Information Asymmetry and Investor's Financial Behavior: A Mediation of Perceived Risk and Perceived Failure

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ARTICLE INFO	ABSTRACT
	This study aims to investigate the influence of information asymmetry on the financial behavior of investors in the Pakistan Stock Exchange (PSX), utilizing the Theory of Planned Behavior (TPB) and Information Asymmetry. Additionally, the study explores the mediating role of Perceived Risk (PR) and Perceived Failure (PF) in the relationship between information asymmetry and negative affect (NA). The present study used a quantitative research methodology and a cross-sectional research design to gather data at a single point in time. The random sampling technique is employed. The researchers adopt a five-point Likert scale to collect data from the participants. The acquired data is evaluated using this study's smart partial least squares (PLS 3) method. Smart (PLS 3) allows us to break down the analysis into two primary sections. In the first section, we evaluate the measuring framework. The second section involves a structural model evaluation. This survey received 151 responses from PSX investors. A direct relationship was observed between knowledge asymmetry, perceived risk, and perceived failure. A pessimistic attitude exhibits a negative correlation with one's financial behavior. The study's results supported that investors' behavior in the financial markets could be significantly limited by information asymmetry and its various aspects. Finally, the study concludes with a discussion of its limits, recommendations for further investigation, and theoretical, methodological, and practical consequences.

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1.   Introduction

Behavioral studies impact investors or analysts of finance while making a financial decision. It deals in the stock exchange market results. Further, it deals with studying irrational investors who have boundaries on their self-control. Behavioral finance is a comparatively going off-field. It is difficult to understand individual behavior when soliciting information (asymmetry) that may influence an individual's decision-making process (Abdallah & Hilu, 2015). The stock exchange was defined as "a room where listed companies purchased and sold their shares." After being listed, a share of every company is traded through initial public offering (IPO). Investors can benefit from potential growth opportunities by investing in the stock market. However, information asymmetry (the idea that one party has more knowledge about the Benefit than the other party in the market) has been identified as a threat faced by stock markets, especially where the stock exchange is not considered vital (Kouser, Saba, & Anjum, 2016). Asymmetric information has already been discussed, especially regarding the division between ownership and equity power of the company, which resulted in a dispute (Sceral, Erkoyuncu, & Shehab, 2018). In the stock market, herding shows if the number of

investors directly reflects various investors' activity with minor insight and limited details (Sabir, Mohammad, & Shahar, 2019). Those (investors) who invest react based on the information, reflecting their financial behavior. Unlike investors, brokers have a stream of knowledge based on the confirmation to decide to invest. This information asymmetry deals with the two parameters produced in the Investor's mind: (1) perceived risk and (2) perceived failure. More clearly, PR was assumed to influence equipment in investment decisions because people anticipate saving them from loss rather than high profit during investment selection (Trang & Tho, 2017). Due to a minimum level of knowledge and self-confidence, young people may show a lack of interest in investing in financial markets, and the impact of their current financial decisions may demotivate their future financial choices (Lusardi, 2019; Tavares & Santos, 2020).

A lack of financial literacy may lead to information asymmetry; therefore, herding is also increased toward financial behavior (Ibrahim, Arifin, & Setyowati, 2018). Herding, even rational, is a reason for instability in the stock market. Past researchers like (Cueva & Rustichini, 2015; Gerardi, Goette, & Meier, 2013; Klapper, Lusardi, & Panos, 2013; Lusardi, 2019) reported that behind the financial crises of the world's lower rate of financial literacy was the exact or confirmed reason for herding. It created motivational differences between investors to invest money. This discrimination made the investment determination (investment setting) that creates a difference from person to person. Given the context described in the study's introduction, previous research has explored the investors' financial behavior in many aspects (Zhu, Bu, Jin, & Mbroh, 2020). Regarding historical information, behavioral finance appears to play a narrow role in understanding issues such as (i) why investors do not make one or more decisions regarding investment and (ii) how they perform while investing. (iii) do they require information to choose their portfolios? (iv) how does the factor of risk restrict their investment decision? and (v) Why do returns fluctuate across stocks for reasons other than risk?

1.1. Research objectives

RO1: To study the extent to which information asymmetry impacts financial behavior.
RO2: To examine the mediating role of perceived risk and perceived failure between information asymmetry and the financial behavior of the investors.
RO3: To determine how information asymmetry creates a negative attitude of the investors in the Pakistan Stock Exchange toward financial behavior.

Although the financial behavior of investors was studied in many aspects and for the number of stock exchanges, the general purpose of the current study was limited to measuring the economic behavior of individual investors of the Pakistan Stock Exchange of listed companies (more than 500) with a Market Capitalization of 7 Tn. The fame of this study may be traced back to its foundational work, which built upon previous literature on topics including the theory of Planned Behavior (TPB), Intentions, and the theory of information asymmetry. Therefore, this research was significant for investors, scholars, and researchers. However, inconsistencies were still found after extensive research on the Pakistan Stock Exchange PSX from the TPB perspective. Therefore, suggestions for further investigation or research were required. Moreover, with the absence of practical studies investigating the link between IA and FB of the Investor of PSX, the current study also acknowledged hypothetical breaks of literature. Furthermore, the current research resolves inconsistent findings about financial behavior in the literature. This study has significant significance in identifying the relationship between information asymmetry and behavioral finance in terms of the negative attitude of the investors of PSX. Most of the literature has analyzed the recommended framework, although there is a shortage of studies from emerging nations like Pakistan. Therefore, this study may be among the early ones, laying the groundwork for more inquiry into how asymmetrical information might limit investment success in the contexts of developing countries.

