

Factors Affecting Investment Decision Making: Moderating Role of Investors Characteristics

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Abstract

The current study aimed to investigate the factors affecting investment decision making. Moreover, the moderating effects of age, gender, and financial information were also tested. The study utilized a quantitative research design for that the data was collected using a structured questionnaire. The questionnaire was sent to 570 individuals out of that 374 questionnaires were returned however 372 of the questionnaires were found to be useable. The study framework had 6 constructs namely heuristics, financial information, corporate governance, risk aversion, and experience were independent variables while investment decision making was dependent variable while age, gender and financial education were moderating variables. All the latent construct were measured using multi items based on 5 point Likert scales from 1 strongly disagree to 5 strongly disagree. The results found the Heuristics, Risk Aversion, Financial Information, Corporate Governance and Experience to be significant factors affecting the investment decision making. Moreover, the moderating effect of gender was found to be significant in the relationship of (financial information, corporate governance, and experience) and investment decision making. The moderating effect of age was found to be significant in the relationship of (Heuristics, Corporate Governance, and Experience) and investment decision making while the moderating role of financial education was found to be significant in the relationship of (financial information, corporate governance and experience) and investment decision making.

Keywords: Heuristics; Financial information; Experience; Risk aversion; Corporate governance; Investment decision making.



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1. Introduction

As the dynamic of the investment changes it also enhances the importance of decision making which is the part of the Behavioral finance. This discipline deals with the decision making criteria of an investor. Complete knowledge of behavior finance allows the investor to make a best and suitable decision that gives maximum profit and minimize the risk of loss. Behavior finance is still in its developing stage and it has a variety of concepts that contribute to replace the old methods and definition of finance.

The investment in the stock market is always uncertain because of the nature of stock volatility (Odeh *et al.*, 2019). These uncertainties of stock make it more interesting for the investor and take keen concern of academicians, investors, and professionals. The investor uses different tools and measures to take an appropriate investment decision. In case of personal investment by the investor, it is assumed that the market can act differently with the variation of information and other factors that influence the market even the outcome of the market depends on it (Mehta and Chaudhari, 2016).

For any organization or individual, investment decision making is an imperative part. The investment decision is affected by different assumption and factors as well as many other factors got affected by investment. If the organization makes an appropriate decision of investment it will result in an increase of firm productivity and outcome (Mayfield *et al.*, 2008). Researchers such as Kengatharan and Kengatharan (2014), Qadri and Shabbir (2014), Nofsinger and Varma (2013), also highlighted the positive relationship between behavioural factors and decision making of investment in the stock market by an investor.

Research shows that different tools are affected differently in decision making. Such as daily experiences (Brown and Ryan, 2003), overconfidence (Tapia and Yermo, 2007) and optimism (Gervais *et al.*, 2002); all factors have a positive impact on the investment decision making. On the other hand, there are some researchers that show the negative impact of a different factor on investment decision making such as culture (Saunders and Jones, 1990). Research is available that include all the factors that influence the decision making of investment especially in the context of Iraq.

The current study focuses to discover the shortcoming of a prior study by using the following ways. This research focuses on the detailed analysis of the experience of the investor as well as the corporate governance and other factors. It covers both theoretical and observed involvement of the factor in the decision making of investment. The variation in decision making is caused due to the variation in the daily experiences of the stock market and it has a positive influence on the investment making a decision. Moreover the study is limited to the investment decisions of the Iraqi investors however it covers the moderating factors such as age, gender and financial education of the investors which is the contribution of the current study and in this way this study adds value to the current state of knowledge in the domain of behavioral finance.

2. Literature Review

2.1. Heuristic and Investment Decision-Making

In order to take appropriate investment decision-making, investor required expertise which is called Heuristic (Gigerenzer and Gaissmaier, 2011). Usually, an expert investor follows the rule of thumb rather analyzing the information. The theory of heuristics states that it allows the investor to take a decision in a difficult situation by using common sense. It makes judgment easy by simply follow the defined standards and criteria. Research shows a positive relationship between Heuristic and investment decision making (Bakar and Yi, 2016).

