

# The Relationship between Portfolio Management and of Return Mediating role of Perceived Financial Risk - (Empirical Study in Khartoum Stock Exchange - Sudan)

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**Abstract:-** The study aimed to test the relationship between the Variables of portfolio management diversification, marketability and return the mediating role perceived financial risk,. Research sample consist of investors in Khartoum stock exchange in Khartoum state Sudan. The sample was taken by random probability sampling. In addition for that researcher depended on questionnaire for data collection, the sample was taken from the investors who were still own the investment portfolio. This was done to facilitate the distribution of questionnaires and the accuracy of answers given by the investors. Research sample 400 investors the total response rate 81.75% the analysis technique used in this research is quantitative data analysis technique using Path Analysis modeling using (AMOS v 25). The results revealed the relationship between portfolio management and return it positive because it different form zero at 0.05 level of significance. And the relationship between portfolio management and perceived financial risk it positive because it different from zero at 0.05 level of significance. And the relationship between perceived financial risk and return it positive because it different from zero at 0.05 level of significance. The mediating role of perceived financial risk on the relationship between portfolio management and return it positive because it different from zero at 0.05 level of significance. The recommendation is must be well diversified of individual portfolio by less correlations (assets components of portfolio). The investor should know about benefit of diversification education may be solution. The achieved return of portfolio should be near to expect return should have known much about investor's goals and preferences to develop framework that describes how they form portfolio.

**Keywords:-** Portfolio Management, Diversification, Marketability, Risk, Return.

## I. INTRODUCTION

The finding indicate that individual investor rely more on newspapers and media/ sound in the market (Dimitrios I. Maditinos 2007) professional investors focus on fundamental and technical analysis in investment decisions and less on portfolio analysis. The techniques that use by professionals fiduciaries, Investment managers, and clients for stock analysis. For better performance of portfolios we must manage the risk and assets allocation properly.

Portfolio (Douglas Hubbard, 2009). Risk is became art as a science, tools unitized by investor can provide precious insights regarding portfolio risk and must be applied with great care. Risk analysis,.(Madhavan & Yang, 2003)

Past returns have little “prediction power.” These problem are discussed in many academic studies, including (Jorion 1996, 2000, Michaud, 1989) (Pavlo Krokhmal1, Jonas Palmquist, and Stanislav Uryasev.2016) The analysis might also be spread by taking into attention the impact of taxes, transaction costs and on the return from diversification in real estate portfolio.( Stephen Lee† & others,2000). The portfolio securities foundations to manage them are as follows(planning, time, The reservation and prudence, Supervision and follow-up) .( bin Amer bin Hacene 2013) Focusing on number of stocks .Well diversified portfolio randomly chosen stocks (meir statmen 1987). (Evans & archer1968), concentration on the return outline of many stock portfolios, (de Vassal,2011) the relationship between number of stocks and portfolio performance is ejective. This research takes on to consideration over all managing of portfolio and relationship with return. And investor behavior. Look at research framework.

**II. LITERATURE REVIEW**

**A. Diversification of portfolio**

Different way to consider about a diversified portfolio is to examine one that contains a huge number of stocks. The return variance of a portfolio of a Collection of stocks is lower than the average variance of the individual stocks, except all of the stocks are perfectly correlated. (Evans and Archer (1968), the market portfolio variance was well estimated with only 10 securities. The benefit of possess a huge number of stocks lead to better portfolio performance was clearly confirmed in a more latest study, where created a set of portfolios where Each portfolio can hold a supreme of N stocks. Using a particular algorithm, (Sankaran and Patil 1999) ( de Vassal 2001) . (Apollon Fragkiskos, 2010).

**B. Marketability**

The marketability of an asset refers to the grade to which an asset can be changed to cash speedily at equilibrium price, In theory, the value of any asset is given by the current price of the cash flows to be received from holding the asset. In the absence of taxes, transaction charges, and other limitations on trade, Investors will desire a discount if they are incapable to sell the stock for a phase of time. This discount denotes reparations to the investor for the impossibility to change the asset to cash.