2. Literature Review
2.1. Pakistan Stock Exchange

The stock market in Pakistan has been given the name of the Pakistan Stock Exchange (PSX), with principal trading places in Islamabad, Karachi, and Lahore. In January 2016, the PSX was established when the Pakistan Government combined the country's large exchange markets (Islamabad, Lahore, and Karachi) into one market. Principal ownerships of the Pakistan Stock Exchange are China Financial Feature Exchange (17%), Shenzhen Stock

Exchange (5%), Shanghai Stock Exchange (8%), China-Pak Investment Company (5%), HBL (5%), and within the country and abroad investors (60%). Total market capitalization is 8.398 trillion, and available indices are the KSE 30 index, KSE 100 index, KSE all index, KMI 30 index, and KMI all index. Among the leading exchanges in the world, PSX wished to be one of the leading exchanges with an advantageous record of remaining the best exchange in Asia.

2.2. Information asymmetry

Concerning previous research, investors of the stock market could be business experts and have more knowledge of the changing preferences of industries. Mostly, the firm manager had more information than the Investor. Sometimes, investors understand better than firm managers, depending on their investment selection. This difference approached the change in making investment decisions in the stock markets. The insiders were more known about the firm valuation than the potential investors. For that reason, a distinction was created between investors and management, leading to the problem of asymmetric information. Löfgren, Persson, and Weibull (2002) and Hallunovi (2020) created a theory of IA that was formalized in 2001. IA was an essential issue in stock markets, as well as financing and contributing (lending). In the stock market, debtors are much more informed than lenders, leading to market failure (Matagu, 2018).

2.3. Perceived risk

People make A subjective judgment about the characteristics and rigidity of a risk. It is an investor's uncertainty when buying or investing in any security (Lepp, Gibson, & Lane, 2011). Balogh and Mészáros (2020) start by presenting that only in subjected risk is perceived risk associated. This is " the knowledge that an investor will produce results which he cannot expect with something approaching faith, and few are at least likely to be unhappy" (Marafon, Basso, Espartel, de Barcellos, & Rech, 2018). Perceived financial risk is that purchasing securities will not be acceptable to achieve the best possible monetary gain for the investors.

2.4. Perceived failure

The shortfall of success in doing and achieving return, particularly concerning an extraordinary investment decision. Perceived failure is a panic experience that hardly attacks one's self-esteem and creates a judgmental effect on others. It is also painful in the investment context of performance, success, and profitability, leading to a lack of motivation and a loss in self-powerfulness (Valbuena-Duarte, Sepúlveda, & Yuliana, 2020). Following the fairness theory, the outcomes show that investors' investment decisions become doubtful when dealing with the investment process (Heidenreich, Wittkowski, Handrich, & Falk, 2015). Though such perceived failures are unavoidable, it is difficult to make effective recovery strategies to control perceived failure by the investment society (Sugathan, Ranjan, & Mulky, 2017).

2.5. Negative attitude

A negative attitude is a lousy deposition, feeling, or manner that is not constructive, cooperative, or optimistic. It can affect everyone everywhere. The same is true in financial institutions; investors with negative attitudes never make investments; thus, it is not just the ability to plan and maintain investment accounts(Ali, Alamgir, & Nawaz, 2024; Mirza, Abbas, & Nawaz, 2020). In the case of investment, those investors who are short-term thinkers are more likely to get into difficulties (Schoenmaker & Schramade, 2019). Most factors (Demographic) like education, age, wealth, and income significantly impact an individual investor's attitude (Barber & Odean, 1999; Riley Jr & Chow, 1992; Schooley & Worden, 1999).

2.6. Financial behavior

Many people are critical to fear of risk and feel the threat of loss. According to Awais, Laber, Rasheed, and Khursheed (2016), most investors have no proper knowledge about the companies when making more critical financial decisions for their well-being. Financial behavior is a subject that is relevant to some theoretical perspectives, which concerns investors as feeble and zealous individuals with illogical behavior. It can be easily explained through financial behavior that the reason behind individual decisions and difficulty arises in computing what impact that resolution will have on the Investor (Chien, Hsu, Zhang, Vu, & Nawaz, 2021; KAMRAN, QAISAR, SULTANA, NAWAZ, & AHMAD, 2020; Oprean & Oprisor, 2014).

2.7. Hypothesis development

Relationship between information asymmetry and perceived risk

Hypothesis 1: The positive relationship between IA and PR

Information asymmetry for investors is a reason behind understating the investment-related risks. Recognizing methods of financial literacy is an excellent skill for investing systematically (Giesler & Veresiu, 2020). An investor with monetary knowledge is less involved in irrational behavior than others. Without financial information or literacy, investors do not operate genuinely when making investment decisions (Hassan Al-Tamimi & Anood Bin Kalli, 2009). Therefore, they lead them toward the perceived risk.

Relationship between information asymmetry and perceived failure

Hypothesis 2: The positive relationship between IA and PF

According to Investor, Nagy and Hajdú (2021), time is considered the most crucial element of risk. The individual does not want to waste his hours by making a poor investment after receiving improper information because they expected the chance of failure in their investment. According to Abdi, Safari Gerayli, and Rezaei Pitenoei (2022), investors are afraid to invest in the stock exchange due to their improper personal information. With the increase in information asymmetry, a prominent increase in PF is considered.

Relationship between information asymmetry and negative attitude

Hypothesis 3: There is a positive relationship between IA and NA.

Based on different theories of asymmetric information, a theoretical model has developed, and the result is that IA has an enormous influence on investors' negative attitudes (Chau, Deng, & Tay, 2020).

