investment fear; Market condition; Risk perception; Risk propensity; Investment decision; Herding behaviour; Risk perception; COVID-19*

JEL Classification: D07, G04, G41

Introduction

An investment decision is one made by an investor about where to invest, how much to invest and when to invest to achieve income from various financial instruments (Geetha, N., & Ramesh, M., 2012). Here, an investment decision is defined as an individual investor's decision to invest in the share market during COVID-19. A better understanding of the factors influencing current investment decision-making is required for investors to avoid investment errors in the future (Blais & Weber, 2002; Bakar, S., & Yi, A. N., 2016). Usually, the common validation of investors' decision-making concerning an investment is risk and return from that investment (Kahneman & Tversky, 1988; Rothschild, 1985; Linciano et al.,2012; Nosic & Weber, 2010). The decisions of investors always suffer because of their thoughts about risk. The different perceptions of risk can lead investors to make decisions accordingly (Keller, C., & Siegrist, 2006). Investors' risk-taking behaviour has an impact on high-risk related shares.

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Kahneman (2003) stated that "the decision of human judgement is uncertainty". Across the world, since the emergence of COVID-19, the performance of share markets has become highly volatile (Ashraf, 2020). From the investors' perspective, this was a high-risk situation. Ozili et al.,(2020) established that decisions concerning monetary policies and travel restrictions seriously affected economic activities.

There are many psychological and technical factors which influence investment decisions. J. Shiller (1991) said, "the decision of the individual investor is getting vary at the time of fluctuations in the market". There have been many theories which have discussed individual investor behaviour: for example, nudge theory (Suter, 2008), behavioural game theory (Smith, 1970), evolutionary psychology (Darwin,1992), behavioural portfolio theory (Lo, A., & Wang, 2000) etc. Consequently, today, the psychological behaviour of investors and their decision-making under various conditions must be studied.

In the case of a financial specialist, they can validate the income, state of financial reports of the firms involved, ongoing value developments, risks, and returns, etc. of an investment to the investing company. However, investors cannot validate in the same way a financial specialist can (Moueed & Hunjra, 2020). Here, psychological elements can affect the investment decision. It is known that financial specialists follow advertised estimations, yet they additionally utilize their hunches (Riaz & Hunjra, 2015). Hence, it can be concluded that general investors' can be significantly affected by psychological factors which can be influenced by situations they find themselves in, such as COVID-19, SARS or Swine flu (Wang et.al., 2013; Ali, 2020; Conlon & Mc Gee, 2020). This was also the case with the Ebola virus (Ichev & Marinc, 2018).

The objective of the study is to find out which behavioural influences have affected investors in their investment decision-making during COVID-19. COVID-19 has had a profound impact on society. It is created wide-ranging changes in the share market (Sansa , 2020), in business, and in our daily activities. This situation has pushed the Indian Nifty indices down by almost 4000 points. This has made investment uncertain and investors have become more stressed and are tending to avoid taking further risks in investment. Changes occur regularly across the world; however, the COVID-19 situation is unique. Thus, psychological behaviour may differ (Zhang, Y., & Zheng, X., 2015). Hence, this research has been carried out to determine the psychological factors influencing investment decision-making during the pandemic. This study uses a descriptive research design. The statistical techniques of Cronbach Alpha, factor loading, descriptive analysis, and multiple regression techniques are used to evaluate the data.

Literature Review

In the prospect theory, Kahneman and Tversky (1988) explained the psychological behaviour of economic-related decision-making in various situations. They introduced a modification to the theory in the form of the cumulative prospect theory, which considers risk and uncertainty at the time of investment. Investors who are not interested in taking risks will always achieve low profit. Nosic and Weber (2010) declared that investment can be based on risk attitude, confidence in the financial instrument and risk perception. This study will examine the influence of psychological behaviour on investment decision-making (Koutsoyiannis, 1982; Zhu, 2017). It will include factors such as fear (Taylor et al.,2020; Wagner, 2020), the theory on risk perception (White & Fan, 2006; Zajac 2004), risk propensity (Sitkin, S. B., & Weingart, 1995; Pablo, 1997), herding theory (Graham, 1998; Christie & Huang, 1995), anxiety behaviour and market volatility (Plasmans , 1975; FitzGerald,1999), vaccination updates (Braun et al.,1996; Poteshman & Mahani, 2004) and investment decision-making (Slovic, 1972; Lyn & Zychowicz, 2010).