Research shows that investors can appropriate decision in a short span of time with the help of heuristic (Brabazon, 2000; Ritter, 2003), History shows different and inconsistency relationship between investment decision making and Heuristic. Such as Bakar and Yi (2016) shows a significant and positive relationship. On the other hand Kengatharan and Kengatharan (2014) research on the Sri Lanka and Malaysia context and reveal negative influence oh heuristic in order to make an investment decision. One more study conduct in Pakistan by using the data of the fund manager. This study focused on the effect of behavioral finance on investment decision making. Researcher uses the questionnaire and the result shows the positive impact of heuristics in investment decision making.

Above discussion led to the development of first hypotheses of the current study:

H1: *There is a positive relationship between heuristic and investment decision-making.*

2.2. Risk Aversion and Investment Decision-Making

The capability of investors to bear the expected level of risk is known as Risk aversion. It helps the investor to take a suitable decision (Shafi, 2014). The investor usually calculates their risk and compares them with the desired return. The investors that avoid risk are known as risk-averse (Blavatsky, 2018).

Traditional Philosophies of finance state that the investor must collect all available information before making any decision. But in the physical world, the investor usually reacts differently. Research conduct in Pakistan to highlight the importance of behavioral finances. The study uses 327 questionnaires from different financial firms such as insurance and commercial banks. The result shows that risk aversion is an important criterion in decision making but the investor that are risk averse are more logical and rational (Hunjra *et al.*, 2012)

Prior research investigated the relationship and impact of risk and decision making such as Ifcher and Zarghamee (2011) stated that there is a positive relation between risk aversion and decision-making of investment. On the other hand, Disatnik and Steinhart (2014) highlighted the negative influence of risk aversion on decision-making regarding investment. On the basis of prospect theory, the investor usually follows the standards of investment to avoid the risk and unfavorable consequences, especially in an unpredictable situation (Kahneman and Tversky, 1979).

Above discussion led to the development of second hypotheses of the current study:

H2: *There is a positive relationship between risk aversion and investment decision-making.*

2.3. Financial Information and Investment Decision-Making

Financial information is important for the investor and creates a way to calculate the returns from the investment (Asif *et al.*, 2016; Matar and Eneizan, 2018). According to the researcher, individual and firm fund manager can predict the return by using different tools and can make a sound decision. The appropriate decision can help them to maximize the return and also minimize the expected risk of loss (Chatman *et al.*, 2014).

Researches use different tools to estimate the return of investment such as CAPM (Carter Muller and Ward, 2017), technical analysis (Lee *et al.*, 2011), portfolio risk assessment (Paquin *et al.*, 2016). According to Gitman and Joehnk (2008), the decision of any investor depends on numbers of criteria and believes. These believe and information create or force the investor to take any decision it can be an overreaction of available information or it can be a suitable decision for the betterment of the firm. Rehman and Arif (2015), did not find any impact of financial information on investment decision making. Above discussion led to the development of third hypotheses of the current study:

H3: *There is a positive relationship between financial information and investment decision-making*

2.4. Corporate Governance and Investment Decision-Making

According to the Too and Weaver (2013) research, if the organization has good corporate governance it helps the management to take the sound decision of investment. One more researcher indicates that poor corporate governance led to the poor decision making of investment and affect the firm badly (Schneider and Scherer, 2013). Another research conducts to investigate the relationship between corporate governance and investment decision. Result reveals firms that have poor governance can lead to the extra cost and affect the productivity of a firm (Cohn and Rajan, 2013). The researcher also indicates that firm objective can also affect due to the weak corporate governance (Zagorchev and Gao, 2015).

One more researcher conducts in Pakistan by using 701 investors that make the investment at the individual level. The result shows that there is a positive relationship between good corporate governance and investment decision making (Mumtaz *et al.*, 2018). The firms that do not have quality corporate governance cannot attract the attention of investors (Leuz and Wysocki, 2008). According to the researcher Klapper and Love (2004), investigate 14 stock market that is emerging. It shows that there is a positive impact on good corporate governance and investment as well as firm performance. On the basis of behavioral finance theory, investor decision varies from one situation to another (Fromlet, 2001).

Above discussion led to the development of the fourth hypotheses of the current study:

H4: *There is a positive relationship between corporate governance and investment decision-making*

2.5. Experience and Investment Decision-Making

Experience refers to day-to-day observation and opinion. It has psychological features such as knowledge, skill and estimates the activity on daily basis (Rakow and Newell, 2010). History shows that investors have experience can make a better decision for investment (Brown and Ryan, 2003; Rakow and Newell, 2010; Ungemach et al., 2009).