Relationship between perceived risk and perceived failure

Hypothesis 4: There is a positive relationship between PR and PF.

Perceived risk is not an initial topic in investment decisions (Gunawan & Huarng, 2015). Masoud (2013) said an investor is ready to invest based on PR, which an investor continuously overlooks. Therefore, in current research, PR concluded that Investors felt terrible for the opposite consequences and an unfavorable return on stock exchange investment (Ariff, Sylvester, Zakuan, Ismail, & Ali, 2014; Shahzad, Raza, Shahbaz, & Ali, 2017).

Relationship between perceived risk and negative attitude

Hypothesis 5: There is a positive relationship between PR and NA.

In other words, the investment decision perspective is expressed as the Investor's hopeful and unhopeful feelings when making his investment decision. An individual's attitude is habitually attached to emotions (Nugraha & Rahadi, 2021).

Relationship between perceived failure and negative attitude

Hypothesis 6: There is a positive relationship between PF and NA.

According to Schneider and Bilgen (2012), developing self-efficacy in investors is essential to making investment decisions. An investor's expectation has less self-efficacy beliefs if there is no proper information they have, and the level of perceived failure increases. This increasing level directly reflects a negative attitude toward investment.

Negative relationship between negative attitude and financial behavior

Hypothesis 7: There is a negative relationship between Na and FB.

Attaining a negative attitude, every Investor exhibits less financial behavior and mostly fails to make an investment decision. According to Ruggeri et al. (2020), investors are more sensitive toward deprivation than the possible return. Individuals always prioritize avoiding loss over obtaining comparable gain. Therefore, his attitude became entirely negative about investment, and consequently, their financial behavior was severely affected and declined ultimately.

Perceived risk mediating the relationship between information asymmetry and negative attitude

Hypothesis 8: PR mediates the relationship between IA and NA.

The introduction of hardback estimation of risk perceptions: by the price of volatile stocks (PVSt), defined as the book-to-market ratio of low-volatility stocks minus the book-to-market ratio of high-volatility stocks (Khan, 2017). Asymmetric information breaks the proper understanding of stock price volatility.

Perceived failure mediating the relationship between information asymmetry and negative attitude

Hypothesis 9: PF mediates the relationship between IA and NA.

According to Shiller (2020), Investors do not act judiciously. Judged by greed and distress of loss, the stock is speculated by investors' illogical far and near. Investors are mistaken by intense sensation, and the asymmetric information about the stock market harmoniously forms baseless hopes for tomorrow's performance of stock markets (PSX), which may lead them toward a negative attitude.

3. Conceptual Framework
Figure 1
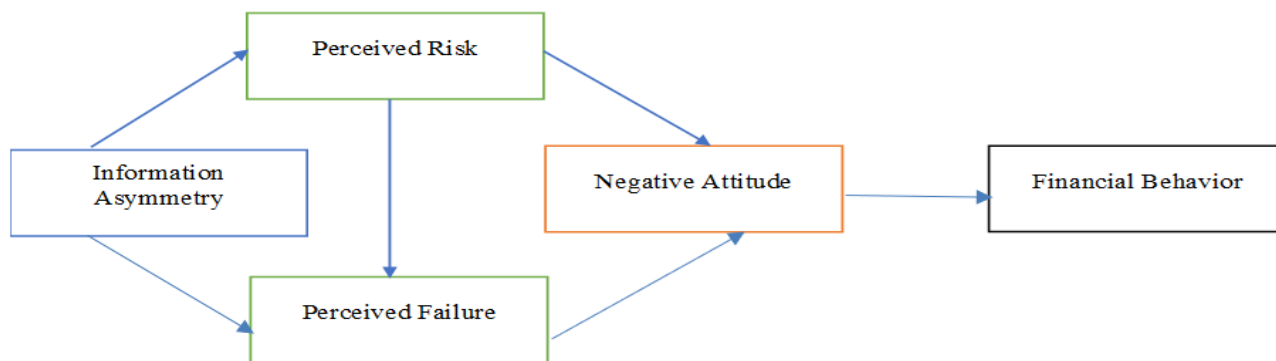
4. Methodology
It is evident that the quantitative research approach points out the existing structural interconnection of the proposed financial variables at the current time. Primary data was gathered only once for this study, and therefore, this called for the use of cross-sectional Research Method. According to the TPB and information asymmetry theories, nine hypotheses were formulated while analyzing the data; the structural equation modeling technique known as Partial Least Square path modeling, developed in 1980s was employed in analyzing data for this study. Thus, employing a cross-sectional study design was deemed appropriate for exploring this research question. The target subjects are PSX shareholders, which involve domestic and international institutional and individual shareholders/Investors. The study questionnaire was administered to the respondents mainly the investors in the Pakistan Stock Exchange (PSX). Participants in the study were investors in firms listed on the PSX who are either involved in the investment decision-making process or who have influence on key investment decisions. E-mail invitation was sent out to the investors inviting them to participate in the survey, and prior to this the investors were informed of the research objective and goals. The invitation for them to invest in PSX was also validated through a

comment they showed interest by responding to a request for comment. They were also asked whether they were willing to participate in the survey. The population in the current study is diverse in its range, thereby making it essential to use random sampling to include all participants. Probability sampling technique is particularly advantageous in the sense that it offers objective and accurate findings as well as being economical (Sekaran & Bougie, 2014).

