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Effect of Social Media Sentiments on Investment Decisions and Risk Perception: Evidence from the Pakistan Stock Exchange

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ABSTRACT

The purpose of this study is to study the impact of social media platforms, particularly Facebook and LinkedIn, on investment decision of investors at the Pakistan Stock Exchange (PSX). The results show a strong and positive link between the use of social networks and adoption of investment decisions. Correlation and regression analyses show that social media platform have a significant impact on investor choice, shape access to information, and recognize risky relationships with market trends. Investors are increasingly counting on these platforms, gathering understandings about the effectiveness of actions, sharing ideas, and training expectations. The results also confirm that risk perception plays a softening role in the relationship between social networks and investment decisions. Social networks provide timely information, but can also improve behavioral bias and lead to decision-making. Therefore, this study contributes to the increase structure of literature in behavioral finance, highlighting the role of social networks as opportunities and tasks for investors. The results highlight that social networks are no longer peripheral tools, but are central factors that influence PSX investors' decisions or behaviors. However, it expands access to market information, but expands excessive dependencies without an appropriate assessment of trust and risk, allowing investors to reveal disinformation, volatility and irrational behaviors in the pack.

Introduction and Background

Social media can be defined as electronic and digital media which apply computer-based and modern communication technologies, which are quite different compared to the traditional media (print journalism, radio, and television) (Jones and Kumari, 2018). Facebook and LinkedIn among other networking and microblogging platforms are technological means or mediums that facilitate creation, transmission, and exchange of information between and among virtual communities and social networks. These platforms are now an inseparable part of the human daily life and the means of social interaction, learning, and decision making (Linos, 2018). The growing use of social media as a source of financial and investment advice has brought about serious issues to the scholarship community, as well as regulators and market players, about its impact on investment decision-making (Sathya and Prabhavathi, 2024).

Decision-making is a basic cognitive and behavioural activity that is integrated in almost all human activities. It is a very important aspect at the personal and professional level which affects actions, outputs, and performance. In the financial environment, the uncertainty, market volatility, and the necessity to process numerous pieces of information make the process of decision-making even more complicated. The challenge of making informed investment choices among investors especially due to the growing complexities in portfolios, volatile market trends, and the inability to predict trends, poses significant challenges to investors. This means that investors are always in need of reliable sources of information to minimize risk and get sustainable returns (Zhu, Zhou, and Liu, 2023).

Within the past ten years, social media has become an effective source of information to investors in search of market insights, ideas on investment and financial advice. There is increasing evidence that social media networks are a major influence on the sentiment and perceptions of investors and future investment decisions (Barber and Odean, 2008; Bollen et al., 2011; Bordino et al., 2012; Xie and Karan, 2019). As the use of Facebook and LinkedIn is growing, investors can now access more types of information than ever before, these being previously limited to institutional players or traditional media (Faelens et al., 2021; Jibril et al., 2019). This has provided opportunities as well as a risk to the financial information that has been democratized. On the one hand, social media increases the transparency of information, its speed, convenient accessibility, and accessibility. Conversely, it heightens the possibility of misinformation, speculation, herding and emotional decision making.

Governmental agencies, financial regulators, and individual investors have consequently become increasingly concerned with the nature of the impact of the social media on investment patterns and the operation of stock markets. Empirical research carried out recently shows that financial content posted on social media sites has a major impact on investor judgment, trading activities, and market action. Abu Hamad and Ali (2015) stipulate that social media has a vivid impact on the decision-making process because information, ideas, and opinions are relayed quickly and at any given time. This underscores the importance of social sites like Facebook and LinkedIn in the modern financial life. Altogether, even though social media has transformed the process of communication and the spread of information, there is an urgent necessity to conduct an in-depth scholarly study of its impact on investor rationality, behavioral biases, and the overall market efficiency, especially in the context of the emerging capital markets.