Fear

Jorgenson and Skard (1965) and Plasmans (1975) described anticipatory behaviour in

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investment decision-making in various circumstances. The fear relates to the investors' response to the value reduction of their investments. Then, anxiety about the assumption of insufficient savings to cover COVID-19 treatment. Wagner (2020) prefers that investors avoid inherently dangerous situations, even though they offer opportunities. Taylor et al.,(2020) describe how the stress levels of people have increased due to COVID-19. The findings also explain the prevailing levels of anxiety.

Risk Propensity

Risk propensity describes investors' willingness to take risks or not (Sitkin, S.B., & Weingart, 1995; Pablo, 1997). This study investigates investors' avoidance of risk-taking behaviour related to investment decisions due to COVID-19. Linciano et al.,(2012) established that investors are interested in investing in volatile markets because they stand to gain a higher profit. They believe that when there is greater risk, they will get a higher profit. Bairagi and Chakraborty (2008) described the influence of risk propensity on retail investors' decision-making.

Risk perception

Risk perception is an assumption by an investor regarding the future risk based on their own experiences (White & Fan, 2006; Zajac 2004). Hamid (2013) described how the perception behaviour of an investor may alter the thinking s/he has about the investment. However, it does not fully influence the investment decision. Khan's (2016) study examined the positive relationship between risk perception and investment decisions.

Anxiety behaviour on Market volatility

Plaman's (1975) micro-production model describes the anxiety behaviour of investors concerning investment decisions. FitzGerald (1999) discussed market volatility influences on portfolio investments. Sansa (2020) investigated the impact of COVID-19 on the financial markets of the USA and China. The research was carried out using one-month financial market data from the share market of USA and China. The results from the study show that COVID-19 has had a significant impact on the financial markets. Ali (2020) evaluated the global financial meltdown due to COVID-19. The researcher investigated the share market performance of the US, Europe and China. The findings from the study show that the Chinese market stabilised in the early stage of the COVID-19 spread in Europe and the US. The share markets of Europe and the US started falling when the virus started to spread there. Riste and Matej (2018) examined the Ebola virus impact on the share market of West African countries and the US. The data of geographical proximity of information from 2014-2016 were analysed. The results show that the volatility of the shares increased after the Ebola outbreak.

Herding

Herding behaviour refers to how investors copy the investment strategies of others (Graham,1988; Christie & Huang, 1995). Dewan and Dharni (2019) described the influence of herding behaviour on the financial market. Shekhar and Prasad (2015) identified the effect of herding behaviour on the investment decision-making process during the financial crisis period of 2008. Satish and Padmasree (2018) illustrated the occurrence of herding behaviour among Indian stock investors.

Vaccination update

Share market volatility can be influenced by good news and bad news. (Braun et al., 1996; Poteshman & Mahani, 2004). Velde (2020) discussed how the effect of COVID-19 on the stock market was greater when compared with the Spanish flu impact on the stock market. Liu (2020) presented the impact of COVID-19 on various countries' stock returns. Conlon and Mc Gee (2020) asked whether Bitcoin investment during COVID-19 was safe or a hazard. The results from the analysis show that the

downside risk in the Bitcoin portfolio has increased during the period of COVID-19. Wang et al.,(2013) investigated the share market response in the biotechnology industry in the Taiwan stock exchange during the SARS and swine flu outbreaks. They found that there was a significant impact on the R&D ratio, current ratio and assets. Accordingly, Investors' measures for operating with biotechnology firms under such conditions and adjusting their portfolios were identified.

Investment decisions

Slovic (1972) describes the psychological factors which influence investment decision-making. Lyn and Zychowicz's (2010) study confirms how "The influence of filtering the investment depends on belief and the investment performance". Arup et al.,(2017) stated that the behaviour of investors in response to the market conditions is not strongly influenced by investment decisions. This contrasts with the research results of Ngoc (2014), who states that "the market condition plays a vital role in the investment decision". The investors' motive for investing is to earn money from the capital they invest. They do not consider protection against fear since they believe that when they take a risk, they can earn more from it. Annual income and reserve funds influence the dynamics of financial specialists (Banerjee & Masulis, 2012). However, the COVID-19 situation is different when compared with other high-risk environments.