As the current study is based on different states of Pakistan, the sample size is based on the total investors of the Pakistan Stock Exchange (PSX) in various states. According to the current study of the Pakistan stock exchange, there were institutional investors (foreign and within the country) in 1886 and 886, and about 220000 retail investors were included. There are also about 400 brokerage houses, which are members of the (PSX) and 21 asset management companies. Our study is mainly based on the individual investors. So according to Morgan and Reisenbichler (2022). The optimal sample size is 382 if the population is more significant than 100,000. In the current study, the number of investors in PSX is in the millions; therefore, our estimated sample size is 560. A measurement scale was suitable for determining the relationship between variables (Sekaran & Bougie, 2016). Therefore, the scale instrument was an appropriate method to check that relationship. This study used a 5-point Likert scale to gather the data from the individuals (respondents). A 5-point Likert scale enhances the originality and accuracy by decreasing the respondent's frustration level. On a 5-point Likert scale, 5 categories of responses are usually used: 5-strongly agree, 4-agree, 3-natural, 2-disagree, and 1-strongly disagree.

The present study investigates the correlation between information asymmetry and Investor financial behavior and the mediating effect of perceived risk and perceived failure on investors' negative attitudes—the present study questionnaire comprises two sections. The first section of the questionnaire is based on the demographic profile of respondents, including gender, age, monthly income, education, occupation, and marital status. The second part of the questionnaire consisted of the items of financial behavior (dependent variable); this is also comprised of two behavioral dimensions: market perception and financial literacy. The survey questionnaire contained 16 items related to information asymmetry (independent variable). Moreover, this survey questionnaire comprised 5 items related to perceived risk, 3 perceived failure (mediators), and 2 for negative attitude, respectively. The collected data is assessed through the smart Partial Least Square (PLS 3) for this current study. Smart (PLS 3) software will split the analysis into two sections. The first part is an assessment of the measuring model. In the second part, an evaluation of the structural model will be performed. The measurement model will be examined through factor loading, Cronbach's alpha, composite liability, concurrent validity, difference validity, and Average Variance Extracted (AVE). Moreover, Smart PLS bootstrapping will be used for the moderation effect, which will be analyzed directly and indirectly. Furthermore, effect size (f^2) and predictive relevance (Q^2) will be examined.

5. Data Analysis
5.1. Responses rate
The current study used an online survey form for data collection. Five hundred sixty online forms were distributed and shared directly with the social media groups of the Karachi, Lahore, and Islamabad branches of the Pakistan Stock Exchange PSX.

Table 1: Response rate

Responses	Rate
No. of the distributed questionnaire	560
Backed questionnaire	163
Backed and usable questionnaire	151
Backed and excluded Questionnaire	12
Questionnaire not returned	397
Response rate	29%

5.2. Preliminary analysis data screening
Data screening at the initial stage is considered most critical for the analysis of multivariate test because it helps identify any violation possibly occurring in the essential assumptions about the use of multivariate tools of data analysis (Hair, Sarstedt, Hopkins, & Kuppelwieser, 2014). Furthermore, it also develops a good understanding of the researchers and how they further analyze collected data.

Before performing data screening, all the receivable mailed forms (225) were coded and put into SPSS. IAS-2, IAS-3, IAS-5, IAS-6, IAS-8, IAS-9, IA-10, NA-1, NA-2, PF-1, PF-2, PF-3, PF-4, PF-5, PR-1, PR-3, FB-1, FB-2, FB-3, FB-4, FB-6, FB-7, FB-8, FB-9.

5.3. Outlier assessment

Previous studies suggest that, although definitions vary, an outlier is typically examined as a data point outside the norm for a population or variable. In estimating the regression coefficient, the availability of outliers in any data set is considered a distortion (Verardi & Croux, 2009). In the current study, no outlier is present, and no one value was found outside the range (expected), which is a minimum of 1 and a maximum of 5.

5.4. Normality test

Regression and correlation tests may be performed relatively quickly when the data follows a normal distribution and the connection between the variables is linear. Data is considered high quality if it follows a normal distribution with no apparent skewness, as stated by YALIN-UÇAR, BAĞATARHAN, YAKIT, EKİCİ, Aslı, and KIZILASLAN (2024). The normality of data can be measured using various tests. The within-range skewness and kurtosis values are +_ 1.0 and +_ 3.00, respectively. These values can be used to identify the normality of data in the given study. Another way to determine normality test is the Kolmogorov-Smirnov test. According to Chua (2014), if the kurtosis and skewness values are less than two and more than two, we may assume the data is regularly distributed and a very skewed distribution is indicated by Skewness values between -1 and +1.

5.5. Multi-collinearity test

The multi-collinearity test was used to determine how closely the independent variables were linked or how strong the association was between the variables. Multi-collinearity appears if all the independent variables show the strongest correlation or the problem of this test may exist if the value of $r > .9$. The variance inflation factor (VIF) and tolerance values were used as a benchmark. If the value is near 1, assume desirable for tolerance, while a value near 5, is considered desirable for variance inflation factor (VIF). The regression model was used to run the test.

Table 2: Collinearity statistics

| Variables	Collinearity statistics
	VIF
IA	1.377
PR	1.414
PF	1.275
NA	1.534
FB	1.0

The latent constructs were analyzed descriptively.

In the present section, the descriptive statistics together with the concepts that grounds the studies will be described. It aims to explain the present state of affairs of various factors of Pakistan Stock Exchange including that of information asymmetry, perceived risk, perceived failure, negative attitude and financial behavior. The results of this study should prove valuable in gauging the effects of information asymmetry, perceived risk, perceived failure, negative attitude, and financial behavior on investors in the Pakistan Stock Exchange (PSX). Latent variables that were used in this research work were tapped using a socio meter which was a five point Likert scale with response categories ranging from 1: strongly disagree to 5: strongly agree.