This impossibility potentially reasons the investor to miss chance to allocation the portfolio to stocks with higher gains. Without suffering huge transactions charges or price concessions. the upper price an investor will be ready to pay for the stock. Reflect the degree of marketability (Long staff, 1995) (Mukesh Bajaj\*, David J. Denis\*\*& others 2007).

**C. perceived financial Risk**

the balancing between supply and demand in market it determine the price of all the assets available in the market Security gains are just the a cumulation of the price effect of the individual marketability within that time period The volatility of gains manifests changes in the imbalance between buyers and sellers over time, but not all remark returns are informative If we can predict the potential for imbalances to arise, we can predict stock risk more efficiently than others, create imbalances and contribute to risk analysis. (Christopher Kantos ,2010)

The nature of investor like high return and dislike high risk. It at all times uses return to measure the return on investment over specific time titled (holding period). Return tested by the sum change in the market value of an asset plus any income gained over a holding period divided by the value of asset at the opening of holding period. In describing security we mentioned some factors that would affect perceived financial risk these included:

1. The maturity period of portfolio (in overall the longer the maturity period the more risky it).
2. The risk features and credit competence of issue or warrantor of investment.
3. The nature and precedence of claim the investment has on gains of stocks.
4. The liquidity of portfolio and kind of market , asset allocation, tools of measuring the risk as changeability of return should be related to same factors.( Edwin J.elton and others , 2011).

**D. Return**

Showed that portfolio’s compound return is greater than the weighted average of the compound returns on the stocks in the portfolio. The contribution of apiece stock to the portfolio return is superior than its compound return. The rationalization for this is that the impact of each asset and portfolio variance is fewer than its own variance due to fewer than Perfect correlation (Apollon Fragkiskos .2013) Presentation the influence to return, Booth and Fama (1992) In exchange for abandoning satisfy a specific need at the present time Through the above, we can say that the rate of return is unique of them process variables Investment because it measures the speed by which increases investors' wealth or lack, and therefore the most Cares about the investor is the added value obtained from his investments, that is, through his sacrifice Temporary his money, which is represented by the rate of return that can be calculated and appreciation subject to change who gets the wealth Investor through time. The return is the absolute wealth at the end of the period - beginning of the period of wealth and it is:

**The rate of return** = ( cash flows - (w 1 - w 0 / w 0) (bin Amer bin Hacene 2013).

**Theoretical Framework**

**H1**

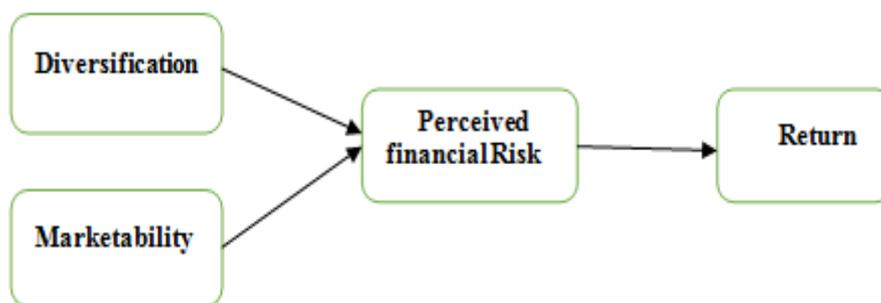


Fig 1:- Theoretical Framework  
Source: Zeeshan Mahmood & others 2015

➤ *Hypotheses*

We assume that all these factors have certain effects that drive the investors (diversification, marketability, perceived financial risk,). In order to investigate the effect of these factors on the return. So we assume these Hypotheses.

- H1:** Does diversification has positively influence on return
- H2:** Does Marketability has positively influence on return
- H3:** Does diversification has positively influence on risk
- H4:** Does Marketability has positively influence on risk
- H5:** Does Risk has positively influence on return
- H6:** Does risk mediate positively influence between diversification and return
- H7:** Does risk mediate positively influence between Marketability and return

