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# IMPACT OF BEHAVIORAL BIASES ON WOMEN ENTREPRENEURS INVESTMENT DECISION

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## **ABSTRACT**

The goal of this study is to examine the influence of certain behavioral biases namely overconfidence, loss aversion, mental accounting on women entrepreneurs' investment decision accompanied with mediating role of risk tolerance. The research has employed PLS-SEM to empirically examine the formulated hypotheses. Additionally, IPMA analysis has also been implemented to know the comparative importance and performance of selected facets. The sample size includes 100 women entrepreneurs residing in Karachi, Pakistan. Convenience sampling technique is executed to gather data whereas a questionnaire is adopted as research instrument. The empirical findings suggested that overconfidence bias, mental accounting bias have a substantial positive influence on women entrepreneur investment decision whereas loss aversion is found to be statistically insignificant. However, the indirect impact of risk tolerance has been found to be statistically insignificant for the given biases and women entrepreneur investment decision whereas loss aversion, mental accounting found to have substantial direct influence on risk tolerance of women entrepreneurs. Through its conceptual framework, the research adds to the body of literature by providing valuable insights regarding women entrepreneurs' behavioral perspective in relation with investment decision. The empirical evidence has determined the presence of irrationality involves in entrepreneurs' investment decision; the findings will be helpful to understand the mechanism and causes that may lead to unidentified anomalies in start-up markets.

**Keywords:** Overconfidence, Loss Aversion, Mental Accounting, Risk Tolerance, Women Entrepreneurs, Investment Decision, PLS-SEM.

#### INTRODUCTION

Urbanization trends and environmental change have sparked a current debate on how to balance the future wealth through economic prosperity. Additionally, entrepreneurship has emerged as a crucial topic, but little study has examined it in this setting (Palmer et al., 2021). Given the widespread acknowledgement of women's entrepreneurship, the phenomena of taking investment decisions is perhaps intriguing in the realm of women's entrepreneurship given its function in economic growth and job creation as well as its shown importance in the eradication of poverty (Iram et al., 2021). Recent academic research demonstrates that many women who participate in financial choices are discouraged just because of how they compare to males (Bhavani, 2020). In Pakistan, a situation quite similar to this one exists where women must struggle to succeed in business against a patriarchal society; the World Economic Forum reported in its 2021 Global Gender Report that Pakistan ranks 153 out of 156 countries in terms of gender parity and has the lowest percentage of female entrepreneurs globally as a result of several social and cultural issues (Hussain et al., 2021). It should be noted that women in Pakistan are bounded with various socio-cultural obligations which would have hampered their ability to launch their own businesses (Khan et al., 2021).

Over the past years, financial markets have become more competent; the number of players has been drastically increased as well as the investment choices. Investors always look for their wealth maximization howbeit they may not be well equipped to evaluate the available opportunities; therefore,

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they rely on a certain judgmental process that gets influenced by various cognitive and emotional facets (Sahi, 2017). Neoclassical theories of finance explain rational behavior of individuals while taking their investment decisions, according to Modern Portfolio Theory investors are risk-averse they prefer lowrisk portfolio over riskier ones for the given level of expected return (Markowitz, 1952) according to conventions of the efficient market hypothesis, investors are fully educated and possess all publicly and privately available information, hence no one can outperform the market (i.e.) In addition, the Expected Utility Theory introduces a rationality component to decision-making by individuals under uncertainty based on utility and risk, preventing the possibility of anomalous returns (Bernoulli, 1954). In terms of investment risk and return go hand in hand, the risk tolerance level varies from individual to individual, thus it is substantial to figure out the existence of risk tolerance inherited in investors' financial behavior. Generally, individuals rely on their past experiences, intuition, optimism while taking risky investment choices but the ultimate goal remains the maximization of their wealth (Riaz & Hunjra, 2015). However, markets do become inefficient and suffer from various anomalies due to the irrational behavior of investors as explained by Prospect Theory individuals are loss averse under risk & uncertainty; they prefer substantial gain to compensate for the loss (Kahneman, D., & Tversky, 1979). People's subjective assessments of the worth of money account for the discrepancy between real prices and their reference prices (Thaler, 1985), these theoretical contributions lead to the emergence of behavioral finance as a new discipline. Behavioral finance combines the behavioral and psychological facets which are involved in investment decision making, it explains different behavioral biases such as cognitive and affective which create different anomalies in the financial market (Sahi, 2017; Toma, 2015). Individuals suffer substantial losses in terms of their financial investment because of misinterpretation of available financial information; this misinterpretation usually occurs due to various behavioral biases (Khilar & Singh, 2020). Various studies have examined the repercussion of behavioral predispositions on investors' decision making and supported the fact that in actual fact markets are disorganized, however literature is scarce on the impact of behavioral facets on women entrepreneurs' investment decision particularly in the context of Pakistan.