Study conducted in Pakistan shows a positive relationship between experience and investment (Mumtaz et al., 2018). According to the prior research, experience shows a positive impact on investment decision making such as (Brown and Ryan, 2003; Hau et al., 2010; Weber et al., 2004). One more study conduct in Malaysia by using 199 sample size of investors. The result shows that experience of investor from 5 to 20 years depends on accounting information.as per the view of research, most of the investor consider their last experience as a sign of their next move. On the basis of self-assessment theory, investor and organization use it as a foundation to maximize the return. Self-assessment also help to make a decision more appropriate (Duval and Wicklund, 1972).

Above discussion led to the development of fifth hypotheses of the current study:

H5: *There is a positive relationship between experience and investment decision-making.*

2.6. Age and Investment Decision Making

Research shows that the investors that are older make an inappropriate investment decision. Adult age ranges from 80 to 90 have medical issues which make them unstable for better decision making. That study further reveals that the old age investor usually makes problem in making transaction such as transfer of fund and use of credit card. The problem has U-shaped outline i.e. the cost reduce at the age of 53 (Kabra et al., 2010).

Study conduct in the United States to test the relationship of age and decision making of investment. Researcher use sample of investor ageing for more than 60 years. The result shows that investors over 60 years are poor in financial education. Whereas, the confidence has no link with the growing age (Finke et al., 2016).

Above discussion shows that there is the impact of age in making the investment decision making and it creates the gap for the current research to check the moderating effect of age in investment decision making. So the hypotheses for the current research are:

H6a: *The age of the investor has a moderating effect in the relationship of heuristics and investment decision making.*

H6b: *The age of the investor has a moderating effect in the relationship of risk aversion and investment decision making.*

H6c: *The age of the investor has a moderating effect in the relationship of financial information and investment decision making.*

H6d: *The age of the investor has a moderating effect in the relationship of corporate governance and investment decision making.*

H6e: *The age of the investor has a moderating effect in the relationship of experience and investment decision making.*

2.7. Gender and Investment Decision making

Study conduct to investigate the factors that influence investment decision making in the different age group of male and female. The planning of investment varies from person to person. The result shows that gender has an impact on the investment made. Most importantly gender creates a difference in taking the risk margin (Agarwal et al., 2009).

One more research conduct to understand the effect of gender in equity investment. The researcher using a Swedish equity firm to collect the data. The finding of the research shows that the female investor of young age does not prefer to invest in equity. Female are more risk averse than male. Apart from that, the male investor also follow the pattern of investment in the project that has the majority of male investor (Mohammadi and Shafi, 2018).

Another study reveals the gender effect on the financial ability of a firm. Research focus on the CFO gender and its capability to conduct the financial transaction. The result shows that woman CFO is usually risk averse as compare to the man CFO. It concludes that male CFO is more effective in making investment policies (Francis et.al 2015). Research conduct in the US shows that women usually invest in a long period of time because on average women live longer than man (Montford and Goldsmith, 2016).

Above discussion shows that there is the impact of gender in making the investment decision and it creates the gap for the current research to check the moderating effect of gender in investment decision making. So the hypotheses for the current research are:

H7a: *The gender of the investor has a moderating effect in the relationship of heuristics and investment decision making.*

H7b: *The gender of the investor has a moderating effect in the relationship of risk aversion and investment decision making.*

H7c: *The gender of the investor has a moderating effect in the relationship of financial information and investment decision making.*

H7d: *The gender of the investor has a moderating effect in the relationship of corporate governance and investment decision making.*

H7e: The gender of the investor has a moderating effect in the relationship of experience and investment decision making.

2.8. Financial Education and Investment Decision Making

Financial education has become increasingly important requirement to work in the community and trends in the business processes and services (Arif, 2015). History shows that in order to take a sound investment decision, financial education is important. Researcher state that savings can be transfer into investment. The investor behavior varies from situation to situation. Result conclude that financial education helps the investor by introducing theories and different policies of accounting (Sharma *et al.*, 2017). Another research shows that the education related to the finance help the investor in decision making at local and international level (Lusardi, 2015).

Above discussion shows that there is the impact of financial education in making the investment decision and it creates the gap for the current research to check the moderating effect of gender in investment decision making. So the hypotheses for the current research are:

H8a: Financial education of the investor has a moderating effect in the relationship of heuristics and investment decision making.