Literature Review

Social Media and Behavioral Finance

The impact of social media on the stock was evidenced by the fact that when was a group of small individual investors in a subreddit voted to buy the stock at once, this had a sudden increase in value. Stock rose by an unbelievable 500 per share on this day, over nine times its original price (Chohan, 2021). The social media influence purchased a short that would fail as a large number of investments in such a stock were already executed in short positions (Chohan, 2021). This has now shown that the stock market is not entirely controlled and affected by these mega brokerage firms as it has pushed many hedge funds into bankruptcies. The case of success of Elon Musk through mere twittering is another example of this new social media in the stock market. Elon Musk tweeted the simple message of Use Signal on January 7, 2021 (Sozzie, 2021). It consequently led to the purchase of the stock in "SIGK" by individual investors later in the week.

Behavioral finance provide the potential of a comprehensive knowledge of business tendencies as conduct of a given professional. Company result usually founded on certain data. Investor model is used to test behavioral finance to understand the reasons why a value of a given action is presented with regard to the shares that other finances stock exchange consultant perform (Ricciardi and Simon, 2000). Action finance a very handy tool in the phrase action it is good to invest, such as the reason behind most investors having inside information of promotions in the nearest future. Action finance to be a mean of finance when the normal numerical data cannot be explained. Why did everything happen that way (Areiqat, 2019). But what to choose and best this approach consultant may not always be rational, as the market is full of biases. Others can happen like errors estimate calculation which is another factor that causes human intelligence to make more investments he will be back so long. There are present error and biases that will occupy their place controls within self-conception, errors in information processing, emotional solution, and social influences (companies) Institute of Financial Research, 2019).

Theoretical Framework

Heuristic theory

Heuristic refers to the mental short cut or the rules of thumb by which the investors make their decisions or conclusions that aids in making decisions faster in various situations (Ricciardi and Simon, 2001). Tversky and Kahneman (1974) and Ritter (2003) described heuristics as strategies, approaches, or any other mental shortcuts that an individual can apply to get a solution in any of the multitude of complex situations. The heuristics play an important role in relieving mental load and making the sense of the real world with a reasonably high degree of trust. However, at times the outcome of using heuristics may lead to systematic errors that give erroneous outcomes (Tversky and kahneman, 1973). Knows as cognitive primary categories: availability heuristics anchoring and adjustment, and representative heuristic. Unlike rational decision-making where the entire information available had to be analyzed and considered, these heuristics have been factored in and used by several researchers to speed up the decision making process (Shefrin, 2000).

Availability is a cognitive heuristic that characterizes the tendency of people to make decisions using the information which is easy to retrieve and other relevant examples (Tversky and Kahneman, 1973). Availability heuristic is often applied when a decision-maker decides on the basis of the available data instead of considering all the available historical and detailed data which often results in a biased decision (Kliger and Kudryavtesv, 2010). Pompain (2011) notes that investors in the stock market give more value to an asset depending on the information that is

readily available. This tendency of the investor affects the investment performance, resulting in irrational behavior (Folkes, 1998). It is also seen in stock market where investors would prefer the stocks of the local companies as opposed to the foreign companies based on the fact they are familiar with the ease with which they can acquire information concerning such companies (Waweru et al. (2008). According to Steen (2002), investor preference to news and information regarding the economy and performance of the company, which results in a certain pattern on the stock market and influences investment preferences.

Cascade Theory

Other people can shape the thoughts, feeling, and behaviors of an individual in various ways. Aronson (2008) states that humans are social animal. such factors involve verbal cues, observing choice and their effects and other learning processes, rational or quasi-rational learning or even a belief update with no positive impact on decision making behaviors converge or diverge due to this social influence. Firstly, infant reflectively mimics the facial expiration of their mother as a sign of convergence. Some of the source of convergence is herding/ dispersing observational influence, rational observational learning and informational cascade (cascade). Hirshleifer and Teoh (2003) explain these sources. Herding/dispersing is the most comprehensive category that is characterized by behavioral differences or similarities that are purchased due to interpersonal social contact. The last category, informational cascades, demonstrates a scenario, in which imitation cannot occur.