## **Problem Statement**

Individuals differ in terms of their needs, skills, and goals, so one solution cannot be generalized for all. There are no objective rules that can adequately explain its dynamic nature. The investment decision is considered to be a perplexing state where one must choose the best option while taking risk and return factors into consideration. Women entrepreneurs in developing nations have sadly received less attention because of the intricate connection between sociocultural, religious, and family structures (Roomi, 2013; Khan, 2014). Women experience discrimination and gender disparities as a result of power dynamics that are skewed against women and built on disparity and prejudgment (Roomi, Rehman, & Henry, 2018). Literature has identified various facets which may influence decision-making procedure of investors named as bounded rationality, intuitions, cognitive and emotional biases, demographic factors, financial knowledge, past experiences, regulatory factors, availably of information so on and so forth among these cognitive and emotional biases are considered to be the most influential ones as these biases shape the investors' goals, strategies, and their performance. The element of risk entails in every decision, no matter how knowledgeable, skilled, and informed the investors are, uncertainties remain as part and parcel with their choices. Using the mediating influence of self-leadership, Linfang et al. (2021) investigated the impact of personality factors on entrepreneurial intention of women, the findings suggested that women's ambition to start their own business is highly influenced by extraversion, openness, and conscientiousness. The results also show that neuroticism and agreeableness are not substantially related to women's intention to start their own business. Khan et al (2021) investigated the factors which impact women entrepreneurs success, the findings suggest that internal and external facets, such as self-confidence, the need for successes, societal and economic concerns, have a positive and substantial impact on the success of women entrepreneurs. Hussain et al (2021) concluded that women's attitudes toward investing have a favorable, considerable mediating impact on social, behavioral, and investment decisions. Thus, the outlook of behavioral biases is found to be very scarce in terms of women entrepreneurs' investment decision therefore this research aims to fill the gap by looking at the impact of cognitive and emotional biases along with mediating impact of risk tolerance on women entrepreneurs' investment decision.

## **Research Objectives**

1. To measure the influence of overconfidence bias on women entrepreneurial investment decision.

- 2. To measure the influence of loss aversion bias on women entrepreneurial investment decision.
- 3. To measure the influence of mental accounting bias on women entrepreneurial investment decision.
- 4. To measure the mediating role of risk tolerance in terms of overconfidence, loss aversion, mental accounting bias and women entrepreneurial investment decision.

#### REVIEW OF LITERATURE

#### Overconfidence and Women Entrepreneurial Investment Decision

Overconfidence bias can be defined as an overestimation of individuals own skills and knowledge whereas underestimation of relevant information; it has been asserted that overconfident investors may lead the market to react less favorably to information provided by reasonable investors they think that if there are anomalies, they may use their cognitive activity to generate an extra return (ul Abdin et al., 2022). Villanueva & Martins (2022) studied the relationship between overconfidence, risk taking capacity and entrepreneurial intention in the context of ungraduated students comprised of 828 sample size, the findings suggest that undergraduate students may overestimate the likelihood of business success and that these students were prejudiced when judging risk, which caused them to underestimate the significance of the dangers associated with entrepreneurial activity. Overconfidence does have a detrimental effect on venture capitalist decision-making accuracy, the degree of overconfidence varied depending on the amount and type of information as well as whether the venture capitalist was firmly convinced that the endeavor will succeed or fail (Graves & Ringuest, 2018). Singh (2020) performed qualitative assessment regarding the overconfidence attribute of entrepreneurs which impact their decision making it was found that most of the entrepreneurs had excessive confidence in both their own talents and the potential of their new businesses which causes judgement mistakes that result in financial underperformance and failure.