Table 3: Analysis of latent construct

Latent construct	Mean	Standard deviation
IA	3.86	0.7177
PR	3.46	0.7504
PF	3.84	0.6216
NA	3.91	0.716
FB	3.86	0.711

5.6. Assessment of PLS-SEM Path Model Results
Figure 2: Two-Stage Procedure for Evaluating PLS Path Models
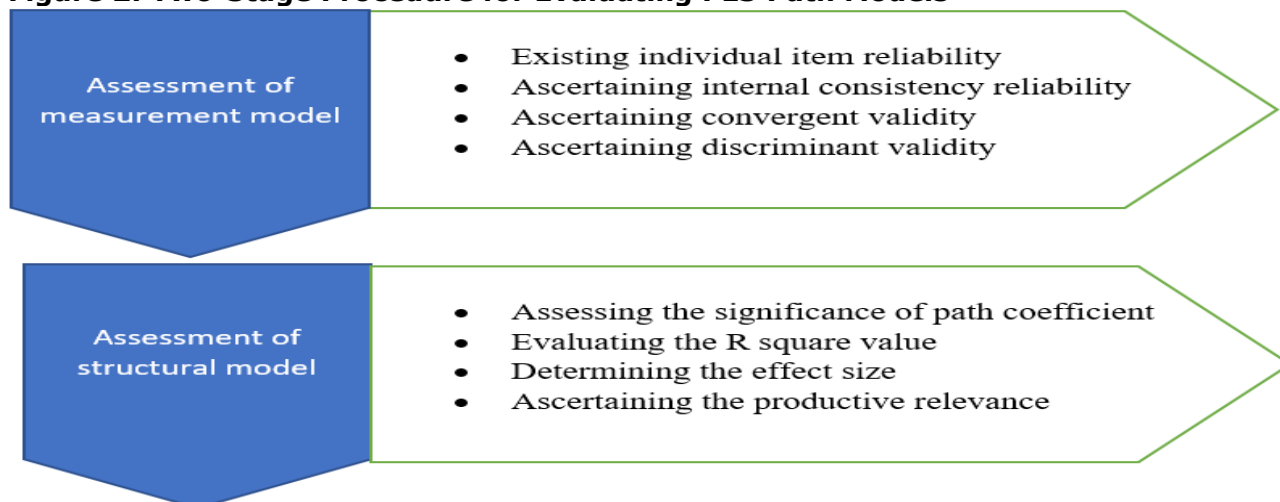

According to the studies conducted by Henseler, Ringle, and Sarstedt (2015) and Hair et al. (2014), researchers are advised to follow specific steps while analyzing the measurement model.

1)   determining the reliability of particular items.
2)   Assessing the Coherence, validity (of both content and convergence), reliability, and discriminant validity. The directions were followed, and each step was executed accordingly.

The details of the process are outlined below:

Figure 3: Measuring model assessment
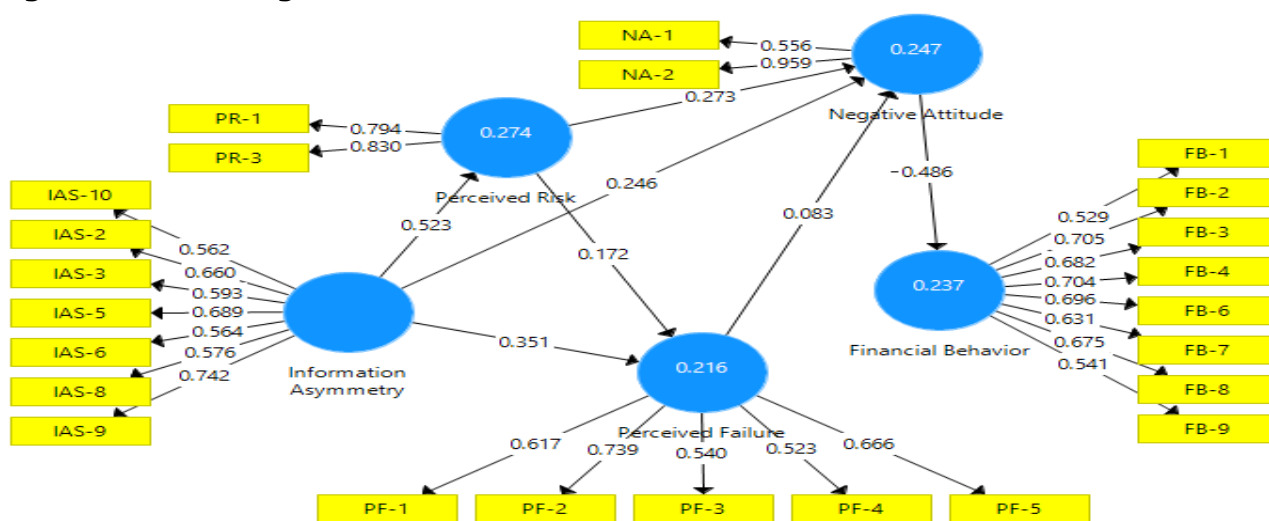
5.7.   Individual item reliability

As per established literature recommendations, it is imperative to evaluate the dependability of individual items Taking the outer loading value into consideration of each item inside each construct (Hulland, 1999; Hair et al., 2012; Hair et al., 2014; Duarte & Raposo, 2010;). According to the rule of thumb given by researchers, for retaining the items, the range of outer loading must be between 0.40 and 0.70 (Hair et al., 2014). The current study depth model represented above explained that out of 31 variables items, 7 were excluded because of their lower loading than 0.40 to 0.70.

