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Does Fund Management Level of Risk Affect the Fund Performance?

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Fund management risk tolerance is a topic which is of enormous interest not only to many researchers but also to investors. Motivated by limited empirical studies on the effects of risk tolerance on fund performance in Malaysia and in response to reasonable gaps in the literature, the objective of this paper is to examine the moderating effects of fund risk tolerance on the fund characteristics and fund performance relationship. The fund characteristics consist of the type of fund, fund categories, investment objectives, and popularity of fund. Meanwhile, the time horizon and risk profile are the proxies to measure the level of risk for the fund. The fund performance measures in this study use Sharpe ratio as the fund performance measurement. The findings revealed that time horizon acts as a moderator variable on the relationship between type of fund, popularity fo fund and fund performance measured by Sharpe ratio, but does not moderate on the relationship between categories of fund, investment objective and fund performance. In addition, when risk profile was included in the test, the results indicate that the relationship of type of fund and popularity of fund with fund performance measured by Sharpe ratio is significantly moderated by the firm risk profile).

JEL Codes: C80, D80, G2

1. Introduction

Risk is defined as a chance of something going wrong or probability of loss to insurer or loss will occur (John, Wiley and sons, 2003). Meanwhile, risk tolerance is an extent to which an investor is willing to accept more risk in exchange for the chance of higher return. Recently, risk tolerance is one of the behavioral issues that have become an important topic within the fund management industries. The knowledge of risk tolerance has grown substantially, in which most of the studies are from developed countries such as Australia (Hallahan, Faff and McKenzie, 2004), and United States (Sung and Hanna, 1996; and Grable and Lytton, 1999). However, lack of studies being done on the risk tolerance related to the fund manager's performance in emerging countries particularly in Asia such as Korea, Japan, China and Malaysia.

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It is understood that the fund managers' role is to ensure exceptional performance of the firms. This is critical in the fund management industries where the shareholders are too concern on the value maximization of the firm. Therefore, more international evidence on the fund manager and firm risk tolerance is required particularly in the emerging market. However, documented empirical evidence on risk tolerance is acutely limited in the emerging countries especially in Malaysia. In addition, existing literatures with regard to risk tolerance of fund managers are still mixed and inconsistence (the inconsistency is explain in the literature review). Based on the literatures, there is no single study done to integrate various variables into one model. As so, this research will integrate various variables of fund characteristics related to fund performance together with the moderator effects of risk tolerance.

This study will identify the factors that determine the risk tolerance. Next, this study will examine the relationship of risk tolerance and the fund performance. As a result, this study provides an examination of fund performance by using an integrated approach in a single model to analyze a large set of funds in Malaysia and a thorough list of fund-specific characteristics and also the moderator effects of risk tolerance on fund performance, given the varying performance of different funds and the conflicting findings of prior studies. To accomplish these objectives, this study integrates the findings of past works with an augmented list of fund characteristics variables that have yet to be considered in previous studies. This study also fills an important gap in the academic research literature concerning the fund manager and firm risk tolerance which act as the mediator and moderator on fund performance.

2. Fund Management Industries in Malaysia

Fund Management industries in Malaysia have gradually developed with other sectors of the capital market since 1980s.The financial system has undergone significant transformation since 1990s to meet the needs of an expanding economy and changing market demands. Table 1 shows total funds managed by licensed fund management companies in Malaysia, as at 31 December 2009, which had risen by 40.9% to 315.0 billion as compare to 2008 (RM223.5 billion). The statistics include charitable bodies corporate bodies, EPF and EPF contributors, government bodies and agencies, individuals and private pension funds.

Table 1: Source of Clients' Funds Under Management in Malaysia

	Local (RM million)		Foreign (RM milliion)	
	2009	**2008**	**2009**	**2008**
Unit trust funds*	191,706.28	130,435.82	1,620.69	584.90
Corporate bodies	36,787.02	16,429.36	6,070.41	3,861.50
Employees Provident Fund	27,861.16	21,207.53	-	-
Wholesale funds**	13,958.74	4,863.67	140.10	-
Individual	2,740.07	2,148.26	227.79	156.20
Private Pension Funds	1,274.88	1,007.22	1,059.03	524.51
Charitable bodies	224.45	253.42	20.74	-
Other funds	27,629.86	39,585.08	3,701.79	2,480.19
Total	**302,182.46**	**215,930.36**	**12,840.55**	**7,607.30**

*Includes Islamic unit trust funds
**The figure in previous year was reported under "restricted investment scheme"

Source: Securities Commission Malaysia

The enormous concentration of funds into relatively few hands allows mutual fund managers to exercise immense power in financial markets. Therefore, the fund managers are significantly becoming more important to both the foreign and domestic institutions which have brought about greater opportunities for synergistic and collaborative arrangements. These fund managers have to maintain the economic growth and financial stability in the financial markets especially after the Asian financial crisis where the financial structural reform have reshaped the financial landscape and enhanced the competitive capabilities of the fund managers as the institutional players in the Malaysian financial market. The increasing demands for financial services have contributed towards the realization of the benefits derived from the diversification of risks and sources of revenue. Following the threat of recession and the effect of the financial crisis, investors put more cautious in investing their money. Therefore, the firms risk profiles towards investment are a crucial proxy for risk tolerance and improved significantly.