The poor and sometimes detrimental social cascade outcomes can be achieved through social cascades (Welch, 2001). According to Kuran (1997), individuals have often excuses to lie about their likes, or distort their choice in the face of what they perceive to be social coercion. The massive falsification of preferences has significant social and political consequences, such as the perpetuation of policies and structures that are widely detested and structures prone to sudden failures.

The Social Media and Investment Decisions.

Kadous and others (Kadous, et al, 2019) argue that how social advice influences investment decisions. Besides establishing the validity of the source of information in social media such as Facebook and LinkedIn and the degree of investor trust in them, this research was aimed at establishing the reaction of securities investors to the advice they receive on social media and the impact of information on social media platforms such as Facebook and LinkedIn on the up or down situation of shares traded in the financial market when making investment decisions. The results of the study are as follows: Majority of the investors use the suggestions they get on social media sites such as Facebook LinkedIn in making investment decision and they are of the opinion that the anticipated returns of the securities is predicted by the advice and must be applied during the determination of whether to buy, sell or not to trade. The results suggest that the information sources regarding financial statements through social media platform play an important role in the information-gathering process.

Given their popularity, the use of social media platform (Facebook LinkedIn) would be channels of information dissemination and essential avenues of communication with investors in the decision making process (Rudin, 2019). To this end, Haque et al. (2022) explain that the intention to use online social media networking sites is critical in the decision on stock market investment made by an individual. Social media make institutional and individual investors gain a better insight into the market tone (Baker, 2017).

Kumari (2018) state that. The role of social media in the decision-making process of an individual investor. The objective was to establish the extent to which social media affects the perception of

bias by individual investors in making investment decisions. It also aimed to establish day in day out communications in social media networks, helpful input or pertinent data acquired by the social media that investors consider engaging. The researchers accessed most of the sample that utilise social media to obtain important information to make investment decision either by purchasing or selling, and they established that most of them are worried about the reliability and sources of the information posted on such mediums.

The research was conducted by Amman and Schaub, (2017), on the impact of online publication on individual investor. To achieve this objective, information was collected in one of the largest social trading platform through the survey technique. The research was conducted between January 2013 and December 2014 and aimed to establish the impact of online information topics, and comment on the investment decision of the individual investors. Although the comment do not possess the power in forecasting the future performance of the stock within the investment portfolio, the study result indicated that the publication of positive comment affects the decision of investors that follow the comment. The comments impact on these investors to either sell or buy.

Most of the retail investors on the stock market lack the knowledge about the financial system and are always in pursuit of indications that may give them more information about the listed companies (Huang, 2021). Social media has a large number of users with a significant influence in the product advertising process especially in selling any product. There are many social media platforms that individuals can use including Facebook, LinkedIn and other sites like Tik Tok, Snapchat, and YouTube (Maurencia et al.2021). To make the stock market easily accessible to investment, the Nepal Stock Exchange (NEPSE) introduced a new online trading administration system in 2018. Social media is increasingly becoming a way of information that individual investors, such as those who can be considered high-net-worth investors, use to make their decision (Mudaholkar and Uttarwar, 2015). The market and the stock exchange are efficient and according to the efficient market hypothesis, the share price is the best indicator of the information available (Zahera and Bansal, 2018). Specifically, social media platform (Facebook and LinkedIn) should be used when educating a large group of individuals, specifically, retail investors (Li et al, 2020). A study that was carried out in Malaysia revealed that the content of social media, the behavior of an online community, and the image of a company on social media had a great influence on the decision to invest (Ismail et al. 2018). In a similar fashion, Lo and Chau (2019) examined the correlation between Penny stock and social media platform. It was observed that the analysis had a greater association between social media and stock performance in low cost market capitalization levels with simple social media strategies and the conclusion was that the control effect of penny stock had a significant short-term effect.

H 2: There is a notable impact of social media platforms (Facebook and LinkedIn) on investment decision on the Pakistan Stock Exchange.

Social Media and Attitude toward risk.