Methodology

The conceptual framework of the study

The second-order variables were chosen for the study based on those used by past researchers to determine the influence of psychological factors on investors' investment decisions. Nukpezah and Blankson (2017) used the CFA approach with the factors of herding, risk perception, and risk propensity. Similarly, the research of Shafi (2014) investigated how coverage in the press, recent price movements and fluctuations in the stock market play an important role in investors decision-making.

Sample and Data collection procedure

Data were collected from India using an internet-based questionnaire administered through online survey between 1st April 2020 to 31st June 2020. The participants in the samples were selected according to age, occupation, income, marital status, and geographic area to achieve an appropriate profile. Filters were used to eliminate incorrect or incomplete responses.

The final sample comprised responses from 400 investors. The respondents were aged 18–60 years. Just over half (52 %) were male and 53 % had a maximum income of between 61000 to 80000 INR. A total of 13% were undergraduates, 45 % were postgraduates and 41 % had completed professional courses. 77% were married. Regarding getting information about COVID-19, 53% used the Internet, 48% used Facebook, 55% watched TV and 38% discussed it with family and friends.

Measures

Along with the questions about investor behaviour during COVID-19, the survey included measures regarding demographics, current concerns, risk, and different attributed qualities. Data collection began at the beginning of the lockdown.

Candidate cascading style sheet items

The CSS was framed based on the relevant literature (e.g., Taylor et al., 2020) and following a discussion with experts on share market investment. The following elements were identified: (1) Behaviour related to fear caused by COVID-19 (5 items) (2) Market Volatility (volatility, losses & fears: 5 items) (3) Risk Perception (opportunities for investment: 5 items) (4) Risk Propensity (disappointment at initial loss, avoiding risk & preferences for low risk: 5 items) (5) Vaccination Updates (planning investment based on vaccination updates: 5

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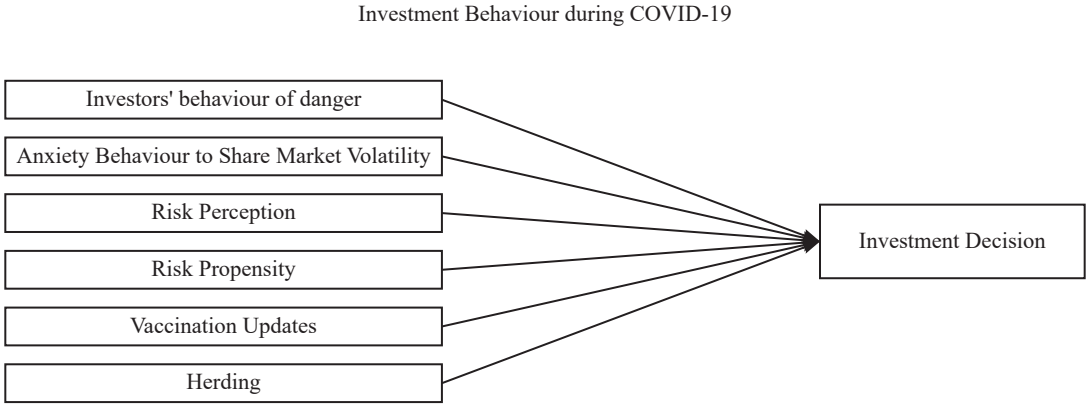
Figure 1. The conceptual model of the investment decision



items) (6) Herding (following other investors' investment strategies: 5 items)

To simplify the assessment, the opinions of experts in the field and general investors were gathered. Based on these, the evaluation comprised 45 items.

Validation Scales

Several quality attributes were surveyed together; these criteria were not attached to COVID-19. The investors were asked to react to these measures as if COVID-19 were starting. The measures were incorporated to evaluate the impact on savings and investment decision-making related to the share market, and the importance the investors attached to vaccination against COVID-19.