3. Market Portfolio Theory and CAPM

Harry Markowitz has introduced Modern Portfolio theory (MPT) in 1952 which is used in portfolio selection. The investors focused on assessing the risks and rewards of individual securities in constructing their portfolios. In identifying those securities, it is standard to refer to the fund manager that offered the highest return with less risk and the portfolio is constructed using the MPT. Markowitz has formalized that with the advice, an investor might conclude that list of stocks which offered good risk-

return characteristics and compile a portfolio entirely from these. He detailed mathematics of diversification and proposed that investors focus on selecting portfolios based on their overall risk-return characteristics instead of merely compiling portfolios from securities that each individually has attractive risk-return characteristics. Concisely, investors should select portfolios not individual securities.

Market Portfolio theory treats investors as risk averse, preferring a sure outcome to an uncertainties outcome. Whenever two investments have equal expected returns, the investment with the smallest variance should be chosen. Furthermore, MPT assumes that all investors including the fund managers dislike risk and like returns and they make decisions based on maximizing their return for the level of risk that is acceptable for them. Optimally MPT assumes investors will hold a mean-variance efficient portfolio that is a portfolio with the highest expected return for a given level of variance.

Furthermore, MPT also showed how the risk of individual bonds and stocks make the contributions to risks and the return on a financial portfolio. The most commonly used techniques for financial diversification decisions are the Capital Asset Pricing Model (CAPM). This is the backbone of modern price theory for financial markets. However, in global financial markets the used of CAPM for perfect predictions and complete knowledge of the all the decisions of all other players in the market are increasingly unrealistic (Hirshleifer, 1998; and Lewellen and Shanken, 2002). To fill this gap, this study is primarily focus on the behavioral attributes to examine the importance of individual aspects in financial decision making. Therefore, this study is based on sound theoretical literature referred to in previous research, and has no plan to ‘reinvent the wheel’. However, it is expected that this research will contribute to another frontier of knowledge in related fields.

For the last 30 years, financial advisers have been forced to adapt to these revolutions within their business. Until today, many fund managers who have increased their value based on the theory of asset allocation and MPT are facing the reality of asset allocations practical failure being exposed by the mathematical facts and also the human integrity in financial decision making. However, recently the advisors faced an evolution which is contrast with the previous decade (Merton, 1986). This evolution can be particularly easy to make if one has basic competency and just slightly above average listening and cognitive skills. The different is that, the evolution recognizes that each client is different and each advisor can uniquely add value to the client. The value added can be truly measured and demonstrated. Hence this research is conducted to do so.

The above explains the basic value proposition that most fund managers articulate to potential clients and they follow the general concept of MPT. The service that the fund managers provide is a process to meet the financial goals. They normally begin with an investor profile and understand the tolerance of risk and expectation of return of the clients. However, the popularity of asset allocation over the last decade has

caused many fund managers to succumb to the pressure of defining a specific risk tolerance and to create an optimized portfolio based on MPT (Brennan, Schwartz, and Lagnado, 1997). In this theory, optimal risk applies to the construction of risk-efficient portfolios where investors are trying to minimize variance (risk) at the same time they try to maximize their returns (Harlow, 1991). There is a perfect combination of asset classes.

4. Fund Characteristics

The researcher hypothesize that there is a relationship between fund characteristics (FdC) and fund performance using Sharpe ratios (FPS). The elements of fund characteristics in this study are type of fund (TOFdC), categories of funds (FCgFdC), investment objectives (IObFdC), size of fund (SFPFdC) and market capitalization (MCPFdC). This study examine the moderator effects between the FdC and FPS relationship. This relationships depends on the degree of firm risk profile that is time horizon (THFRT) and risk profile (RPFRT) as the moderator variable between FdC and FP, by including the interaction variable FdC and FRT. Li, Zhao, Tan and Liu (2008) recently argued that for such models the common practice of testing a moderating hypothesis on the basis of the sign and significance of the coefficient on the interaction variable is incorrect since this coefficient does not equal the analytically correct moderating effect. Li et. al. (2008) also discussed the importance of moderating hypothesis in empirical social science research, and has elaborated on methods to analyze and interpret the analytically correct moderating effect in limited dependent variable.