# H1: There is a significant influence of overconfidence bias on women entrepreneurs' investment decision.

## Loss Aversion & Women Entrepreneurial Investment Decision

Loss aversion is the propensity to prefer avoiding losses over obtaining comparable rewards (Kahneman, D., & Tversky, 1979). Women entrepreneurs were found to compensate the incurred loss with future profitable investment and did not liquidate their investments in the case of losses (Hussain et al., 2021). Bouchouicha et al (2019) found that the underlying concept of loss aversion varies therefore the impact of loss aversion on women investors' behavior also varies; women can be less loss averse as compared to men whereas they can be more loss averse as compared to men according to different dimensions of loss aversion. The empirical outcomes offer ample proof that biases must be taken into account, the impact of loss aversion bias on investment length and projected rate of return, however, is found to be minimal; the findings also suggested that educated women have a high degree of confidence in their ability to make their own investing decisions; possibly this is because they are aware of their own financial requirements (Jain & Singh, 2021).

# H2: There is a significant influence of loss aversion bias on women entrepreneurs' investment decision.

#### Mental Accounting & Women Entrepreneurial Investment Decision

Mental accounting describes the various valuations a person assigns to the same quantity of money depending on arbitrary standards, frequently with unfavorable outcomes (Thaler, 1985). Through the mediating effect of financial literacy, Iram et al. (2021) discovered a substantial influence of loss aversion, regret aversion, mental accounting, and self-control on women entrepreneurs' investment choice process. The research results indicated that mental accounting had a major influence on investment decision-making; women often invest in markets that they fully comprehend and do not later come to regret. Similarly, women tend to start new investments slowly and wait until they are profitable rather than giving up right away, even if their investment is losing money; they hold the mental accounting bias and prefer to focus on her company over intricate details (Bilal, 2021).

# H3: There is a significant influence of mental accounting bias on women entrepreneurs' investment decision.

#### Risk Tolerance & Women Entrepreneurial Investment Decision

Risk is the likelihood of suffering a loss or experiencing unfavorable results. Risk arises when potential outcomes may be inferred from past experiences but the future outcome is unknown. When choosing an investment, an investor's risk tolerance indicates their willingness to accept the greatest possible risk

of loss (Kanagasabai & Aggarwal, 2020). When compared to non-entrepreneurs, entrepreneurs often have a higher risk tolerance, entrepreneurs may perceive lower levels of risk or be more willing to accept risks if they have better confidence in their capacity to carry out new venture operations; greater risk aversion makes women less likely to launch new businesses (Llados-Masllorens & Ruiz-Dotras, 2022). Risk propensity, financial risk tolerance, and entrepreneurial openness are all positively impacted by entrepreneurs' perceptions of risk. Additionally, the results of this study have demonstrated that entrepreneurial openness and risk-taking inclination play a role in mediating the link between entrepreneurs' perception of and tolerance for financial risk (Syed et al., 2019).

H4: There is a significant influence of overconfidence on risk tolerance.

H5: There is a significant influence of loss aversion on risk tolerance.

H6: There is a significant influence of mental accounting on risk tolerance.

H7: There is a significant influence of risk tolerance on women entrepreneurs' investment decision.

H8: Risk tolerance mediates the relationship between overconfidence and women entrepreneurs' investment decision.

H9: Risk tolerance mediates the relationship between loss aversion and women entrepreneurs' investment decision.

H10: Risk tolerance mediates the relationship between mental accounting and women entrepreneurs' investment decision.