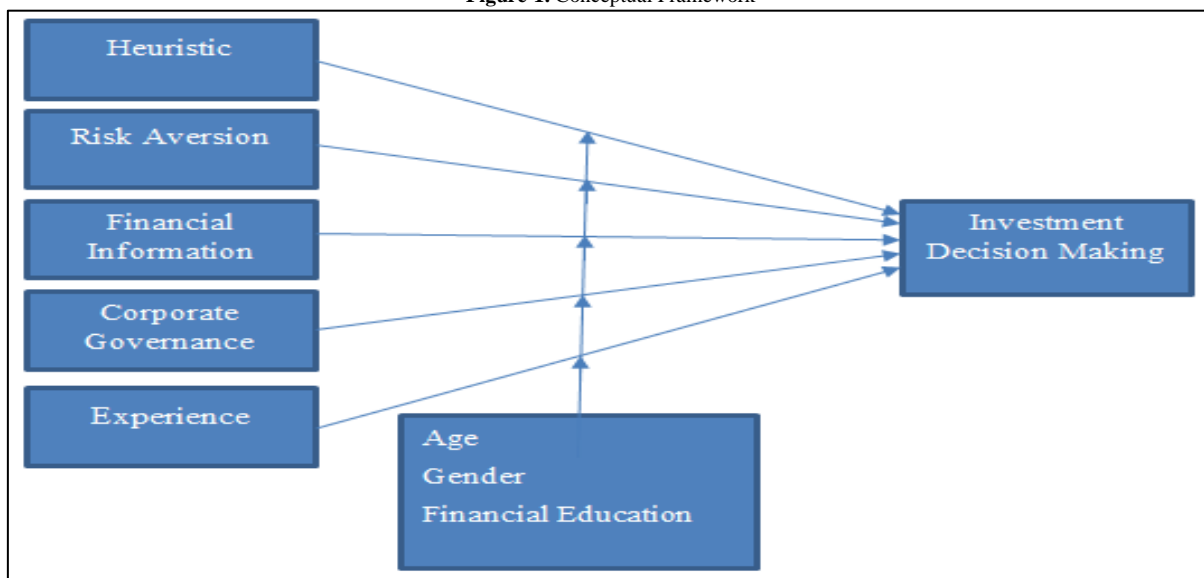
H8b: Financial education of the investor has a moderating effect in the relationship of risk aversion and investment decision making.

H8c: Financial education of the investor has a moderating effect in the relationship of financial information and investment decision making.

H8d: Financial education of the investor has a moderating effect in the relationship of corporate governance and investment decision making.

H8e: Financial education of the investor has a moderating effect in the relationship of experience and investment decision making.

Figure-1. Conceptual Framework



3. Methodology

The study utilized a quantitative research design for that the data was collected using a structured questionnaire. The questionnaire was initially distributed to 82 individuals and 51 questionnaires were returned. The pilot study was conducted using 51 filled questionnaire and for that purpose, exploratory factor analysis (EFA) was performed and the factor loading of each item was checked. The results of EFA showed the factor loading of each item to be greater than 0.7 on their respective constructs being acceptable and none of the items was removed from the questionnaire. In the next step, the questionnaire was sent to 570 individuals out of that 374 questionnaires were returned however 372 of the questionnaires were found to be useable for the further data analysis and the rest 2 questionnaires were discarded. The study framework had 6 constructs namely heuristics, financial information, corporate governance, risk aversion, and experience were independent variables while investment decision making was dependent variable while age, gender and financial education were moderating variables. All the latent construct were measured using multi items based on 5 point Likert scales from 1 strongly disagree to 5 strongly disagree. The data collection instrument was developed referring to past researches done on the seminal researches. The items used in each construct are tabulated in the table below along with the alpha value of construct reliability.

For the assessment of direct and indirect relationships found in the study framework, Structural Equation Modelling was applied. For this SmartPLS 3 was used. However, before running the main data analysis on SPLS a data screening process was performed using Excel and SPSS. The data screening involved. Missing value and outlier detection, the normality of the data and checking for the unengaged responses. Thereafter a measurement model was estimated and based on the result of convergent validity including factor loading, average variance extracted (AVE),

Composite reliability (CR) was examined. Furthermore, the discriminant validity was also examined based on the criteria by Hair *et al.* (2011).