Most of the users of social media are below 30 years old who are investors (Zhou et al), (2015). This means that young investors, will most probably refer to social media to acquiring information on investments. In line with the study by Ronia, Marwoto, and Marheni (2017), the social media has the ability to shape the decision-making process of investors when the information posted on the sites such as Facebook and LinkedIn is convincing and attractive.

Inarno Djajadi, the director of the Indonesian Stock Exchange, asserts that the millennial generation that are below 35 years old is leading the capital market investor growth and the highest social media usage (Zhou et al. 2015), this can be explained by the effects of digitalization on the

market. Indonesian capital, which also simplifies the process of opening the investment account. Good investment decisions can be indicated by the return on investment, the suitability of the risk of investment, the correlation between risk and the reward. Kahneman and Tversky (1979) state that the decisions of investors are not always logical since they are often influenced by irrational reasoning. This is a psychological factor which leads to a bias in the way investment will be viewed.

Investors are increasingly relying upon social media platforms in order to receive advice, yet the predictive nature of the advice available in such places is immensely different. Even though their investment decisions do not indicate a divergent dependency, investors believed they ought to trust advice on the fundamentals of a company more than they trusted advice that was sentimental. The fact that the investor does not care about risk preferences appears to be deliberate, but risk preferences do not influence the advice that is posted on social media much (Kathryn Kadous, 2017).

H3: The relationship between social media platforms (Facebook and LinkedIn) and investment decisions is moderated by risk attitude.

Conceptual Model

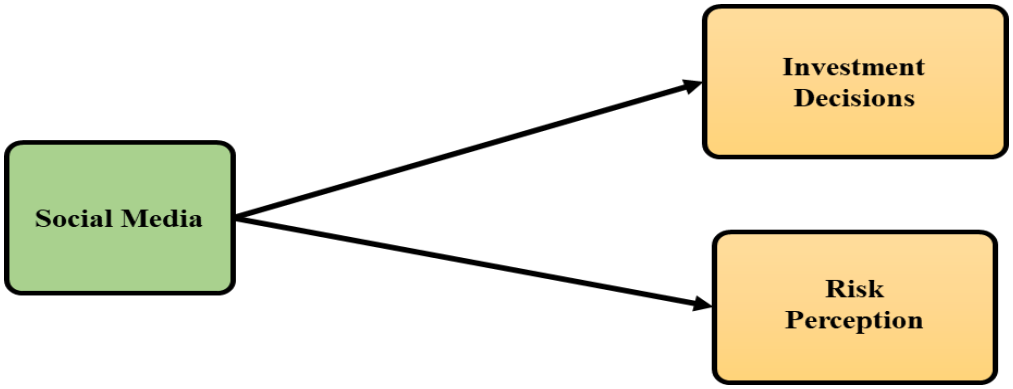

Figure 2.1:

Research Model

Summary of Hypotheses:

H1: Social media platforms (Facebook and LinkedIn) significantly influence investment decisions in the Pakistan Stock Exchange.

H2: The relationship between social media platforms (Facebook and LinkedIn) and investment decisions is moderated by risk attitude.

H3: Investor' reliance on social media platforms (Facebook and LinkedIn) for investment information is positively related to their investment decisions.

Research Methodology

Research Design

The study adopts a positivist research design grounded in the belief that reality is objective, measurable, and independent of the researcher, thereby relying on quantitative methods to test hypotheses and establish cause–effect relationships with reliability, validity, and replicability. Using a quantitative research approach, the study employs numerical data, statistical techniques,

and structured instruments to quantify variables, identify relationships, and generate objective, generalizable findings. Data are collected through a cross-sectional survey, capturing information at a single point in time to provide a snapshot of existing conditions, trends, and associations among variables, offering valuable insights into prevailing patterns despite not establishing causality.