## **Conceptual Framework of the Study**

Derived from the literature review, the conceptual model for this study has incorporated overconfidence, mental accounting, loss aversion biases as independent variables and women entrepreneurs' investment decision as a dependent variable moreover risk tolerance has been incorporated as mediating variable:

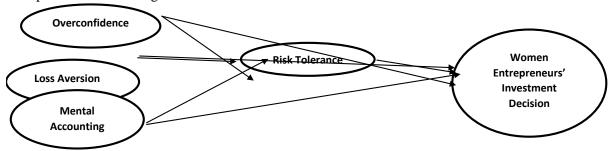


Figure 1: Conceptual Framework

#### **METHODOLOGY**

## **Research Design**

Quantitative research has the advantage of being scientific this increases the generalizability of the findings, researchers can select already existing research instrument, re-test the conceptual frameworks in different settings, with different respondents thus this research design gives concrete and empirically validated findings (Daniel, 2016).

## Sampling

The sampling frame includes women entrepreneurs in the context of Pakistan, a total of 190 questionnaires were circulated to the potential participants whereas only 100 responded to it thus the response has been 52.63%. The initial scrutiny of data revealed no missing value case hence 100 observations were processed for the analysis purpose. This study has employed a non-probabilistic convenience sampling technique. Convenience sampling is considered to be cost and time effective and is widely used in various disciplines; respondents who were found to be readily available and accessible were approached for data collection purpose.

### **Data Collection Method**

For the aim of gathering data for this study, the survey approach has been used since it is thought to be effective in finding the real levels and strength of variables. In addition, it assesses the variables on several scales and aids in demonstrating the correctness of the suggested model (Newsted et al., 1988). Quantitative research design encourages the use of questionnaires for gathering primary data since they

ensure that the data have been acquired in a consistent manner and are perceived to be cost and time effective. It facilitates data collection from a larger sample size, covers the several critical facets of research topics, aids in answer visualization, and protects participant confidentiality (Zikmund, 1984). A closed-ended questionnaire was used in this study; it included two sections, the first of which showed participant demographic data and the second of which focused on the suggested conceptual framework. On a five-point Likert scale, where 1 indicates "Strongly Disagree," 2 "Disagree," 3 "Neutral," 4 "Agree," and 5 "Agree," the indicated components were estimated whereas "5 specifies Strongly Agree".

#### **PLS-SEM**

Partial Least Squares Structural Equation Modeling was used in the study to empirically validate the proposed framework. Over the last several years, it has grown significantly in prominence among researchers. It is thought to be very good at assessing complicated interactions between variables, and PLS-SEM is able to examine the dual roles of variables where one aspect is dependent and independent at the same time. It evaluates several interrelationships between variables at once. Additionally, it gets beyond the drawback of a small sample size and is thought to be strong enough to handle data that are not normally distributed. It has a strong ability to manage the endogeneity issue ( Hair et al., 2014).

## **RESULTS & DISCUSSION**

# Demographic Information of the Respondents

The initial scrutiny of data revealed no missing value case hence 100 observations were executed for the analysis purpose. Table 1, indicates the demographic information; the sample size comprised of 100 women entrepreneurs; 15% of the respondents were undergraduates, 42% of the respondents were graduates, postgraduate 33% and others 10%. 42% of the respondents belong to the age group 18-26 years followed by 47% belong to the age group of 27-35 years. In terms of experience 26% of the respondents fall under 01 year, whereas 51% fall under 1-5 years lastly 30% of the respondents fall in the income bracket of Rs. 41,000 or more.