4.1 Type of Fund

More theoretical and empirical studies have found support for the positive effect of type of fund (TOFdC) and firm risk tolerance (FRT). Metawa and Almossawi (1998) reported a higher the Muslims in UK committed to the religious commitment, the stronger the preference for Islamic over Conventional finance. The same goes to those with a lower level of general education, they prefer for Islamic more than conventional. On the other hand, Haron, Ahmad and Planisek (1994) found that the selection criteria of Muslim bank customers in Malaysia was largely based on non-religious aspects such as service efficiency, transaction speed, and the friendliness of bank personnel. Another survey by Nasser, Jamal and Al-Khatib (1999) found a bank's reputation and perceived level of confidentiality to this list of selection criteria noted in the Haron et al (1994) study. Nasser et al (1999) found a high level of ignorance regarding specific Islamic products, with 70% of the respondents stating that religion was a very important reason for them to select and Islamic bank.

Cultural differences seem to exist that determine banking perceptions and preferences. Hamid and Nordin (2001) argued that, in an oriental culture, a close relationship and interaction with the bank personnel is one of the most important bank selection criteria. They found that Islamic banks label their products as

ambiguously which caused misunderstandings not only among non-Muslims. While the literature available in this area is still developing, it does reveal that the underlying drivers of preferences in financial services are far from clear for individual and commercial customers. Only two things seem clear from a survey of literature that are: (a) the level of knowledge of Islamic products seems weak across studies that measured such knowledge and (b) the attitudes toward Islamic financial services is at least partly influenced by religious factors and perhaps other individual characteristics. This study seeks to add to this literature by examining the relationship between Islamic and Conventional fund with the firm risk tolerance and the effect on fund performance.

4.2 Fund Categories

This research precisely examines the relationship of fund categories (FCgFdC) with firm risk tolerance and fund performance. Previous studies found that investment style and the size of funds explains the persistence observed during the study period (Detzel and Weigand, 1998). Earlier studies on fund performance support the efficient markets by denying the ability of fund managers to beat a risk-adjusted market portfolio (Jensen, 1968; Sharpe, 1966; and Treynor, 1965). However, these are challenged by Ippolito's (1992) studies, which reach the opposite conclusion. Elton, Gruber, Das and Hlavka (1993) deal with the issues on survivor bias and benchmark error, however, Carhart (1997) contradicts the efforts by reaffirm the original conclusions of Jensen, (1968).

On the relationship FCgFdC and FRT, previous studies found evidences of repeated winners among fund managers and positive performance persistence (Bers and Madura, 2000; Grinblatt and Titman (1992); Goetzmann and Ibboston, 1994; Hendricks, Patel and Zeckhauser, 1993). Building on the empirical studies, FCgFdC which consists of BFC (Bond/Sukuk Fund); FCFC (Fixed Capital Fund); BMFC (Balanced/Mixed Fund); MMFC (Money Market Fund); and EFC (Equity/Securities Fund) are expected to have a significant effect on FRT and its dimensions.

4.3 Investment Objectives

Fund management models require fund managers to use, at a minimum, four factors as inputs into the development of investment decisions that are (a) the goals, (b) the time horizon, (c) financial stability, and (d) risk tolerance (Garman and Forgue, 1997; Hallman and Rosenbloom, 1987; Trone, Allbright and Taylor, 1996). Goals, time horizon and financial stability tend to be the objective and relatively easy to measure where, the goals should include plans, implementation and earning. Meanwhile, the time horizon refers to concepts such as the nature and stability of an investor's employment, assets, liabilities, and net worth, and the extent to which current income is needed for living expenses. However, the risk tolerance refers to how well an investor is able tolerate emotionally with the market situation (Hallman and Rosebbllom, 1997). Unlike the earlier variables, risk tolerance is difficult to measure and tends to be subjective rather than objective. Trone et.al (1996) have suggested

that an ability to achieve desired investments objectives is influenced most significantly by an investor's risk tolerance to accept possible losses in portfolio value.

4.4 Size of Fund and Market Capitalization

Prather, Bertin and Henken (2004), derive an extensive list of fund-specific characteristics and a persistence measure that have been linked to mutual fund performance. They logically grouped the four broad categories of popularity into agility, growth (risk), cost, and management. They find that popularity do affect the mutual fund performance while risk in terms of fund diversification does not. They also find that fund performance is positively related to price ratio variables and negatively related to size of funds (SFPFdC) and market capitalization (MCPFdC) under the management.