Population of the Study

Targeting the population refer to the process of selecting a specific group of individual from whom data will be collected (Hair et al, 2015). Population of the study refers to the entire group of individuals, entities, or elements that share common characteristics relevant to the research objectives and from which a sample is drawn. In this study, the population comprises individual investors of the Pakistan Stock Exchange (PSX), meaning all private, non-institutional participants who buy and sell securities listed on the PSX for personal investment purposes. This population is defined by its engagement in equity trading within the Pakistani capital market and serves as the target group for collecting data and drawing inferences related to the research problem

Sample Size

Sample size refer to the number of observation, participant, or point included in a study analysis. In this study we selected 200 sample size based on previous literature. We distributed 200 questionnaire among investors in the Pakistan Stock Exchange. We received 69 actual responses. For instance, Khan et al. (2021) used 240 sample size of analyzing heuristic biases in investment decisions of investors in Pakistan. Al Atoom et al, (2021) used 150 sample size of analyzing social media how they influencing the investment decision of investors in Amman Financial market.

Sampling Strategy

When we conducting research sampling methods are crucial for selecting a representative subset of individual from a larger population. There are two primary types, probability and non-probability sampling. In probability sampling, every member of the population has equal chance of being selected. This method ensure that the sample is representatives of the population, allowing for unbiased estimates and generalizations. In non-probability sampling, the selection of individual is based on non-random criteria, such as convenience, quota, or judgment. This method may introduce bias and limit the generalizability of finding.

To distribute survey questionnaire among the investors we apply Non-probability sampling technique such as convenience sampling. This is the type of non-probability sampling in convenience sampling selecting individual who are easily accessible. Advantage of convenience sampling time-efficient allowing for quick data collection, as participant are readily available, cost efficient and easy to implement.

Questionnaire Development

The Questionnaire used in the study contained 26 question, which were designed to elicit information on a range of factors that may influence investment decision. The questionnaire has two sections: demographic information section (table, 1) included question on Gander, Age, Qualification, and investment experience. Section 2 included questions about variables. Of 26 questions each 10 question is designed to asses the effect of social media on investment decision in stock exchange the social media questions were adopted from (Widjaja Michaelia et al. 2024). Investment decision scale seven (07) question were adopted from (Almansour and Arabyat, 2017; Khawaja and Alharbi, 2021; Liang and Reiner, 2009). Risk perception scale 10 question are

adopted from (Almansour and Arabyat, 2017; Khawaja and Alharbi, 2021; Liang and Reiner, 2009)

Variable Name	No of items	Source
Social media	09	(Widjaja Michaelia et al. 2024)
Investment decision	07	(Almansour and Arabyat, 2017; Khawaja and Alharbi, 2021; Liang and Reiner, 2009)
Risk perception	10	(Almansour and Arabyat, 2017; Khawaja and Alharbi, 2021; Liang and Reiner, 2009)

Data Analysis

The data analysis in this study carried out using descriptive statistics, correlation, and regression analysis. Descriptive statistics employed to summarize and present the main features of the collected data, providing insights into measures such as mean, standard deviation, and frequency distributions. Correlation analysis conducted to examine the strength and direction of relationships among the study variables, thereby identifying potential associations. Finally, regression analysis applied to test the hypothesized relationships and determine the extent to which the independent variables explain variations in the dependent variable. This combination of techniques ensures a comprehensive understanding of the data and supports the empirical testing of the research model.

Analysis and Results

Descriptive of Demographics

Table1: Demographic Characteristics

Demographic Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	44	63.8
	Female	25	36.2
Age	Less than 25 years	17	24.6
	26–45 years	30	43.5
	46–55 years	18	26.1
	55 years or above	2	2.9
	Other / Unspecified	2	2.9
Qualification	Intermediate	4	5.8
	Bachelor's	46	66.7
	Master's	19	27.5
Investment Experience	Less than 1 year	13	18.8
	2–5 years	28	40.6
	6–9 years	17	24.6
	10 years or more	11	15.9

Table 1 presents the demographic characteristics of the respondents. The sample consists predominantly of male participants (63.8%), while females represent 36.2 percent. Most respondents fall within the age group of 26–45 years (43.5%), followed by those aged 46–55 years (26.1%), while only a small proportion are below 25 years or above 55 years. In terms of education, the majority hold a Bachelor's degree (66.7%), followed by Master's degree holders (27.5%), with a small proportion having intermediate qualifications. Regarding investment experience, most participants have 2–5 years of experience (40.6%), followed by those with 6–9

years (24.6%), while comparatively fewer have less than one year or more than ten years of investment experience.