5.8.   Internal consistency reliability

To some extent, the same concepts measured by all the scale items are considered internal consistency reliability (Bijttebier, Delva, Vanoost, Bobbaers, Lauwers, & Vertommen, 2000; Sun, Chou, Stacy, Ma, Unger, & Gallaher, 2007). The Table 4 shows that loadings are

greater than 0.5 in this present study. The value CR in the current study must be accepted at 0.70 or above, and the AVE should be a minimum of 0.50. It is shown in Table AVE, and all the variables' reliability is above 0.50. To determine the internal consistency and reliability of the data, the current study estimated the Cronbach's-Alpha. Additionally, in their research, George and Mallery (2019) proposed a criterion for assessing the value of α; according to their findings, α values greater than 0.9 are considered excellent, while α values less than 0.8 are classified as good. Furthermore, α values below 0.7 are deemed acceptable. Based on conclusions drawn from this investigation, as depicted in the provided Table, it is evident that all variables exhibit a Cronbach's Alpha value over 0.7, except one variable (financial conduct), which stands at 8.11. Therefore, it may be inferred that all the research items exhibit internal solid consistency, as seen by the factor loadings being within the previously mentioned range (Hair et al., 2014).

Table 4: Internal consistency reliability/Factor Loadings

Latent construct and indicators Reliability	Standardized loadings	Average Variance Constructed AVE	Composite CR
Financial behavior			
FB1	0.529	0.531	0.852
FB2	0.705		
FB3	0.682		
FB4	0.704		
FB6	0.696		
FB7	0.631		
FB8	0.675		
FB9	0.541		
Information asymmetry			
IAS1	562	0.501	0.818
IAS2	0.66		
IAS3	0.593		
IAS5	0.689		
IAS6	0.564		
IAS8	0.576		
IAS9	0.742		
Negative attitude			
NA1	0.556	0.526	0.759
NA2	0.959		
Perceived Failure			
PF1	0.617	0.519	0.758
PF2	0.739		
PF3	0.54		
PF4	0.523		
PF5	0.666		
Perceived risk			
PR1	0.794	0.659	0.794
PR2	0.83		

5.9. Convergent validity

Convergent validity refers to the extent to which two measurements of constructs expected to be conceptually connected demonstrate an actual relationship. It is also said to be a sub-type of construct and discriminant validity (Hair et al., 2014). The Average Variance Extracted (AVE) was used to assess the convergent validity of individual constructs. The AVE values in Table indicate that all the constructs in the current analysis have achieved a minimum AVE of 0.50. As a consequence, it can be concluded that the study demonstrates satisfactory convergent validity (Esposito Vinzi, Chin, Henseler, & Wang, 2010).

5.10. Discriminant validity

As identified by Duarte and Raposo (2010), Discriminant validity refers to the ability to differentiate an individual's hidden concept from other latent constructs. Based on the recommendation put forward by Fornell and Larcker (1981), the present study used the HTMT method to evaluate the discriminant validity. The discriminant validity assessment was made by adopting the criterion of Fornell and Larcker (1981). Generally, the values of AVE used by Henseler, Ringle, and Sarstedt (2015) were 0.637 and 0.90. therefore, the present study used

the HTMT 0.90 criterion and established discriminant validity by HTMT ratios which are always equal or below 0.90. Thus, this study shows the adequate value of discriminant validity.

Table 5: HTMT Discriminant Validity

	FB	IA	PR	PF	NA
FB					
IA	0.701				
PR	0.888	0.607			
PF	0.662	0.559	0.841		
NA	0.67	0.845	0.512	0.55	

5.11. Assessment of the structural model

Following the assessment of the valuation model, the structural or internal model was assessed utilizing Smart PLS 3.0. To do this study, many procedures were undertaken, including hypothesis testing using T-values and path coefficients and examining the F^2 and Q^2 of the prototype.

Figure 4: Assessment of Structural Model
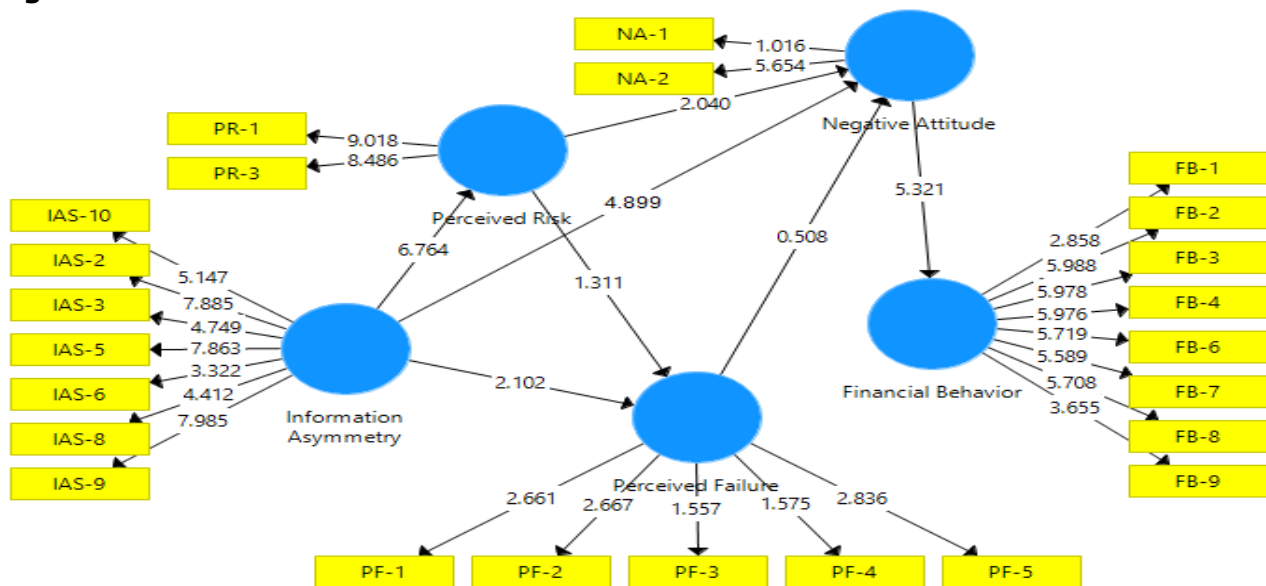
5.12. Direct effect

In the present study, seven (07) hypotheses were discussed as having positive relationships; five out of seven were accepted, and two were not supported because of a t-value less than 1.96.