5. Firm Level of Risk

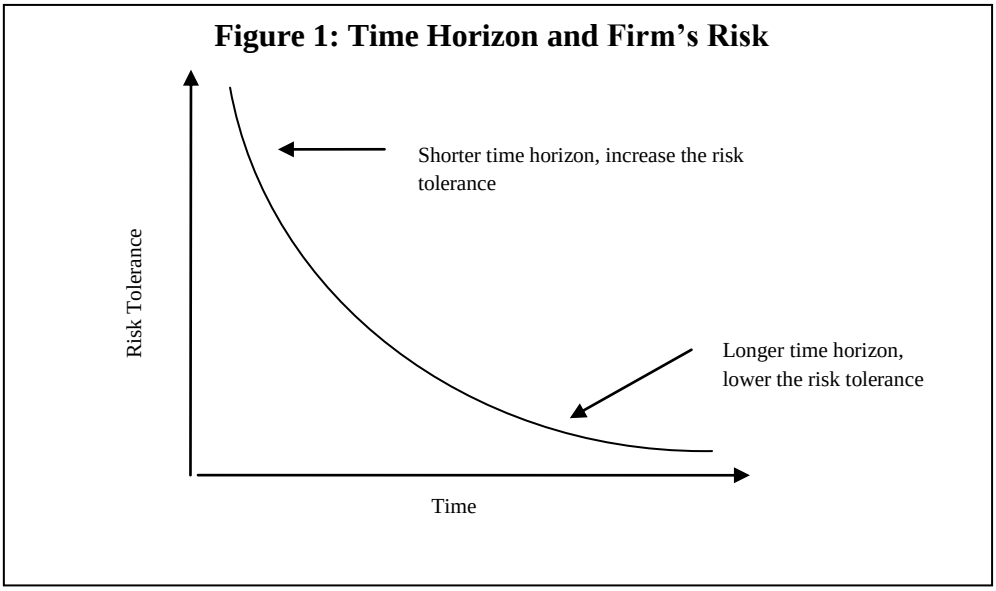
Firm level of risk varies according to the firm's financial stability and investment diversification. Firms may lower their overall risk exposure in fund management by investment diversification with uncorrelated or negatively correlated outcomes. If a firm is in financial distress with mounting debt and tight of fund, is generally willing to gamble with high risk investment. Likewise, firms faced with this condition are opting to choose high risk gamble in hopes of recapturing business (Kahneman and Lovallo, 1993).

Most investment fund management firm is contending with risk across various facets of their operations. The objectives of the firm and the fund performance should be considered as a critical success of the firm. When a choice is to be made between options, higher potential for losses may be associated with higher potential gains and the appropriate choice will depend on the firm's investment objectives and strategies (Grable and Lytton, 1998). These decisions should take account of the wider context of the risk and include consideration of the level of risk that the fund managers will take. Application of the fund managers risk tolerance in investment decision making process can be very complicated towards improving the quality of investment decision under uncertainties (Hallahan, Faff, and McKenzie, 2004). In other words, to have a quality investment decision includes being coherent in making inferences and choices, being effective in achieving the firms objectives, and choosing options that can be shown to add value.

In addition, a firm's risk tolerance changes throughout the duration of investment (Mitchell and Utkus, 2004). As shown in Figure 1, the longer the investment is, the lower the risk tolerance of a firm. This means that firms may lower their overall risk exposure by diversification. Besides the time horizon, an effective investment policy helps the fund managers to determine which types of securities are suitable for the foundation in investment decision making. The fund managers will follow the rules

and regulations stated in the investment policy to determine how those assets should be allocated across the three categories of investment vehicles: (a) cash and cash equivalents (b) fixed income (c) equities. Each of these categories has unique characteristics allocated in the correct proportions which will balance the needs of higher investment return and risk reduction. Cash equivalents provide liquidity, current income and stable market values but the expected returns are low. Alternatively, fixed income, provide higher expected returns than cash equivalents, but also bear a higher degree of risk. Meanwhile, equities are more volatile investment instruments. Hence, risk is defined as the volatility of returns and the degree of fluctuations in market value; it plays an important role in investment fund decisions.

Figure 1: Time Horizon and Firm's Risk



Source: Risk Management and Analysis, Caro Alexander, 1998.

Therefore, top management of investment firms must ensure that the fund managers understand their roles within the context of investment decision making and portfolio allocation. This is because the certainty equivalent of a risky investment is a function of the risk characteristics of the investment and the risk preferences of the investment decision maker. Therefore, the degree of uncertainty that investment fund managers can handle is one of the basic factors to determine the optimum investment strategy for fund management firm (Hariharan, Chapman, and Domian, 2000). By identifying the risk tolerance level, the fund managers can allocate and choose the fund categories, regardless of the return, the objectives and the time horizon within the fund management process (Gollier and Zeckhauzer, 2002).