**III. METHODOLOGY**

*A. Measurement*

Measures for all constructs were taken from the existing literature. Moreover, the questionnaire items were

adapted from different sources. The questionnaires were directed to 400 investors in Khartoum stock exchange - Sudan only 324 investors, resulting in a response rate of 81.75% First we measured diversification using 10 items from Shigeri nouri , marwn (2007). Perceived financial risk was measured by a 8 items by Jersey 2017. And rate of return measured by 8 items by Malaz khalafallah (2014). Marketability measured by 7 items Jonthan pliner (2017). edward brtittenham (2012). All responses were measured using five-point scale elements, ranging from "5 refer Strongly Agree. To "1 refer Strongly Disagree"

*B. Data Analysis And Results*

Data were examined using Amos in Structural Equation Modelling (SEM). Examination and interpretation of the model is a two-stage process. The first is to evaluate the reliability and validity of the measurement model and the second is to evaluate the structural model to test the hypotheses under study. These assessments are presented in the following subsections.

Variable		Frequency	Percent
<b>Gender</b>	Male	155	50.2
	Female	154	49.8
<b>Age</b>	less than 25	30	9.7
	25-35	118	38.2
	36-45	61	19.7
	above 45	100	32.4
<b>Education</b>	under graduate	27	8.7
	Graduate	166	53.7
	post graduate	110	35.6
<b>Specialization</b>	Engineering	40	12.9
	Medical	36	11.7
	Social	64	20.7
	Others	168	54.4
	Missing systems	1	0.3
<b>Activities</b>	special sectors	126	40.8
	government sector	105	34.0
	free business	44	14.2
	Others	34	11.0
<b>Experience</b>	less than 5	100	32.4
	5-10	87	28.2
	10-15	58	18.8
	15-20	34	11.0
	more than 20	29	9.4
	Missing systems	1	0.3
<b>Total</b>		<b>309</b>	<b>100%</b>

Table 1:- Demographic information

Source: prepared by researcher from statistical analysis results 2018.

*C. Structural Equation Modeling*

Structural equation modeling (SEM) has become very communal among researchers (Kline, 2011) and without a doubt it is consider as one of the greatest substantial data analysis techniques (Kaplan, 2009). It consists of two parts namely the first structural part links latent builds to each other via a system of simultaneous equations Second measurement part links the manifest variables (experimental) to their latent (unobserved) variables via

confirmatory factor analysis and structural parts. (Kaplan, 2009).

➤ *Hypothesis testing (direct effects)*

The hypothesis direct structural relations are talk over; the significance of assessed path was tested as it providing the basis to agree or discard a hypothesis.

D. Reliability Analysis

➤ Assessment of the measurement model: reliability and validity

Measurement model is used for the qualitative evaluate of validity and reliability of the builds comprised in a study (Henseler et al. 2009). In this study, we first processed an exploratory and confirmatory factor analysis (EFA) and (CFA), to ascertaining whether the pre-determined sets of variables were interconnected in the hypothesized mode.

The internal consistence of reliability was evaluated using composite reliability (CR) for Cronbach’s alpha the score of 0.7 and above it is accepted (Hair et al. 2010) is considered to be adequate. In the current study, the value of (CR) **Composite reliability it showing in Table (2):**

variables	Cronbach’s alpha (Composite reliability)
Return	.804
Diversification	.783
Marketability	.790
Risk	.834

Table 2:- Source: prepared by researcher from statistical analysis results 2018.

To assess the impact of portfolio management, such as Diversification and Marketability on return mediating by **perceived financial risk**, structural equation modeling has been employed and a measurement model of these constructs has been assessed. Figure 2 reveals that reflective indicators have been used for the measurement of latent constructs and non-causal relationship has been studied among different constructs, by drawing path