Table No. 1 Demographic Details of Respondents

	Demographic Details	Percentage (%)
Age	18-26	42
	27-35	47
	36-44	04
	45 or more	07
Education	Undergraduate Degree	15
	Graduate Degree	42
	Postgraduate	33
	Others	10
Experience	Under 01 year	26
-	1-5 years	51
	5-10 years	15
	More than 10 years	08
Income	Rs. 10,000-20,000	24
	Rs. 21,000-30,000	28
	Rs. 31,000- 40,000	18
	Rs. 41,000 or more	30

## Measurement Model- Reliability & Validity

PLS-SEM has been used in the investigation in two stages; firstly, the reliability and validity were established as per the criterion provided by Hair et al (2019). According to the criterion to establish the reliability, the values of CB alpha and Composite reliability must be greater than 0.70 moreover the values of indicator factor (outer) loading shall be more than 0.70. The results in Table 2 show that all of the constructs have CB alpha and Composite reliability values that are higher than the suggested threshold value of 0.70. In addition, all of the constructs' indicator factor (outer) loading values are in

line with the recommended threshold (i.e., greater than 0.70), indicating that the internal consistency and indicator reliability of all of the constructs have been established.

The validity of the constructs has been established through implementing the two-fold procedure suggested by Hair et al (2019)it involves the assessment of Convergent validity and Discriminant Validity; firstly, convergent validity was examined through the estimation of AVE as per the suggested criterion the value of AVE shall be greater than 0.50 thus ascertaining the Convergent validity. Furthermore, for the Discriminant validity, Fornell- Larcker has also been adopted. Additionally, the HTMT ratio criteria has been used to establish discriminant validity in the comparison of the square-rooted AVE values with the inter-construct correlations. Tables 3 and 4 display the results of the FL criteria and HTMT ratios, which demonstrate that the square root values of each construct's AVE are higher than their highest correlations with any other construct, while the HTMT ratios for the specified constructs are higher than 0.50 but lower than the threshold of 0.90.

Table No. 2 Reliability and Validity

Construct	Type	Items	Loadings	Cronbach's Alpha	CR	(AVE)
Overconfidence Bias	Reflective	OC1	0.892	0.809	0.888	0.726
		OC2	0.877			
		OC3	0.782			
Loss Aversion Bias	Reflective	LA1	0.903	0.907	0.942	0.844
		LA2	0.930			
		LA3	0.920			
Mental Accounting	Reflective	MAC1	0.884	0.739	0.850	0.656
_		MAC2	0.715			
		MAC3	0.823			
Risk Tolerance	Reflective	RT1	0.908	0.898	0.934	0.826
		RT2	0.888			
		RT3	0.878			
Women Entrepreneurs'	Reflective	INVD1	0.891	0.873	0.923	0.796
<b>Investment Decision</b>		INVD2	0.913			
		INVD3	0.874			

Table No. 3 Fornell-Larcker Criterion

	Loss Aversion	Mental Accounting	Overconfidence	Risk Tolerance	Women Entrepreneurs'' Investment Decision
Loss Aversion	0.918				
<b>Mental Accounting</b>	0.466	0.810			
Overconfidence	0.527	0.329	0.852		
Risk Tolerance	0.703	0.544	0.473	0.909	
Women	0.317	0.488	0.482	0.221	0.892
Entrepreneurs'					
Investment					
Decision					

Note: The diagonal values represent the square root of AVE.

**Table No. 4 Heterotrait-Monotrait Ratio (HTMT)** 

	Loss	Mental	Overconfidence	Risk	Women
	Aversion	Accounting		Tolerance	Entrepreneurs"
					Investment
					Decision
Loss Aversion					_
<b>Mental Accounting</b>	0.540				
Overconfidence	0.611	0.443			
Risk Tolerance	0.777	0.643	0.554		

Women	0.353	0.614	0.569	0.251
Entrepreneurs'				
<b>Investment Decision</b>	ı			

The variance inflation factor is used to examine the co-linearity of the constructs. The VIF values shall be closed to 3 or lesser in some cases it can be up to 10 (Hair et al., 2019). In this case, the values of VIF seem within the defined threshold. **Table 5** indicates the VIF values of the constructs.