5.1 Time Horizon and Risk Profile

Time horizon refers to the length of time over which an investment is made before it is liquidated. The time horizon depends on the investor's individual objectives. It is important for a firm to choose the type of investments and their asset allocation. A

firm is consider aggressive with a longer time horizon, for example, most advisors would recommend that the asset allocation for a longer term is more heavily weighted in equities than a shorter term. Given a shorter time frame, it would be prudent to invest more conservatively because there is a little time to make up any losses.

Keim (1986) determined several variables that reflect levels of bond and stock prices appear to predict returns on common stocks of firms of various sizes, long-term bonds of various default risks, and default-free bonds of various maturities. It was found that returns on small-firm stocks and low-grade bonds are more highly correlated than in January than in the rest of the year with previous levels of asset prices, especially prices of small-firm stocks. Thus, seasonality is unlikely to explain though it was found in several conditional risk measures, but in some cases seasonal was found to be in mean returns. Therefore, fund managers have to plan for their strategy over a period of time, where in general time horizons can be stated as (a) short term for 1 to 4 years, (b) medium term for 5 to 10 years, and (c) long term for above than 10 years. It is widely stated that only equity investment are related for a minimum term of five years and long term meaning to buy and hold the funds, which will increase in value only if the underlying shares go up in value. Meanwhile, there are many funds are invested in shorter periods such as money markets. Therefore, level of risk tolerance of the firm depends on the time horizons that fund manager proceeds in the investment.

Another variable that is considered as the moderator effects of fund performance in this study is the firm risk profile. Firm risk profile is the degree to which various risks taken by the firm in fund investment. In other words, it is a measure of how risk averse the firm is. A firm may conduct a risk profile to determine what type of funds will likely fit an investor's investment goals. Bowman (1980) has shown that firms with high returns can have low risk even though the economic and financial theory associating high returns with high risk. Kim, Hwang and Burgers (1993) advance a theoretical to explain more on firms with high returns can have low risk. Kim et.al (1993) draw on the rich body of international management research and argued that global market diversification can explain the high return-low risk profile. They also argued that no strong theoretical rationale exists in support of either related or unrelated product diversification generating such a favorable risk-return profile. Meanwhile Bettis and Mahajan (1985) suggested that firms with certain diversification postures can reduce risk and increase return simultaneously. On the other hand, Amit and Livnat (1988) argued that a risk-return trade-off exists irrespective of firms' diversification postures. Therefore, from the above literature, this study is to examine the moderator's effects of time horizon and risk profile of the firm in relation between fund characteristics and fund performance.

Furthermore, short-term investment risk tolerance will depend on the price volatility or variability in market risk, whereas in the long-term perspective, the risk tolerance will depend on the availability of funds determined by the firm. Hence the risk is higher when there is an increase in the volatility and the potential total return. On the other

hand, as the level of risk decreases, both volatility and potential total return proportionately decrease (Joshua and Brian, 2005). Therefore, the instability of fund flows and the funds allocations in fund management have been debated by researchers (Ling and Naranjo, 2006; Harvey, 2000).

6. Fund Performance using Sharpe Ratio

Previous studies support efficient markets by denying the ability of fund managers to beat a risk-adjusted market portfolio (Jensen, 1968; Sharpe, 1966; and Treynor, 1965). On the other hand, Ippolito's (1992) challenged the previous study through the opposite conclusion of his study. Furthermore, there are studies which reinforce the notion of market inefficiency by finding evidence of repeated winners among fund managers and positive performance persistence (Bers and Madura, 2000; and Goetzmann and Ibbotson, 1994).

Typically most prior studies focus on a small set of fund specific factors in attempting to explain fund performance. Davis (2001) found poor performance persistence among small-cap funds. Earlier, Sharpe (1966) found that funds with lower expenses tend to have better performance. However, the extensive work of Ippolito (1989) reported that there is no significant relation between performance and expense ratio and only a light positive relation with turnover ratio. Similarly, Grinblatt and Titman (1992) also reported that mutual funds are able to generate sufficient returns to offset the expenses that they incurred. The findings of these studies are inconsistent with the Efficient Market Theory (EMT) which implies that expenditures of money on research and trading are wasted in a market in which securities prices already incorporate all available information. Thus, the EMT predicts that active management fund will result in alphas equal to the negative of the expenses incurred in acquiring the information.

Therefore, the Sharpe ratio is used in this study to measure the risk and return ratio which considers total risk as measured by the standard deviation, and does not differentiate between the market risk and the portfolio' risk. The risk of the portfolio is measured by the standard deviation of the portfolio. The reward of variability index is given by the following equation:

Equation 1: $$Sp = \frac{Rp - Rf}{\sigma}$$

where:
- Sp is the Sharpe Ratio
- Rp is average return on portfolio over the evaluation period.
- Rf is average risk free rate over the evaluation period as estimated by using the 3-month treasury bill rate.
- σ is the standard deviation of portfolio's annual returns.