Table 2: Reliability Analysis

Variable Name	No of Items	Cronbach's Alpha
Social Media	09	0.843
Investment Decision	07	0.711
Risk Perception	10	0.794

Reliability Analysis

The results of the reliability analysis indicate that all the study variables demonstrate acceptable to high internal consistency as measured by Cronbach's alpha. Social Media, consisting of nine items, yielded a Cronbach's alpha of 0.843, suggesting a high level of reliability. Investment Decision, measured with seven items, produced a Cronbach's alpha of 0.711, which reflects an acceptable level of internal consistency. Lastly, Risk Perception, comprising ten items, obtained a Cronbach's alpha of 0.794, indicating good reliability. According to Nunnally and Bernstein (1994), a Cronbach's alpha value above 0.70 is considered acceptable for social science research, and the results of this study confirm that all constructs meet this threshold.

Table 3: Correlations

		Investment_Decision	Risk_perception	Social_Media
Investment_Decision	Pearson Correlation	1	.685**	.718**
	Sig. (2-tailed)		.000	.000
	N	69	68	69
Risk_perception	Pearson Correlation	.685**	1	.517**
	Sig. (2-tailed)	.000		.000
	N	68	68	68
Social_Media	Pearson Correlation	.718**	.517**	1
	Sig. (2-tailed)	.000	.000	
	N	69	68	69

Correlation Analysis

The correlation analysis revealed significant positive relationships among investment decision, risk perception, and social media. Investment decision was strongly and positively correlated with risk perception ($r = .685$, $p < .001$) and social media ($r = .718$, $p < .001$). Similarly, risk perception showed a moderate positive correlation with social media ($r = .517$, $p < .001$). These findings suggest that individuals' investment decisions are influenced both by their perception of risk and by social media engagement. Additionally, risk perception and social media appear to be interrelated, further indicating that social media may play a role in shaping investors' attitudes toward risk and their subsequent financial decisions (Field, 2018).

Regression Analysis

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.718[a]	.515	.508	3.40601

The model summary indicates that the regression model explains a substantial portion of the variance in the dependent variable. The correlation coefficient (R) is **.718**, which suggests a strong positive relationship between the independent and dependent variables. The coefficient of determination (R Square) is **.515**, meaning that approximately 51.5% of the variance in the dependent variable can be explained by the predictors included in the model. The **Adjusted R Square** is slightly lower at **.508**, which accounts for the number of predictors in the model and provides a more accurate measure of explained variance. The standard error of the estimate is **3.40601**, indicating the average distance that the observed values fall from the regression line. Overall, these results suggest that the model has a good fit and is effective in explaining the variability in the outcome variable (Field, 2018).

Table 5: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	826.684	1	826.684	71.260	.000[b]
	Residual	777.258	67	11.601		
	Total	1603.942	68			

Results of the one-way ANOVA indicated that the regression model significantly predicted the dependent variable, $F(1, 67) = 71.26$, $p < .001$. The analysis showed that the regression model accounted for a significant proportion of variance in the outcome variable (Regression Sum of Squares = 826.68), compared to the residual variance (Residual Sum of Squares = 777.26). The total variance explained by the model was 1603.94. The mean square for regression (826.68) was substantially higher than that for residuals (11.60), further confirming the model's significance. The effect size was also substantial, with the model explaining approximately 51.5% of the variance in the dependent variable ($R^2 = .52$).