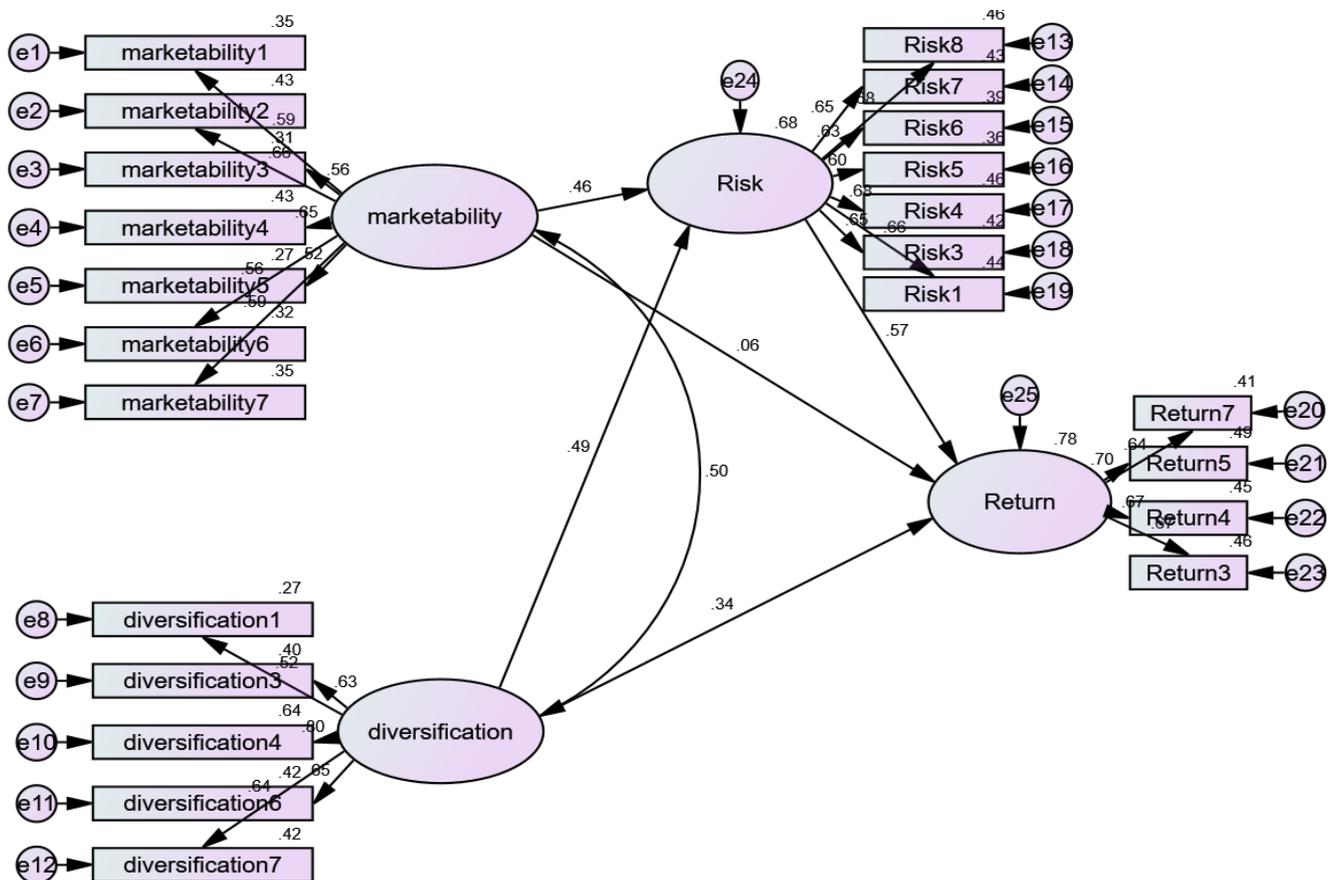


Fig 2:- structural equation modeling

The structural model reveals the same value of model fit. The low index of R2 (Coefficient of Determination) square (i.e. 0.68 and 0.78) justifies the underlying theoretical model. However, The indirect (mediated) influence of diversification on Return is .382. That is, due to the indirect (mediated) effect of diversification on Return, when diversification goes up by 1, Return goes up by 0.382.. While, the indirect (mediated) effect of marketability on Return is .336. That is, due to the indirect (mediated) effect of marketability on Return, when marketability goes up by 1, Return goes up by 0.336.