Table 6: Direct effect results

Original		Sample M	S.D	T-Statistics		P-value	Decision
H1	IA->PR	0.523	0.537	0.077	6.764	0	Accepted
H2	IA->PF	0.351	0.366	0.167	0.102	0.036	Accepted
H3	IA->NA	0.246	0.238	0.05	4.899	0	Accepted
H4	PR->PF	0.172	0.161	0.131	1.311	0.19	Not-Accepted
H5	PR->NA	0.273	0.248	0.134	2.04	0.042	Accepted
H6	PF->NA	0.083	0.122	0.164	0.508	0.612	Not-Accepted
H7	NA->FB	-0.486	0.521	0.091	5.321	0	Accepted

5.13. Indirect effect results

Bootstrapping by Partial least square was used in this research to observe the indirect effects of each construct. In the current study, this procedure was used. Hence, the mediating role of perceived risk and perceived failure was investigated. Furthermore, the Table below presents the outcomes of mediation, including perceived risk (PR) and perceived failure (PF) concerning information asymmetry (IA) and negative attitude (NA).

Table 7: Indirect Effect

Original	Sample Mean	Std. dev	T-Stat	P-Value	Decision
H8 IA->PR->NA	0.138	0.072	1.9798	0.047	Accepted
H9 IA->PF->NA	0.053	0.063	0.464	0.643	Not-Accepted

5.14. Variance Explained (R^2)

The R-square (R^2) value has been obtained from the output of Partial Least Squares (PLS) analysis.

Table 8: Variance Explained in the Endogenous Latent Variable

Construct	R^2
FB	0.237

The findings shown in Table 8 reveal that the research model applied in the present study explained roughly 24% of the total variance in financial behavior. Based on the prior reasoning, it was expected that four exogenous independent latent variables, namely information asymmetry, perceived risk, perceived failure, and negative attitude contributed to 24 percent.

5.15. The evaluation of effect size (f^2)

Esposito Vinzi et al. (2010) posits that when a specific exogenous latent variable impacts endogenous latent variable(s), the effect is quantified as an effect size through changes in the R-squared values. The F^2 statistic was computed by determining the difference in the R-squared value associated with the latent variable to which the route is connected with the fraction of unexplained variance attributed to that latent variable (Esposito Vinzi et al., 2010). Cohen (1988) posited that the magnitudes of f-squared may be classified as weak, moderate, and strong when their respective values are 0.02, 0.15, and 0.35.

Table 9: Assessment of Effect Size (f^2)

R squared	NA	PF	PR
IA	0.052	0.114	0.377
PR	0.07	0.027	
PF	0.07		
NA	0.031		
FB			

5.16. Construct Cross-Validated Redundancy (Q^2)

The derivation of the Q^2-value is discussed by Hair et al. (2014) to evaluate the parameter estimations and to examine the construction of values around the model. Q^2 is utilized to assess the effectiveness of a framework or model in elucidating the model's quality and predicting the significance of endogenous variables.
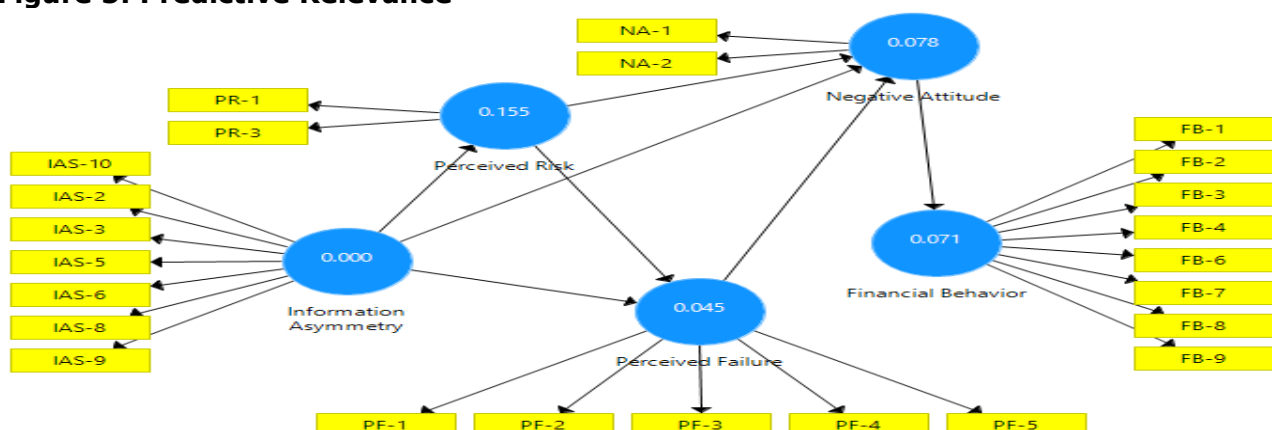
Figure 5: Predictive Relevance

Table 10: Construct Cross-Validated Redundancy (Q²)

SSE/SSO)	SSO	SSE	Q²=(1-
FB	1208.00	1122.23	0.071
IA	1057.00	1057.00	0
NA	302	278.349	0.078
PR	755	721.177	0.045
PF	302	255.12	0.155
Total			
0.349			

Therefore, the overall purpose of the present study was to explore the link between financial operational behavior and information asymmetry in PSX through cross-validated redundancy approach. Moreover, the validity of the criteria was also established through measurement of the predictive relevance measure referred to as (Q^2). The examined Q^2 values for the model calculated in this study were 0. 349, which strengthens the conclusion about the general predictive validity of the direct relations between the variables in this model.