The Sharpe ratio was developed by William F. Sharpe. It is the ratio of a portfolio's total return minus the risk-free rate divided by the standard deviation of the portfolio, which is a measure of its risk. The Sharpe ratio is simply the risk premium per unit of risk, which is quantified by the standard deviation of the portfolio.

Equation 2:

Risk Premium = Total Portfolio return – Risk –free rate
Sharpe Ratio = Risk Premium / Standard Deviation of Portfolio

The risk-free rate is subtracted from the portfolio return because a risk-free asset, often exemplified by the T-bill, has no risk premium since the return of a risk-free asset is certain. Therefore, if a portfolio's return is equal to or less than the risk-free rate, then it makes no sense to invest in the risky assets. Hence, the Sharpe ratio is a measure of the performance of the fund compared to the risk taken – the higher the Sharpe ratio, the better the performance and the greater the profits for taking on additional risk.

Miller and Gehr (1978) found that the traditional Sharpe ratio was biased. Jobson and Korkie (1982) overcome this problem by introducing the Adjusted Sharpe Index given by the following equation:

Equation 3: **SSI = SI [N/ 9N + 0.75)]**

Where: SSI = Adjusted Sharpe Index
SI = Traditional Sharpe Index
N = Number of return intervals in the evaluation period

The Sharpe measure looks at the decision from the point of view of an investor choosing a fund management to represent the majority of his or her investment. An investor choosing a fund management to represent a large portion of his wealth would concern with the full risk of the fund, and standard deviation is measure to the risk.

7. Hypothesis

Based on theory, the Sharpe ratio is used to characterize how well the return of the fund compensates the investor for the risk taken (Biglova, Ortobelli, Rachev and Stoyanov, 2004). When comparing with two funds each with the expected return against the same benchmark with return, the higher Sharpe ratio gives more return for the same risk. Investors are often advised to pick investments with high Sharpe ratios (Sharpe, 1964). However, like any mathematical model it relies on the data being correct. Along with Treynor ratios and Jensen's alphas, Sharpe ratios are often used to rank the performance of portfolio or mutual fund managers. During the 1960s, researchers moved forward using Roy's reward to variability ratio. It proved useful in evaluation fund performance on a risk-return basis (Sharpe, 1966).

When using moderator models in this study, the researcher hypothesize that there is a relationship between FdC and its dimensions (TOFdC, FCgFdC, IObFdC, SFPFdC and MCPFdC) and FPS. This relationships depends on the degree of firm risk profile that is time horizon (THFRT) and risk profile (RPFRT) as the moderator variable between FdC and FPS, by including the interaction variable FdC and FRT. Li, Zhao, Tan and Liu (2008) recently argued that for such models the common practice of testing a moderating hypothesis on the basis of the sign and significance of the coefficient on the interaction variable is incorrect since this coefficient does not equal the analytically correct moderating effect. Li et. al. (2008) also discussed the importance of moderating hypothesis in empirical social science research, and has elaborated on methods to analyze and interpret the analytically correct moderating effect in limited dependent variable.

Based on the previous empirical studies, this study proposes the following hypothesis:

H_1: FdC and its dimensions (TOFFdC, IObFdC, FCgFdC, SFPFdC, MCPFdC) are positively related to FPS

H_2: The relationship between FdC and its dimensions and FPS is moderated by THFRT

H_3: The relationship between FdC and its dimensions and FPS is moderated by RPFRT

8. Data Collection

This study employs secondary data approach where the data was gathered from the annual report provided by the Malaysian Securities Commission (MSC) with the list of 553 number of funds management company as at June 2009 (refer www.sc.gov.my). From the list provided by MSC, only 175 numbers of funds are to be considered due to the completeness of the information for the purpose of this study.