E. Exploratory Factor Analyses

Researcher used EFA to examine the adequacy of the sample by using Bartlett’s test of sphericity and the Kaiser-Meyer-Olin’s (KMO) test of sampling adequacy. EFA outcome found KMO = 0.753 and a significant Bartlett’s test ( $\chi^2 = 809.608, p < 0.000$ ), showing that factor analysis is suitable (Hair et al. 2010). Reliability analysis was completed on all the builds by computing Cronbach’s alpha. By reliability analysis of the survey, few items were removed and the rest was retained for **Structural equation modeling analysis as shown in Table (3):**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.790
Bartlett's Test of Sphericity	Approx. Chi-Square	412.623
	Df	10
	Sig.	.000
I invest in different economic sectors		.693
I change the percentage weight of portfolio assets according to market study.		.755
I invest in different financial securities type.		.836
The components of my portfolio consists of different time range		.689
My investment portfolio contain securities of ancient companies in the market		.667
The information available about quality of price of financial securities.		.620
Financial information in cash flow statement helps me to determine the prices of securities.		.663
I get the information of companies performance in fair time and cyclical		.592
profit distributed on stock it the main indicator of sell & buy		.629
I face difficulty to marketable of financial securities		.727
the brokers increase the efficiency the marketable of financial securities		.719
I anticipate the price of securities according to available information about the price in the past.		.699

Table 3:- Source: prepared by researcher from statistical analysis results 2018.

	Mean	Std. Deviation	Return	Diversification	Marketability	Risk
Return	3.68	.657	1			
Diversification	3.56	.573	.642**	1		
Marketability	3.67	.621	.489**	.483**	1	
perceived financial risk	3.81	.609	.687**	.627**	.582**	1

Table 4:- Descriptive Statistics (mean and standard deviation & correlation)

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Source: prepared by researcher from statistical analysis results 2018.

**F. Measurement Model (Confirmatory Factor Analysis)**

Measurement model is used to discover out the relations between items and latent variables. In the given model, 23 items were loaded on three exogenous factors (diversification, marketability, perceived financial risk,) and one endogenous factor (return). Confirmatory factor analysis was done in order to measure the reliability and validity.

The results of structural model expose the same value of model fit. The low index of R2 square (Coefficient of

Determination) (i.e. 0.68) justifies the underlying theoretical model. However, when marketability & diversification goes up by 1 standard deviation, Return goes up by 0.322 & 0.615 sequence standard deviations. While, The probability of getting a critical ratio as large as 4.237 & 6.298 in absolute value is less than 0.001. In other words, the regression weight for diversification and marketability in the prediction of Return is significantly different from zero at the 0.001 level (two-tailed).

		Estimate	S.E.	C.R.	P
Return	<--- marketability	.444	.105	4.237	***
Return	<--- diversification	.846	.134	6.298	***

Table 5:- Regression Weights: (Group number 1 - Default model)

Source: prepared by researcher from statistical analysis results 2018.

**IV. DISCUSSION AND CONCLUSION**

The research aims to test the relationship between portfolio management diversification, marketability, and of Return mediating role of perceived financial risk.

**Hypothesis testing (direct effects)**

The hypothesis direct structural relationships are discussed; the significance of estimated path was examined as it provided the basis to accept or reject a hypothesis.

**H1: diversification has positively influence on return Support**

This is true for equity widely agreeable idea that the gains of diversification are practically exhausted when is portfolios have approximately ten stocks (evan, archer 1968). Beside the relationship or covariance between returns on the individual stocks joined into a portfolio. Diversification decreases risk, the advantageous across countries from perception of local investor (driessen and la even 2007). Investor was first permissible to trade in regional stocks market according the fact that investors have a preference to familiar investing chances. (huerman 2001). Than they were allowed to invest globally. (applon 2014).

**H2: Marketability has positively influence on return support.**

The discount of lack marketability is can be huge even when the extent of marketability limitation is very short. It considered indicators stock price mirror that reflects the general economic situation in the state an important tool to predict future economic situation it help to take investment decision .(Kaplan 2011). Investor chase past return.

Investors are not chasing future performance not the past and doing so compete away the chance of interest from the skill that produced the historic superior performance (b.berk 2013).Considered dividends for shareholders is most important indicators related upon by investment decision (jabber 2006). Better diversification related to Trading volume and return on stock are connected to whereas profit margin and yield on stock related to least diversification (Khan 2017).