Investors' behaviour related to fear

Questionnaire-5 (Taylor et al., 2020) briefly addresses behaviour concerning fear over savings, investment and health, with the inclusion of five items measured using a Likert scale: from 1 (Strongly disputes) to 5 (Strongly accepts). The participants were asked to rate their initial anxiety about investment, health and safety. A factor analysis supported the results concerning the investors' behaviour related to fear. The results demonstrated good reliability. The reliability values of the present study were excellent (Cronbach Alpha = 0.74).

Anxiety behaviour related to Share Market Volatility

The scale of anxiety related to share market volatility was used to determine how the share market volatility influenced investment decision-making using five items. The rating was given from 1 (Strongly disputes) to 5 (Strongly accepts) using statements such as: I am worried about market volatility, daily basis checking and selling shares with minimum loss. The aim of the survey was to identify the influence of share market volatility related to anxiety behaviour during the initial growth of COVID-19. The scale of the market condition had been proved to be reliable and valid (Samal & Mohapatra, 2017 ; Aruna & Rajashekar, 2016; Akhter & Ahmed, 2013). The reliability of the present study was good (Alpha = 0.67).

Risk Perception

Risk perception evaluates the symptoms characteristic of risk-taking behaviour and investment. Scales covering the opportunity for investment (e.g., "I consider COVID-19 is an opportunity for investment") and gaining from investment (e.g., "More the risk may support for my potential gain") were used in this study, involving five items with scale values from 1 (Strongly disputes) to 5 (Strongly accepts). The risk perception items revealed reliability as well as good correlation (Hoffmann et al., 2015;

Anitha & Bhargavi, 2014). The survey aimed to determine the relevance of risk perception to the COVID-19 pandemic. The reliability of the present study was good (Alpha = 0.60).

Risk Propensity

The risk propensity inquired about accepting the risk environment (e.g.," I never prefer a high-risk investment") using five items rated with scale values from 1 (Strongly disputes) to 5 (Strongly accepts). The original statements referred to India. The risk propensity results demonstrated good reliability (Rana et al., 2014; Alleyne et al., 2014). To measure risk propensity behaviour the survey was completed during the initial period of COVID-19. The reliability of the present study was excellent (Alpha = 0.74).

Vaccination Updates

This concerns investment activity based on information about the vaccine (e.g.," I invest based on vaccination updates and changing investment depends on the vaccination news") using five items rated with scale values from 1 (Strongly disputes) to 5 (Strongly accepts). The questions are newly added based on their relevance to the COVID-19 pandemic. The reliability of the present study was excellent for the scales (Alpha = 0.78).

Herding

The herding questions highlight the symptoms characteristic of following other investors' investment decisions. The questions asked about copying other investors' investment strategies (e.g., " I follow other investors' on the investment") and accepting opinions received from other investors (e.g., "I always receive an opinion from other investors' for my investment") were used in this study, rated with the scale values from 1 (Strongly disputes) to 5 (Strongly accepts). The herding questions have demonstrated good reliability and good correlation (Naomi et al., 2018; Abul, 2019; Ghalandari et al., 2013). There was some modification used based on relevance to the COVID-19 pandemic. The reliability in the present study was good (Alpha = 0.64).

Investment decision

The investment decision acts to summarise the behaviour of investors concerning investment during COVID-19 (e.g., "Fluctuations in the stock market due to COVID-19 do not concern me") rated from 1 (Strongly disputes) to 5 (Strongly accepts). The original scale made reference to Pakistan. The investment decision has previously demonstrated good reliability (Riaz and Hunjra, 2015). The survey was completed during the initial period of COVID-19 to measure the overall behaviour of investment decision-making. The reliability of the present study was excellent (Alpha = 0.77).

Evaluation process

The objective was to construct a short survey. The scales were chosen to describe the investors' behaviour, which could later be inter-correlated to form a logical condition. The factor selected for each scale consisted of five items; based on the earlier research, the leading six factors related to the investors' decisions and the anxiety behaviour were retained. The six items were chosen because in earlier studies were found to have good balance and reliability (Abul 2019; Taylor et al., 2007). The choice of items was the same across the country and on the selected scales. The Cronbach Alpha test was performed to validate the reliability of the data and the common factor analysis was applied to determine the latent dimension of the variables chosen for the research.