Table 2: List of fund under management as at June 2009

Fund Management	No of fund under management
Affin Fund Management Berhad	3
Alliance Investment Management Berhad	7
Amanah Mutual Berhad	14
Amanah Saham Sarawak	1
Am Investment Services Berhad	15
Apex Investment Services Berhad	5
Asia Unit Trusts Berhad	6
Amanah Saham Nasional Berhad	7
CIMB (Principal and Islamic Fund Berhad)	16
HLG Unit Trust Berhad	18
HWANG DBS Investment Management Berhad	10
ING Funds Berhad	5
KSC Capital	1
MAAKAL Mutual Berhad	9
OSK-OUB Unit Trust Management Berhad	18
Philip Mutual Berhad	3
Prudential Fund Management Berhad	5
Public Mutual Berhad	15
RHB Investment Management Sdn Bhd	11
TA Investment Management Berhad	6
Total No. of Funds	**175**

These are the funds that have full information to be countable in this research. For example, the funds that have 5 years performance history are to be considered in this study. Table 2 shows the list of funds that were selected for the purpose of this study. These secondary datas provide information for: (a) independent variable on fund characteristics (FdC) that are type of fund (TOFdC), fund category (FCgFdC), investment objectives (IObFdC), size of fund (SFPFdC), and market capitalization (MCPFdC); (b) moderator variables on firm risk tolerance (FRT) that are time horizon (THFRT) and firm risk profile (RPFRT); and (c) indicators for fund performance using Sharpe (FPS).

The data provided by the MSC were downloaded from www.sc.gov.my website. The researcher then download the annual reports of each of the fund listed in the MSC and found that there are about 1,340 annual reports gathered from 2004 to 2008 (as this research is conducted in 2009). The companies selected for this study is based on the fund management companies members who manage funds which can bought by the general public. Finally, 175 is a total numbers of funds that was selected and has the completed five years annual reports. This whole 5-year period will be used to examine whether there is a different in certain fund characteristics in the performance. The method used in this study is consistent with the surveys conducted

to quantify certain factual information (Zikmund, 2003). Furthermore, this method enables the researcher to obtain as much information from the fund management companies required in this study.

9. Methodology

The model of this study describes linear relationships between all characteristics inclusive fund characteristics (FdC) which consists of TOFdC, FCgFdC, IObFdC, SFPFdC and MCPFdC. A multiple regression analysis is conducted in this study to explore and predict an object's value on a criterion variable, given its value on one independent variable. Other than determining the relationships, this analysis explored the possibility whether all the fund characteristics and their dimensions (sub variables) in this study are predictors to firm risk tolerance (FRT) and its dimensions (THFRT and RPFRT). Thus, the multiple regression analysis 1) explains the relationships, and 2) assesses the degree of accuracy of description or prediction achieved by the regressions equation using a mathematical equation. The multiple linear regression models for this study is mathematically described as follows:

Equation 4: $\mathbf{FPS = \beta_0 + \beta_1\ TOFdC + \beta_2\ FCgFdC + \beta_3\ IObFdC + \beta_4\ SFPFdC + \beta_5\ MCPFdC + \varepsilon_t}$

where:	FPS	=	Fund Performance using Sharpe ratio
	β_0	=	Parameters of the model
	β_{1-4}	=	Estimates (Regression Coefficient).
	TOFdC	=	Type of Fund
	FCgFdC	=	Fund Category
	IObFdC	=	Investment Objectives
	SFPFdC	=	Size of Fund
	MCPFdC	=	Market Capitalization
	ε_t	=	The error term associated with the model

The next step a moderator analysis where independent variables (X) which consists of FdC and its dimensions (TOFdC, FCgFdC, IObFdC, SFPFdC, MCPFdC) are presumed to cause the dependent variables (Y) that is the FP and its dimensions, but the moderator variables (M) that is the time horizon (THFRT) and risk profile (RPFRT) are the variable that alters the strength of the causal relationship. Therefore, the moderator analysis in this study measured the causal relationship between X and Y by using the regression coefficient. Although classically, moderation implies a weakening of a causal effect, a moderator can amplify or even decrease the effect. Kraemer, Wilson, Fairburn and Agras (2002) showed a moderation that could occur in the case in which the causal effect of X on Y would go to zero when M took on a particular value.

Sturman (2003) stated that moderation occurs when the relationship between two variables depends on a third variable and the third variable is referred to as the

moderator variable. The effect of a moderation variable is characterized statistically as an interaction that is, qualitative such as race, gender, position, or quantitative such as level of reward variable that affects the direction and / or strength of the relation between dependent and independent variables.

Baron and Kenny (1986) specified moderator variables as a third variable that effect the zero-order correlation between two other variables. In analysis of variance (ANOVA) terms, Baron and Kenny stated that a basic moderator effect can be represented as an interaction between a focal independent variable and a factor that specifies the appropriate conditions for its operation. Therefore in this study, the moderation analysis is used in the linear multiple regression analysis or causal modeling. This is to quantify the effect of a moderating variable in multiple regression analyses, regressing random variables Y on X, and additional term is added to the model. This term is the interaction between X and the proposed moderating variable. In this case, the role of x_2 as a moderating variable is accomplished by evaluating β_2, the parameter estimate for the interaction term. The equation for this model is as follows:

Equation 5: $\mathbf{FPS = \beta_0 + \beta_1 FdC + \beta_2 (FRT\ x_2) + \varepsilon}$

where,

FPS	=	Fund Performance using Sharpe ratio
β	=	Constant (Intercept)
FdC	=	Fund Characteristics which includes TOFdC, FcgFdC, IObFdC, SFPFdC and MCPFdC
FRTx_2	=	Moderator variable which includes THFRT and RPFRT
ε	=	The error term

10. Results

Preliminary analyses were conducted to ensure no violation of the assumptions of normality, linearity and homoscedasticity. This was done at the early stage during the EDA analysis and normality test. Based on the collinearity diagnostic, it was indicated that there was no serious multicollinearity problem among the predictor's variables of the model.