Table 6: Regression Coefficient

Dependent Variable	Predictors	B	Std. Error	Beta	t-value	Sig.
Investment Decisions	Constant	7.490	1.886	—	3.971	.000
	Social Media Sentiments	.505**	.060	.718	8.442	.000
Risk Perception	Constant	17.212	3.423	—	5.028	.000
	Social Media Sentiments	.533**	.109	.517	4.902	.000

** denotes $p < 0.05$

Regression Coefficient and Hypotheses Testing

The results demonstrate (Table 6) that social media sentiments exert a significant and positive influence on both investment decisions and investors' risk perception. For investment decisions, the findings reveal a strong effect, as indicated by the high standardized beta ($\beta = 0.718$), substantial t-value (8.442), and highly significant p-value ($p < 0.001$). This implies that as social

media sentiments become more favorable, investors are more likely to make positive and proactive investment decisions, suggesting that social media operates as an influential information and sentiment-shaping platform in financial decision-making.

Similarly, social media sentiments significantly affect risk perception, with a moderate to strong standardized beta ($\beta = 0.517$), a statistically meaningful t-value (4.902), and a highly significant p-value ($p < 0.001$). This indicates that social media discussions and sentiment trends shape how investors perceive market risk, where positive sentiments reduce perceived uncertainty and negative sentiments heighten it. A comparison of the two models further indicates that the influence of social media sentiments is stronger on actual investment behavior than on psychological risk assessments. Overall, these results highlight that social media is not merely an information-sharing platform but a powerful determinant shaping both investors' cognitive evaluations and behavioral decisions in financial markets.

Conclusion and Recommendation

Conclusion

The study has raised concerns about the impact of social media platforms, particularly Facebook and LinkedIn, on the investment solutions of the Pakistan Stock Exchange (PSX). While these platforms provide investors with quick access to financial information and market trends, the lack of clarity about the actual impact on investment behavior creates a gap in the research. This issue is important. This is important because investors, regulators and politicians need a deeper understanding of how reliance on social networks affects risk awareness, portfolio choice and overall market stability in Pakistan's development finance system.

Based on this, the main purpose of this study is to clarify how Facebook and LinkedIn will affect the adoption of investment decisions on the Pakistan Stock Exchange. He seeks to study the attitudes and dependence of information on the Internet when choosing economic choices to the extent that social network platforms form investor perceptions. Therefore, the purpose of this study is to clarify both the benefits and risks associated with the use of social networks as the main source of investment leadership.

To achieve these objectives the study used a positivist and quantitative research design, using anti-interrogation distributed by 200 individual investors from the Pakistan Stock Exchange. 69 actual responses were analyzed. Using practical samples, data were collected using social networks, investment decisions, risk perception, and a structured survey consisting of 26 points covering demographics. Descriptive statistics, correlation and regression analyses are used to test hypotheses and to determine the strength of relationships between variables. The reliability of the scale was confirmed with Kronbach Alpha knowledge above 0.70. Conclusion

The results reveal a strong positive relationship between social networks and the use of investment solutions, with Facebook and LinkedIn having a major impact on how investors make choices on PSX. Regression analysis confirmed that social networks account for more than 50% of differences in investment decisions and highlight their important role in training financial behaviors. Furthermore, risk perceptions have been found to be significantly correlated with both social network use and investment decisions. This suggests that information on the Internet has an impact not only on choice, but also on the way investors assess risk.

The results provide valuable information to investors, financial regulators and politicians, indicating that social networks have become a critical factor in training in investment decisions in the Pakistani package market. For investors, this underscores the need for prudence and a critical

evaluation of online information before taking financial difficulties. For regulators and politicians, the results underscore the importance of establishing guidelines and rules to protect investors from disinformation and manipulation in the market. This study also contributes to academic research by filling the literature gaps regarding the role of Facebook and LinkedIn in market development, paving the way for future research in the fields of behavioral finance and digital investment.

Recommendations

For individual investors

Use social media platforms as an additional source, rather than the main source of investment information. Go beyond financial news and social media consultations with the help of reliable sources, such as advertising and securities reports that manage financial statements.