Anti-image (>0.50), the value of factor loading (>.50), Eigen Value (>1), and communality value (>.5) were used to finalise the number of extracted factors.

Evaluation of investors' behaviour

A 5-point scale was used in this study. Hence, the mean value of the variables may demonstrate the level of impact on the decision-making of investors.

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Table 1. Cronbach's Alpha results regarding investment influences

Variables	Cronbach's Alpha
Fear	0.74
Market Volatility	0.67
Risk Perception	0.60
Risk Propensity	0.74
Vaccination update	0.78
Herding	0.64
Investment Decision-making	0.77

Table 2. KMO, factor loading, Anti-Image, Eigen, Percentage of Variance and Communality

Dimension	Questionnaire No	KMO-Values	Value of Factor loading	Value of Anti-Image	Eigen Value	% of Variance	Value of Communality
Investors' response to fear	D1	0.58	0.56	0.686[a]	2.114	42.28	0.59
	D2		0.57	0.628[a]	1.027		0.66
	D3		0.54	0.546[a]	0.886		0.59
	D4		0.71	0.505[a]	0.557		0.56
	D5		0.76	0.535[a]	0.386		0.53
Anxiety Behaviour regarding Share Market Volatility	MV2	0.64	0.83	0.652[a]	1.98	39.56	0.71
	MV3		0.75	0.679[a]	0.84		0.61
Risk Perception	RP4		0.79	0.642[a]	0.77	17.39	0.64
	RP5		0.81	0.667[a]	0.51		0.67
Risk Propensity	RT1	0.67	0.81	0.616[a]	3.34	28.26	0.84
	RT2		0.82	0.748[a]	0.87		0.74
	RT3		0.77	0.701[a]	0.49		0.69
	RT4		0.81	0.667[a]	0.29		0.61
	RT5		0.68	0.622[a]	0.16		0.72
Vaccination Updates	VA1	0.79	0.97	0.786[a]	1.56	45.23	0.97
	VA2		0.83	0.695[a]	0.83		0.83
Herding	HD2	0.75	0.87	0.763[a]	2.94	35.54	0.85
	HD3		0.85	0.769[a]	0.61		0.88
	HD4		0.52	0.711[a]	0.28		0.51
Investment Decision-Making	ID1	0.81	0.87	0.842[a]	3.35	36.96	0.88
	ID2		0.86	0.770[a]	0.53		0.89
	ID3		0.91	0.795[a]	0.25		0.88
	ID4		0.72	0.877[a]	0.09		0.73

- If the mean value is less than or equal to 1, the impact level of the variable is very minimal.
- If the mean value is less than or equal to 2, the impact level of the variable is minimal.
- If the mean value is less than or equal to 3, the impact level of the variable is average.
- If the mean value is less than or equal to 4, the impact level of the variable is high.
- If the mean value is less than or equal to 5, the impact level of the variable is very high.

Results

Table 1 demonstrates the reliability of the individual investor decision-making, the scale having been tested through the Cronbach test. The above result clearly explains the reliability of the selected variable concerning the psychological behaviour related to investment decision-making. This research is based on 400 respondents completing an online survey. This Cronbach test is evidence of the reliability of the variables chosen for investment decision-making. Table 2 reports the exact factor extraction of variables used for the study. Based on the factor analysis values, the dimension has been fixed at seven and the questions reduced from 35 to 23.

The mean value in Table 3 describes how the behaviour related to fear during the COVID-19 has a high impact on the investors' behaviour because the overall average mean value arrived at is almost 3.75. Table 4 shows anxiety behaviour regarding share market volatility during the pandemic has had a strong impact on investors' behaviour as the average mean value ar-

Table 3. Impact on investment decision-making due to investors' anxiety

Q. No	Response to Fear	Mean	Std. Deviation
D1	I am worried that the value of my invested money is reduced	3.15	0.76
D2	I have to keep the money for virus treatment instead of investment	3.69	0.93
D3	Our financial system is not able to keep the invested money safe	3.98	0.67
D4	My basic savings are not sufficient to complete virus treatment	3.97	0.18
D5	I am worried that the government-announced economic packages are not enough to keep me safe from the virus	3.91	0.29