6.   Discussion and Conclusion

The primary results of this study, the linkage of the existing theories, and the findings of prior researching will be discussed in this section. The subheadings are aligned to the research questions and each subheading is accompanied by a brief and simple definition.

6.1.   Impact of information asymmetry on financial behavior

The primary objective of this study was to investigate the potential influence of information asymmetry on the financial behavior of investors in Pakistan's stock market. Therefore, the first purpose of this study was to understand the relationship between information asymmetry and investors' financial behavior. Financial behavior is the investment behavior among the investors (Morris, Kamano, & Maillet, 2023). Financial behavior encompasses making informed decisions and capitalizing on possibilities to achieve higher returns within an investment, aiming to enhance profitability and fortify one's investment position within the context of the stock market (Kuratko, Hornsby, & Hayton, 2015). Moreover, prior studies have also suggested and demonstrated this in the realm of finance, namely on the stock exchange (Al-Swidi & Al-Hosam, 2012; Mahmood & Abdul Wahid, 2012). Nevertheless, as previously mentioned, some research has examined the relationship between information asymmetry and investor financial behavior (Antoncic & Hisrich, 2001; M. H. Morris & Sexton, 1996; Wiklund & Shepherd, 2005). However, there is a vacuum in the literature that calls for more empirical investigation. The present study posited a positive association between asymmetric information and financial behavior. To validate this assertion, the present study employed PLS path modelling as a statistical method to examine the association mentioned earlier.

6.2.   Perceived risk and perceived failure perform a mediating role between information asymmetry and the negative attitude of the investors

perceived risk and perceived failure have been studied most of the time in financial behavior but for explaining new ideas and exploit the investment attitude within the stock markets to understand how perceived risk and failure ultimately impact the attitude of the Investor to deprive investment rate and weakening of stock markets, and finish investment decision initiatives Kuratko, Hornsby, and Hayton (2015) was utterly discussed in this study. Concerning the diminished literature on the examination of the impact of information asymmetry on financial behavior of Investor; The second question in research was to examine the extent to which perceived risk and perceived failure play a mediating role between information asymmetry and the negative attitude of the Investor. The dimensions of risk and failure in stock markets directly indicate the Investor's attitude. This research's subsequent or secondary purpose was to investigate the mediating association between information asymmetry and negative attitude. To address the second research issue in the present study, two research hypotheses (H8 and H9) were created using PLS path modelling.

6.3.   Information asymmetry creates a negative attitude toward financial behavior among investors on the Pakistan Stock Exchange

The third study investigates the potential positive correlation between information asymmetry and negative attitudes inside the Pakistan Stock Exchange (PSX). Hence, the third study objective was created to investigate the correlation between information asymmetry and

negative attitude, followed by hypothesis 3. The characteristic that is considered to be of utmost importance in the domain of financial conduct is the negative attitude. The significance of negative attitudes stems from their substantial influence on financial behavior. Many studies have been performed to understand the type and nature of financial behavior in many stock markets, hoping to require the Investor's interest, financial position, and financial holding capacity to understand investment decisions better. Kotter and Heskett (2008) asserted that a negative attitude toward financial behavior has enduring consequences.

6.4. Implications of the study

Conceptualization of the current study based on experimental confirmations of theoretical research gaps as discussed in the literature. The structure's Benefit and classification were drawn using two theoretical points of view: The theory of Planned Behavior TPB and information asymmetry theory. The present study used PR and PF as mediating variables to more likely release and clarified the relationship between IA and NA and their impact on financial behavior. The current study has also many practical significances in linking IA and FB in the Pakistan Stock Exchange PSX. First, the findings recommended that IA impacts were significant for PSX's financial behavior. Practically, the present study focused on the FB of investors of the PSX. However, much less effect was given to the PR and PF to understand the Investor's increment on negative attitude toward financial behavior.

6.5. Limitations and future directions

The present study possesses some limitations and contributions. Primarily, it reveals that the financial literacy of investors in Pakistan's stock exchange is characterized by a reduced reliance on fundamental and technical analysis when making investment decisions. Hence, many individuals are not subjected to quantitative management techniques. Therefore, it is necessary to enhance the literacy rate of the investors. Secondly, a lack of self-trait is considered a crucial reason for negative behavior. Self-confidence plays a central part in alternating behavior in investment decisions between the non-persistent aspirant and persistent aspirant. Lin and Kuo (2013) confirmed in one of their studies that less and less trading due to perceived risk can be dangerous to individual investors' financial circle if they think by lack of self-attribution and asymmetrically rather than their skills, literacy, and symmetric information. Thirdly, information asymmetry, perceived risk, and perceived failure are the three variables or determinants that may contribute to the negative attitude of individual investors, which may badly affect their financial behavior. The importance of a negative attitude toward financial behavior or decision-making is well-approved in the literature (Goetzmann & Zhu, 2005; Subrahmanyam, 2008).

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