➤ *Relationship between portfolio management and perceived financial risk*

### **H3: diversification has positively influence on risk support**

However the probability of getting a critical ratio as huge as 5.64 in absolute value is less than 0.001. In other lyrics, the regression weight for diversification in the forecast of Risk is significantly different from zero at the 0.001 level.

The benefit from diversification are great when there is negative correlation between asset returns, the positive correlation that exists between assets maximize the risk .diversification can reduce the degree of risk. (McGraw-Hill 2010). (Buchner 2017). (apollon.2014, patil 1999, de vassal 2001). (Maringer.2008) (Buchner 2017) (seham 2010).There is exists linear relationship between systematic risks and portfolio return (apollon 2014). Portfolios make somewhat lesser degree of risk diversification advantage than investment trusts (goskum 2007). forecasts and Opinions regarding countries ,industries, companies, and portfolio composition and holdings, are all subject to alteration at any period, established on market and other circumstances, and would not be built as a suggestion of any specific stock. (haward 2014).Lack saving and investment awareness m twice listed companies in market management , positive diversification on the assets of investment portfolio on of the most effective means to reduce the risk of investing in securities ( jabber 2006, pinto 2011) .

The gain of diversification such as reducing the level of risk and variance in portfolio , investors in most circumstances tend to possess securities under diversified portfolio ,which reflected as costly ad sub-optimal decision (blume & friend 1975, de bondt 1998, Kelly 1995, khan 2017). The model appears to detention features of return distributions quite well and the result in common market shocks are, on average, in a high-volatility regime about 23% of the time. few market pairs, e.g. Italy and UK, incur few common shocks and as a result are likely to provide risk decrease benefits if held composed in portfolios. (falvin 2006)Outcomes confirmation that there is a significant correlation between credit portfolio diversification and risk

(Raeia2016) the anticipated stock returns are statistically diverse between regimes. (Flavin 2006)

I disagree with (Buschmann2017) Risk Hypothesis” posits that the expected negative effect relationships between diversification and risk in fund risk. Because the fund managers select the risk investment to achieve the excellent performance in fund portfolio.

### **H4: Marketability has positively influence on risk support**

The probability of getting a critical ratio as great as 5.593 in complete value is less than 0.001. In other lyrics, the regression weight for marketability in the forecast of Risk is significantly different from zero at the 0.001 level

A new and interesting set of practitioners concerns about trading, particularly in a portfolio context, imagine further growth in this area as traders realize the price of high frequency risk models to their operations. (Ananth Madhavan, Jian Yang, 2003) It can be used as indicators to measure the systematic risks of portfolio securities (Kaplan 2011) the indicator can reduce financial risk buying and selling on credit index. Choice for index is tols used t take shelter from risk (Kaplan 2011). The movement f prices for each of the studied stock exchange d not follow normal distributing that existence of random in stock prices the efficiency of these market (bin hacence 2013). There is stability in time series of price of securities is lack of the sample .random movement of prices of stocks. it means efficiency market .(bin hacence 2013) Weakness of regulatory and supervisory frame work of market operation. The cost of variability in buyer/seller imbalance information can be used as metric for short horizon risk (kanots 2010).

### **H5: Does Risk has positively influence on return support**

The outcomes the probability of receiving a critical ratio as huge as 6.806 in absolute value is less than 0.001. In other lyrics, the regression weight for Risk in the forecast of Return is significantly different from zero at the 0.001 level. And also, the probability of getting a critical ratio as large as 1.395 in absolute value is .163.

That there followed a strategy to diversify the portfolio is working to spread risks an avoid losses increase yield (yassin 2011).The evidence shows significant positive relationships between systematic risk and realized returns. However, the relationship is not always as strong as predicted by the capital asset pricing model. Franco Modigliani and Gerald A. Pogue1973 Single of the excellent-documented proposals in the field of finance is that, on average, investors for bearing greater risk have get higher rates of return on investment portfolio. (Benjamin M. Friedman, ed.1982). to describe the relationship between variables when you configure the investment portfolio that takes into account the low yielding and risk of assets low (musa,abuorai 2011) any securities linked to certain degree of return and risk it can be estimated mathematically.(kamal 2013). Return measure managerial skill the result is that

managers who hold portfolio on the some riskiness are expected to earn some return regardless the level of skill (b.brek 2013). The return and risk of an investment is elementary concepts in finance. for the investor Return means the financial result Portfolio management is mostly about reducing as much risk as possible while achieving the highest possible returns. (Marginer 2008).