Table No. 5 Co-linearity Statistics (VIF)

Outer VIF Values	VIF
INVD1	2.278
INVD2	2.682
INVD3	2.211
LA1	2.828
LA2	3.273
LA3	2.900
MAC1	1.836
MAC2	1.403
MAC3	1.495
OC1	2.809
OC2	2.682
OC3	1.361
RT1	3.150
RT2	4.240
RT3	2.282

# **PLS Algorithm**

Figure 2 shows the PLS-Algorithm values of the conceptual framework, PLS algorithm is also referred to as measurement model as it depicts the measures which are essential to ascertain the reliability and validity of constructs; it shows a sequence of regression expressed in terms of weight vectors (Henseler et al., 2009).

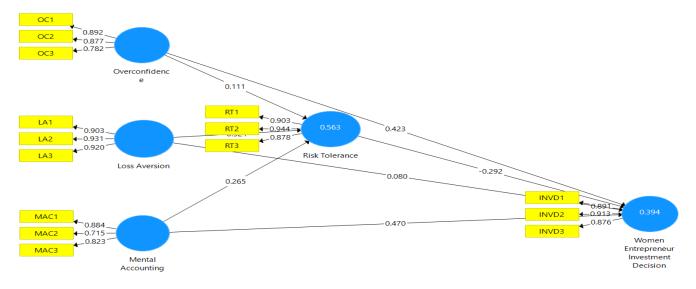


Figure 2: PLS-SEM Algorithm

## **Structural Model Testing**

After the establishment of measurement model the next step in analyzing PLS-SEM results is the evaluation of the structural model; this comprised of the evaluation of coefficient of determination (R-square), the process of blindfolding to explain the predictive relevance of the model measured by (Q-square) and the statistical significance of path coefficients; to examine the indicators weight and relevance statistically significance bootstrapping will be executed (Hair et al., 2019). In bootstrapping

sub-samples are being created from randomly drawn observations from the original data sets with replacement these subsamples will be used for the estimation of the path model. The coefficients of the structural model explain the associations amid the constructs that are resulted from assessing a sequence of regression equations but prior examining the structural model it is necessary to inspect the collinearity to ensure that the obtained results are free from any bias. R-square measures the variance which has been brought by independent variables independent variable thus it shows explanatory power of the model, the values of R-square ranges from 0 to 1, another important measure of PLS path model predictive relevance is Q-square, the value of Q-square is being obtained through blindfolding and should be higher than 0 (Hair et al., 2019).

**Table No. 6 Hypotheses Testing** 

	Path		Beta	p-value	Decision
Hypothesis 1	OC→ INVD		0.443	0.000	Supported
Hypothesis 2	LA 🗪 INVD		0.080	0.617	Not Supported
Hypothesis 3	$MAC \longrightarrow INVD$		0.470	0.000	Supported
Hypothesis 4	$OC \longrightarrow RT$		0.111	0.255	Not Supported
Hypothesis 5	$LA \longrightarrow RT$		0.521	0.000	Supported
Hypothesis 6	$MAC \rightarrow RT$		0.265	0.009	Supported
Hypothesis 7	$RT \longrightarrow INVD$		-0.292	0.061	Not Supported
Hypothesis 8	$OC \Rightarrow RT \longrightarrow$	INVD	-0.032	0.419	Not Supported
Hypothesis 9	$LA \Rightarrow RT \longrightarrow$	INVD	-0.077	0.139	Not Supported
Hypothesis 10	$MAC \Rightarrow RT \longrightarrow$	INVD	-0.152	0.085	Not Supported
R square (INVD)			0.394		
Q square (INVD)			0.288		
R square (RT)			0.563		
Q square (RT)			0.444		

 $p \le 0.05$  Null Hypothesis reject.