Table 4. Anxiety related to share market volatility regarding investment decision-making

Q. No	Anxiety Related to Share Market Volatility	Mean	Std. Deviation
MV1	I am worried about the high volatility of the market	3.79	0.45
MV2	I am worried that the NIFTY indices will drop further	3.89	0.54
MV3	On a daily basis, I check share values due to high volatility	3.91	0.51
MV4	I am ready to sell my shares when they reach a minimum loss	3.75	0.44
MV5	I am worried that the amount invested went beyond the expected loss	3.70	0.46

Table 5. Impact of the risk perception variable on investment decision-making

Q. No	Behaviour of risk perception	Mean	Std. Deviation
RP1	I consider COVID-19 to be an opportunity for investment	3.44	0.65
RP2	I prefer to accept these kinds of (COVID-19) risk investments	3.46	0.50
RP3	I am willing to take risks in investment decision-making during COVID-19	3.51	0.51
RP4	A greater risk of COVID-19 may support my potential gain	3.21	0.53
RP5	I am ready to take more risks, than I do on my average investment	3.05	0.32

Table 6. Impact of the risk propensity variable on the investment decision

Q. No	Behaviour of risk propensity	Mean	Std. Deviation
RT1	I avoid taking risks when investing because COVID-19 has created a high-risk market	3.32	0.76
RT2	I never prefer a high-risk investment platform similar to that of COVID-19	3.28	0.86
RT3	I am not willing to make low-risk investments since they offer low returns	3.46	0.75
RT4	I am not ready to take chances with higher risk investments even though this increases the amount I am saving	3.48	0.61
RT5	I am not prepared to opt for the possibility of initial losses to earn greater future returns	3.23	0.62

Table 7. Impact of the vaccination variable on the investment decision

Q. No	Impact of vaccination updates	Mean	Std. Deviation
VA1	COVID-19 vaccination news has an impact on my share market decision-making	3.19	0.81
VA2	I change my investment decision-making based on vaccination updates	3.77	0.87
VA3	I Check my own investments based on vaccination news	4.10	0.64
VA4	I discuss COVID-19 vaccination with my family and friends about	3.91	0.34
VA5	I follow social media posts on COVID-19 treatment	3.73	0.51

Table 8. Impact of the herding variable on the investment decision

Q. No	Herding Influences	Mean	Std. Deviation
HD1	I have followed other investors' investment strategies during COVID-19	3.30	0.64
HD2	I decide on my stock volume based on other's decisions	3.58	0.76
HD3	Other investors' decisions concerning the purchase and sale of stocks have impacted on my investment decisions	3.81	0.72
HD4	I quickly react and follow other investors' decisions	3.67	0.47
HD5	I get opinions from other investors before I act	3.49	0.50

rived at is almost 3.80.

Table 5 evaluates the impact of risk perception on the behaviour of investors during COVID-19. The result confirms that risk perception has had a moderate impact on their behaviour. The average mean value arrived at is almost 3.3. Table 6 reflects the impact of risk propensity during COVID-19. We can see it has had a moderate impact on the investors' behaviour. The average mean value arrived at is 3.36.

Table 7 shows how anxiety over share market volatility during the COVID-19 highly impacts

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Table 9. Investment decision-making during COVID-19

Q. No	Investment Decision-making	Mean	Std. Deviation
ID1	Fluctuations in the stock market due to COVID-19 do not concern me	2.63	0.93
ID2	I have invested most of my savings in the stock market	2.92	1.14
ID3	My investment decision depends on the proactive activities taken by the companies during COVID-19	3.47	0.74
ID4	I prefer to depend on low-risk alternatives to ensure financial security	3.97	0.17
ID5	My invested stocks have increased in revenue but the stock values are reduced due to COVID-19	3.97	0.17

Table 10. Multiple regression analysis results regarding investors' behaviour

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.568[a]	0.31	0.29	0.40
2	0.695[b]	0.48	0.43	0.40
3	0.712[c]	0.50	0.45	0.39
4	0.796[d]	0.62	0.54	0.39

Note: a. Investment Decision (Constant), and Herding
b. Investment Decision (Constant), Herding, and Vaccination Update
c. Investment Decision (Constant), Herding, Vaccination Update, and Fear
d. Investment Decision (Constant), Herding, Vaccination Update, Fear and Risk Perception

on investors' behaviour. The average mean value arrived at is 3.74. Based on this, the influence of vaccination updates during COVID-19 on the investors' behaviour can be confirmed.