There are significant and negative effects from individuals investors ' risk aversion levels which lead them to possess negative stock market anticipations. (Boram Lee2013)

	diversification	marketability
Risk		
Return	.382	.336

Table (6) Indirect Effects (Group number 1 - Default model)  
Source: prepared by researcher from statistical analysis results 2018.

While table (6) show Significance for Indirect Effects, the indirect (mediated) influence of diversification & marketability Return is significantly diverse from zero at the 0.001 level (p=.001 two-tailed).

	diversification	marketability
Risk	...	...
Return	.001	.001

Table (7) Indirect Effects - Two Tailed Significance (BC) (Group number 1 - Default model)  
Source: prepared by researcher from statistical analysis results 2018

**H6: Does risk mediate positively influence between diversification and return Support**

Individual stock just as risk adjusted stock returns should be unpredictable, so should be portfolio managers return (berk 2013, jaber 2006).

The return and risk are two main variables that were upon investment decision ,commercial banks in Sudan ,and they do not use methods to assessing ROI average internal rate of return, and net present value to decision making (ben ali 2009). Commercial banks ignore the impact of inflation or ROI when evaluating the return on investment there is no modern techniques to measure the risk. In fact risk not high they nearly not exist because the variety of investment portfolio in addition (shahama) bond certificate the most utilized (seham 2010).

The gains from diversification are not return growing but risk reduction (apollon 2014). risk propensity has significant impact on expected return as p-value is less than 0.05. In addition to this, by taking risk propensity and risk perception as mediating variable, the results show that investment experience, investment information and investment duration have significant impact upon expected return. (Zeeshan Mahmood,2015) Investing in stocks involves essential risks, containing the risk that you can lose the value of your investment. (Howard 2014)

**H7: risk mediates positively influence between Marketability and return support**

Investors cares when making an investment decision and directing set of the most important accounting information .relating to the profitability per share and net individual and company ability meet an obligation (yassin 2011.)

Investor show preference for dividend yield stock evaluation firms product and brand ,also about investment return . And superior or private information (khan 2017).

**V. FINDING:**

1. The results revealed the relationship between portfolio management and return it positive because it different form zero at 0.05 level of significance.
2. The relationship between portfolio management and perceived financial risk it positive because it different from zero at 0.05 level of significance.
3. The relationship between perceived financial risk and return it positive because it different from zero at 0.05 level of significance.
4. The mediated role of perceived financial risk on the correlation between portfolio management and return it positive because it different from zero at 0.05 level of significance.
5. This study displays that education of individual investors is very essential for the current day investors in Khartoum. Investors, before creating investments, need to gather investment related info from the web and investment experts, peers before making investments.
6. Previous loss it make investors more attention. Beside The knowledge of investors about market helps them to take right decision. Also The Financial information in cash flow statement helps investors to determine the prices of securities.

## VI. RECOMMENDATIONS

1. It must be well diversified of individual portfolio by less correlation (assets components of portfolio).
2. The investor should know about benefit of diversification education may be solution.
3. The achieved return of portfolio should be near to expect return should have known much about investor's objectives and favorites to develop framework that defines how they form portfolio.

## VII. LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

1. The main challenge faced was the distribution of the questionnaires; most individual Investors were not comfortable with the questionnaires with the core disagreement being their privacy was being break. As such, I take time to explain that the research was for academic purposes only and also in gathering data.
2. The data got from this study is likely to lack details or depth on the topic being examined- behavioral influences on the individual investor selections of securities. Securing a high response rate to a questionnaire was also tough to control.

**Future research** is advice to apply behavioral finance to reveals the behaviors impact the decisions making of institutional investors at the KSE. These study will help to test the fitness of implementing behavioral finance for all types of securities markets with all components of investors. Beside test the impact of KSE program in investment attraction. Like gold funds, communication companies fund.

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