Table-1. Number of Items included in each construct, with sources

Construct	No. of Items	References
Heuristics	07	(Waweru <i>et al.</i> , 2008)
Financial Information	04	(Waweru <i>et al.</i> , 2008)
Corporate Governance	15	(Klapper and Love, 2004)
Risk Aversion	04	(Mayfield <i>et al.</i> , 2008)
Experience	15	(Brown and Ryan, 2003)
Investment Decision Making	07	(Pasewark and Riley, 2010)

4. Result and Analysis

The first stage of the PLS-SEM was performed by estimating the measurement model. Results show that indicator loadings for all items exceeded the recommended value of 0.7 (Hair *et al.*, 2009). The values for AVE ranged between 0.63 and 0.87, hence exceeding the benchmark value of 0.5 and CR values ranged between 0.94 to 0.96 exceeding the benchmark value of 0.7 (Hair *et al.*, 2009) see table 2. The measurement items' discriminant validity was examined following the criteria of Fornell and Larcker (1981) see table 3. The table shows the discriminant validity of the construct used in the model and shows that all values of AVEs present in the diagonal are higher than the off-diagonal values of inter-construct squared correlations.

Table-2. Results of Measurement Model

Construct	Items	Loading	AVE	CR	Cronbach's Alpha
Corporate Governance	CG1	0.7847	0.6546	0.96590	0.9621
	CG2	0.864			
	CG3	0.8267			
	CG4	0.8139			
	CG5	0.8326			
	CG6	0.7238			
	CG7	0.8218			
	CG8	0.8316			
	CG9	0.8281			
	CG10	0.8627			
	CG11	0.8098			
	CG12	0.7511			
	CG13	0.8327			
	CG14	0.7843			
	CG15	0.7534			
Experience	Exp1	0.784	0.6396	0.9638	0.9597
	Exp2	0.8252			
	Exp3	0.8362			
	Exp4	0.7428			
	Exp5	0.8425			
	Exp6	0.7983			
	Exp7	0.7908			
	Exp8	0.7824			
	Exp9	0.7997			
	Exp10	0.8152			
	Exp11	0.7827			
	Exp12	0.7965			
	Exp13	0.8092			
	Exp14	0.8255			
	Exp15	0.7586			
Financial Information	FI1	0.8731	0.8125	0.9454	0.9228
	FI2	0.9059			
	FI3	0.8891			
	FI4	0.9361			
Heuristics	H1	0.7585	0.7262	0.9488	0.937
	H2	0.876			
	H3	0.8972			
	H4	0.8338			
	H5	0.8215			

	H6	0.8915			
	H7	0.8781			
Risk Aversion	RA1	0.9152	0.8706	0.9642	0.9504
	RA2	0.9212			
	RA3	0.9373			
	RA4	0.9579			
Investment Decision Making	IDM1	0.8143	0.7206	0.9475	0.9353
	IDM2	0.8763			
	IDM3	0.8567			
	IDM4	0.8157			
	IDM5	0.8688			
	IDM6	0.8532			
	IDM7	0.8552			

Table-3. Discriminant Validity of Constructs

	CG	EXP	FTT	HEU	IDM	RA
CG	0.809					
EXP	0.4526	0.7997				
FI	0.5959	0.4213	0.9014			
HEU	0.56	0.3916	0.5238	0.8522		
IDM	0.6511	0.4916	0.6068	0.5669	0.8489	
RA	0.5747	0.3845	0.5083	0.5272	0.5722	0.933

The second stage of PLS-SEM (Path analysis) was performed to estimate the structural model. For this purpose, R² and significance values of the path model were examined (Hair et al., 2011). The R² for the model was found to be 0.56 (see figure 2).