Table 8 evaluates herding during COVID-19. The result confirms herding has had a moderate impact on investment decision-making because the overall average mean value arrived at is 3.57.

Table 9 presents the investment decisions of investors' during COVID-19. The findings show "I am ready to invest in the less risky alternatives to ensure financial security" and "My invested stocks have increased in revenue but stock values are reduced due to COVID-19" reflect investment decision-making, which is confirmed with the mean value of 3.97. "My investment decision depends on the proactive activities taken by the companies during COVID-19" and "I invested most of my savings in the stock market" are moderate reflections the investors' investment decisions. The lowest mean score of 2.63 was given to "Fluctuations in the stock market due to COVID-19 do not concern me".

In Table 10 the multiple regression analysis evaluates the psychological behaviour of investors' when making investment decisions. This helps to validate whether all the selected variables have a significant impact on the investors' decision-making or not. The results imply that aspects of fear, herding, risk perception, and information about the vaccination update have a significant influence on investment decision-making. The findings also show there is no influence caused by risk propensity and or anxiety regarding market volatility.

Discussion

The investor behaviour reflects that of a large sample of Indian stock market investors. The reliability test implies the variables have been appropriately selected for the study. The mean of the response to fear coincides with the research results of Taylor et al., (2020), who identified behavioural response to fear among the civilians of the USA and Canada during COVID-19. Similarly, the response from this study reflects that the fear of the investors' on the share market investment during the COVID-19 pandemic. Ngoc (2013) determined that the influence of risk perception on the investment decision-making was moderate. The findings of this paper confirm these research results. Risk propensity has a moderate impact on investment decision-making, which corresponds with research into risk propensity influences on the emerging market (Hamid et al., 2013). Chelangat Naomi et al.,(2018) claimed that herding behaviour was not a key factor in investment decision-making, which is in contrast to the outcomes of this study. The findings of the study also show that anxiety does not

influence investment decision-making, which differs from the findings of existing research regarding this (Cronshaw & Alexander, 1985; Ngoc, 2014). The overall evaluation of the influence of psychological behaviour shows that there is a significant impact on the investment decision-making due to herding, vaccination updates, fear and risk perception. However, risk propensity and anxiety about market volatility has not had any influence on investment decision-making during COVID-19.

Conclusion

Investors' cascading style sheet items were framed based on earlier research (Taylor, 2020; Samal & Mohapatra, 2017; Bernard et al., 2013). The following six factors were chosen to assess investors' decision-making during COVID-19: (i) Behaviour response to fear about savings and invested amount in share market (ii) Anxiety about market volatility (iii) Behaviour related to investment opportunities (iv) Risk-avoiding (v) Investment based on vaccination updates (vi) Following other investors' investment decisions.

The objective of the study is to identify psychological influences on the investors on their investment decision-making during the growth stage of COVID-19. It is foreseen that, when this pandemic passes, more information may be required to assess the psychological behaviour of investors across the world. The findings of the multiple regression analysis show the influence of herding, vaccination updates, fear and risk perception on investment decision-making during COVID-19. The results also demonstrate the risk propensity and anxiety regarding market volatility do not influence the investors' behaviour.

The findings of the study support both individual and industrial investors in making investments during such pandemic situations. A recommendation for investors is to evaluate the market condition across the globe before investing. Since the updates and news about COVID-19 influence investment decision-making has identified from the results of regression, it is better to act accordingly. Investors can frame investment policies for this kind of situation. In future, governments should take the necessary precautions to avoid having to go into lockdown.

This study is limited to examining the relevance solely of psychological behaviour on investment decision-making. The investigation could be expanded to include investors' investment decision-making based on the accounting information of the company, government responses to COVID-19, business activities during the pandemic, share returns, etc. It is expected that this research will support the activities of present investors and also those in future pandemic situations.

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