The results of the hypotheses testing are depicted in Table 6. The structural model results show that overconfidence bias (OC) ( $\beta$ =0.443, p = 0.000) and mental accounting bias (MAC) ( $\beta$ =0.470, p = 0.000) have a significant positive impact on women entrepreneurs' investment decision whereas loss aversion is found to be statistically insignificant (LA) ( $\beta$ =0.080, p = 0.617). Moreover, loss aversion (LA) ( $\beta$ =0.521, p = 0.000) and mental accounting (MA) ( $\beta$ =0.265, p = 0.009) found to have substantial direct influence on risk tolerance (RT) of women entrepreneurs; loss aversion and mental accounting biases may decrease the risk tolerance of individuals. The overconfidence bias frequently causes people to underestimate the information of the financial markets or a particular investment and to ignore facts and professional advice. People categorize money differently based on subjective standards, which frequently causes them to make financially unwise investing and spending decisions. However, the mediating impact of risk tolerance has been found to be statistically insignificant for the given biases and women entrepreneur investment decision. The value of  $R^2$  explains the variance, which is brought in each of the endogenous constructs; the value of  $R^2$  in the case of dependent variable (INVD) is 0.394. Finally, the results of  $Q^2$  explain the predictive relevance of the model in terms of (INVD) the value of  $Q^2$  is 0.288 whereas in the context of risk tolerance (RT) the value of  $Q^2$  is 0.444.

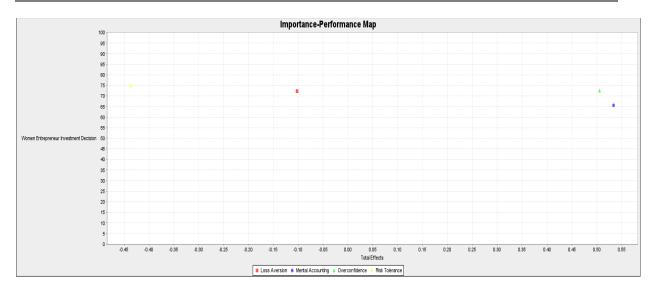
#### IPMA Analysis

The IPMA analysis identifies the relative importance and performance of individual independent antecedents as per their contribution in the dependent antecedent. Table 7, represents the relative importance and performance of overconfidence, loss aversion, mental accounting and risk tolerance in relation with women entrepreneur investment decision; it can be seen that mediating variable risk tolerance has the highest score in terms of performance 74.793 but -0.435 in terms of importance whereas overconfidence, mental accounting had 72.412 and 65.541 in terms of performance and 0.506 and 0.533 in terms of importance respectively whereas loss aversion has 72.236 in terms of performance and -0.102 in terms of importance.

Table No. 7 IPMA Analysis

Variables	Importance	Performance
Overconfidence	0.506	72.412
Loss Aversion	-0.102	72.236

Mental Accounting	0.533	65.541	
Risk Tolerance	-0.435	74.793	



**Figure 3: IPMA Analysis** 

#### **CONCLUSION**

When it comes to making financial decisions, behavioral biases play a key role; cognitive and emotional factors cause individuals to act irrationally in certain circumstances. Individuals frequently find themselves in circumstances where there is a persistent trade-off between risk and reward, especially when dealing with emerging nations. The primary goal of this research was to uncover the influence of cognitive and emotional biases such as overconfidence, loss aversion and mental accounting on women entrepreneurs' investment decision. Women who manage their own businesses tend to be long-term investors with a conservative outlook who typically seek the advice of financial advisors before engaging in any financial activity. Although they firmly believe in being financially independent so they may make their own financial decisions, their investment preferences depend on the attitude toward investing of different behavioral aspects. Their exposure to investments will increase and their finances will be more diverse if they have sufficient financial information about various assets and have enough time to comprehend their nature.

## Limitations & Practical Implications

The study has some limitations, including the fact that it only looked at females' entrepreneurs in the context of Karachi. Future studies may include samples chosen from other cities and may conduct comparative analysis using the same conceptual framework on individual, institutional investors, males' entrepreneurs and households. The framework can also be expanded by using a qualitative approach to gain deeper insights. The empirical findings of this study will help entrepreneurs and professionals to understand the effects of behavioral biases and risk tolerance on women entrepreneurs' investment decisions. The existence of irrationality in start-up markets has been established by empirical research, which will aid policymakers and regulators in understanding the behavior of women entrepreneurs and the mechanisms that lead to various anomalies.

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