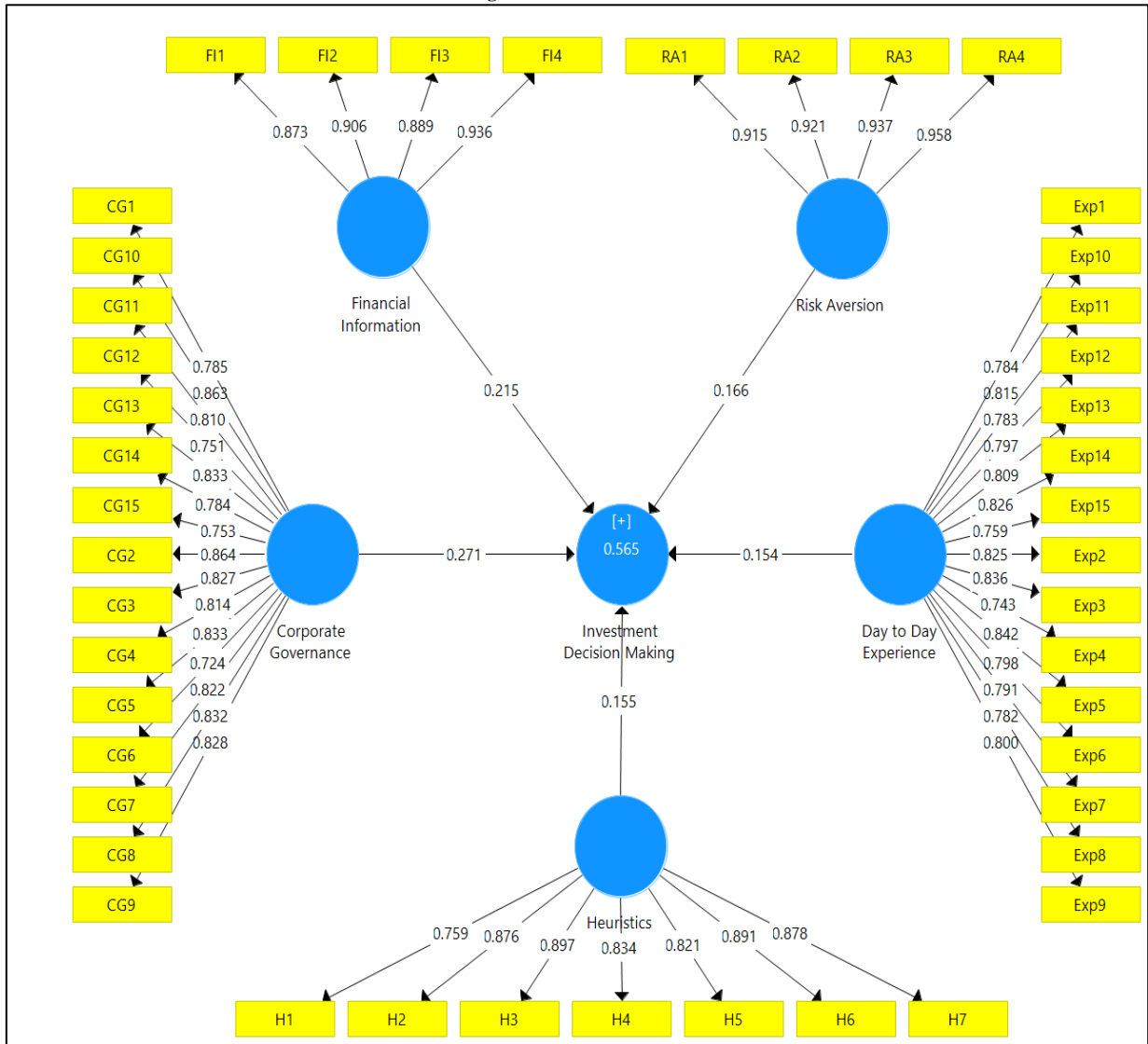
The hypotheses of the study show the relationship of Heuristics, Experience, Corporate Governance, Financial information and Risk Aversion with Investment Decision Making. Moreover the study hypothesized all these relationship with the moderation of Age, Gender and Financial Education. The results depicted that Heuristics, Experience, Corporate Governance, Financial information and Risk Aversion are all significantly and positively related to Investment Decision Making (see table 4) for the direct effects.

Table-4. Results of Direct Effects

Hypotheses/Path	Path Coefficient	T Statistics	Decision
H1: Heuristics → Investment Decision Making	0.1545	2.937***	Supported
H2: Risk Aversion → Investment Decision Making	0.1665	3.127***	Supported
H3: Financial Information → Investment Decision Making	0.2149	2.726***	Supported
H4: Corporate Governance → Investment Decision Making	0.2712	3.658***	Supported
H5: Experience → Investment Decision Making	0.1539	2.119**	Supported

Note: ***P-value<0.01, **p-value<0.05

Figure-2. Structural Model



Moreover, the moderating effect was tested for the relationships. There were three moderating variable i.e. Gender, Age and Financial Education. The results of the moderating effects are shown in the table below. The moderating effect of gender was found to be significant in the relationship of (financial information, corporate governance, and experience) and investment decision making. The moderating effect of age was found to be significant in the relationship of (Heuristics, Corporate Governance, and Experience) and investment decision making while the moderating role of financial education was found to be significant in the relationship of (financial information, corporate governance and experience) and investment decision making.