Develop perceptions of behavioral bias (teleification, self-confidence, and accessibility heuristics) to reduce impulsive decision-making.

For securities companies and financial consultants: Use social media platforms to exchange accurate, transparent and supported information with customers. Tell customers how to distinguish between reliable financial consultations and incorrect content. A light investor program focusing on the risks of overreliance on moods towards social networks.

For politicians and regulatory authorities (SECP and PSX)

It monitors financial disinformation information and installs mechanisms for market handling on social media platforms. Current guidelines for joint financial use where influential people and the investment community are responsible.

Encourage investor campaigns to increase financial literacy and critical ratings for Internet investment advice.

For future researchers extend the scale outside of Facebook and LinkedIn to allow other platforms like Twitter, YouTube, and TikTok. Longitudinal studies will be conducted to track how impacts on social networks develop over time, especially during market volatility. We investigate the role of demographic factors (age, education, experience) in the attenuation of the relationship between social networks and investment decision adoption.

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Appendix 1

(Survey Questionnaire)

Impact of Social Media and Investment Decision in Pakistan Stock Exchange

Dear Sir/Madam, this study is being conducted by Muhammad Suliman and Uzair Khan from Buner University. Primary purpose of this study is to examine the "Effect of Social Media Sentiments on Investment Decisions and Risk Perception: Evidence from the Pakistan Stock Exchange". Any responds you make will be held confidential.

Section A

Please fill or tick the blank space for the information below:

1. **Gender:** ☐ Male ☐Female

2. **Age:** ☐Less than 25 year ☐26-35 year ☐36-45 year ☐46-55 year ☐55 year or above

3. **Qualification:** ☐ Intermediate ☐ Bachelor ☐ Master ☐ Doctorate

4. **Investment Experience:** ☐ Less than one year ☐ 2-5 yeas ☐ 6-9 years ☐ 10 or more years.

Reade question and write mark (Tick) against each statement. Please apprise us about your experience by ticking the relevant column using the following direction or scale:

Strongly Disagree = 1 Disagree = 2	Neutral = 3	Agree = 4 Strongly Agree = 5

Social media usage for Informativeness

	Question	1	2	3	4	5
1	I use social media to information on security crowdfunding investment.					
2	I use social media to see link on security.					
3	I use social media to see thought on security					
4	I use social media to kept informed Of people who provide me with useful Information regarding securities.					
5	I use social media to be kept informed of Website that can provide Me with useful Information regarding securities.					
6	I use social media to find information on securities.					
7	I use social media to stay updated on current Information regarding Securities.					
8	I use social media to spread information on securities.					
9	Social media is primarily used for information on securities.					

Intention to investment decision.

	Question	1	2	3	4	5
1	I invest more when I see positive return expectations on social media.					
2	My past investment behavior influence my choice ever when I encounter conflicting social media content					
3	I intend to continue investing after observing trading topic on social media.					
4	I increase my investment when favorable market condition are highlighted on social media.					
5	I rely on expert advice shared on social media before making investment Decisions.					
6	I diversify my investments as a response to social media analysis and Commentary.					
7	I adjust the amount I invest according to volatility discussions on social Media.					

Risk Perception or Attitude:

	Question	1	2	3	4	5
1	Reducing negative market prediction on social media makes me feel Uncertain about investment outcome.					
2	I believe there is a significant chance of losing money when social Discussions indicate volatility.					
3	Investing in stock that are hyped on social make uncomfortable					
4	Proposed market crashes on social media decrease my willingness					

	To invest.					
5	I perceive higher risk in investments receiving excessive social media Promotion.					
6	Report of scams or losses on social media increase my fear of investing					
7	In think market risk is overstated in social media conversation. (revers-coded)					
8	I feel better able to assess investment risk because of balanced social media Commentary. (revers-coded)					
9	I use social media signal to judge the safety of my investment choices.					
10	Viral post about uncertainty and market turmoil discourage me from investing.					

Thank you for taking the time to answer all the question to the best of your ability.

Your assistance is appreciated.