Table-5. Results for Moderating Effects

Moderator	Path	T -Value	Decision
Gender	Heuristics -> Investment Decision Making	0.86	Not-Supported
	Risk Aversion -> Investment Decision Making	1.82	Not-Supported
	Financial Information-> Investment Decision Making	2.23**	Supported
	Corporate Governance -> Investment Decision Making	2.34***	Supported
Age	Experience -> Investment Decision Making	3.18***	Supported
	Heuristics -> Investment Decision Making	2.34***	Supported
	Risk Aversion -> Investment Decision Making	1.62	Not-Supported
	Financial Information-> Investment Decision Making	1.01	Not-Supported
Financial Education	Corporate Governance -> Investment Decision Making	2.46***	Supported
	Experience -> Investment Decision Making	2.18**	Supported
	Heuristics -> Investment Decision Making	0.87	Not-Supported
	Risk Aversion -> Investment Decision Making	1.86	Not-Supported
	Financial Information-> Investment Decision Making	2.26**	Supported
	Corporate Governance -> Investment Decision Making	2.32**	Supported
	Experience -> Investment Decision Making	3.22***	Supported

Note: ***P-value<0.01, **p-value<0.05

5. Discussion

The above study aimed to investigate the factors affecting investment decision making. Moreover, the moderating effect of age, gender, and financial information were also tested. The results found the Heuristics, Risk Aversion, Financial Information, Corporate Governance and Experience to be significant factors affecting the investment decision making. Moreover, the moderating effect of gender was found to be significant in the relationship of (financial information, corporate governance, and experience) and investment decision making. The moderating effect of age was found to be significant in the relationship of (Heuristics, Corporate Governance, and Experience) and investment decision making while the moderating role of financial education was found to be significant in the relationship of (financial information corporate governance and experience) and investment decision making.

Research shows that investors can appropriate decision in a short span of time with the help of heuristic (Brabazon, 2000; Ritter, 2003), Research shows a positive relationship between Heuristic and investment decision making (Bakar and Yi, 2016), The results of the current study are in line with the above literature. Hence the positive relationship between heuristics and investment decision making was found to be supported by the above-mentioned literature. Risk aversion helps the investor to take a suitable decision. (Shafi, 2014). The result shows that risk aversion is an important criterion in decision making but the investor that are risk averse are more logical and rational (Hunjra et al., 2012). Prior research investigated the relationship and impact of risk and decision making such as Ifcher and Zarghamee (2011) stated that there is a positive relation between risk aversion and decision-making of investment. Hence supporting the result found by the current study. According to Gitman and Joehnk (2008), the decision of any investor depends on numbers of criteria and believes. These believe and information create or force the investor to take any decision it can be an overreaction of available information or it can be a suitable decision for the betterment of the firm. According to the Too and Weaver (2013) research, if the organization has good corporate governance it helps the management to take the sound decision of investment. One more researcher indicates that poor corporate governance led to the poor decision making of investment and affect the firm badly (Schneider and Scherer, 2013). . The result shows that there is a positive relationship between good corporate governance and investment decision making (Mumtaz et al., 2018). Hence supporting the relationship of corporate governance and investment decision making as found by the current study.

History shows that investors have experience can make a better decision for investment (Brown and Ryan, 2003; Rakow and Newell, 2010; Ungemach et al., 2009). A study conducted in Pakistan shows a positive relationship between experience and investment (Mumtaz et al., 2018). According to the prior research, experience shows a positive impact on investment decision making such as Brown and Ryan (2003); (Hau et al., 2010; Weber et al., 2004). Hence supporting the relationship of experience and investment decision making as found to be significant in the current study. The gender, age and financial knowledge of the investor has a significant role in investment decision making. In this regard, the study tried to test these characteristics as moderating variables. The results found the moderating role of these characteristics on several factors.

6. Limitation and Future Research

The current work has few limitations as the data was only taken from Iraq so the results cannot be generalized to the other part of the world. Moreover, the framework of the study only covers the five factors there may be more factors that can affect the investment decision making hence the future researches can include more factors. The methodology of the study is limited to quantitative design for an in-depth understanding of the phenomena qualitative data may be helpful for the researcher or a more novel methodology of mixed design would be more suitable for more insight into the topic.

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