The results derived from the analysis are based on two levels namely: (a) the group level analysis, which tests the relationships between every group of fund characteristics (TOFFdC, FCgFdC, IObFdC, SFPFdC, MCPFdC) and fund Performance using Sharpe ratio (FPS), (b) the sub-variables level analysis which test the relationships between every dimensions (sub-variables) of fund characteristics and firm risk tolerance (THFRT and RPFRT). The results of the correlations, multiple regressions, and moderated multiple regressions (MMR) analyses are discussed together with the results of the hypothesis testing.

10.1 Descriptive Analysis

Descriptive statistics measures the central tendency and dispersion which indicate the location of the distribution that is mean and median as shown in Table 3. Meanwhile, standard deviation, minimum and maximum figures, measure the dispersion which indicate the dissimilarity of the value.

TOFdC was analyzed in this study to identify the choice of Islamic and Conventional funds. The descriptive results in Table 3 show that 34.3% of the funds is from Islamic Fund and 65.7% are from conventional Fund. This indicates that there are more investors choose to invest in the Conventional funds compare to the Islamic fund in the fund management industry.

FCgFdC in this study is the fund categories which are categorized into five: (a) bond or sukuk funds, (b) fixed or capital funds, (c) balanced or mixed funds, (d) money market funds, (e) equities or securities funds, (f) property fund. The result in Table 3 represents that 18.3% of the fund investigated are from the bond or sukuk fund, 14.9% from fixed or capital fund, 10.9% from balanced or mixed fund, 8.6% from money market fund, 45.1% from equities and shares, and 2.3% from property fund. This indicates most of the funds are from the equities and shares fund.

IObFdC is the investment objectives which consist of valuation, maximize capital growth, capital preservation plus regular income, maintain income, and appreciation net capital value. Table 3 also presents the descriptive statistics of fund category which consists of 32% are from capital preservation plus regular income, 30.3% from valuation income, 22.9% from maximize capital growth in medium to long term basis, 12% from appreciation net capital value and 2.9% from maintain income in short term basis. This indicates that most of the fund was categorized as capital preservation and maximize capital growth category.

Popularity of the fund measure the demand for fund as reflected in buying and selling pressure and the fund's adaptive ability in response to such pressure. The popularity of fund in this study may be conditional on its perceived ability to meet the investment objectives outlined in its prospectus. Thus, popularity may be reflected in variables that measures size of fund (SFPFdC) and market capitalization (MCPFdC).

Table 3: Descriptive Statistics for Fund Characteristics (FdC)

	Frequency (N)	Percent (%)	Mean	Median	Std Dev	Max	Min
Type of funds (TOFdC)			1.66	2.00	0.476	2	1
Islamic	60	34.3					
Conventional	115	65.7					
Total	175	100					
Fund Categories (FCgFdC)			3.54	4.00	1.643	6	1
Bond/Sukuk	32	18.3					
Fixed/Capital	26	14.9					
Balanced/Mixed	19	10.9					
Money Market	15	8.6					
Equities/ Shares	79	45.1					
Properties	4	2.3					
Total	175	100					
Investment Objectives (IObFdC)			2.43	2.00	1.280	5	1
Valuation	53	30.3					
Maximize Capital Growth	40	22.9					
Capital Preservation	56	32.0					
Maintain Income	5	2.9					
Appreciation NCV	21	12.0					
Total	175	100					
Size of Funds (SFPFdC)			3.51	4.00	0.823	5	1
< 50 million	2	1.1					
50 to 199 million	19	10.3					
200 to 499 million	60	34.3					
500 to 1 billion	77	44.0					
>than 1 billion	17	9.7					
Total	175	100					
Market Capitalizations (MCPFdC)			3.51	4.00	0.823	5	1
Very small cap (<than 50 million)	1	0.6					
Small cap (50 to 199 million)	19	10.9					
Medium cap (200 to 488 million)	60	34.3					
Large capital (500 to 1 billion)	80	45.7					
Very large cap (>than 1 billion)	15	8.6					
Total	175	100					

SFPFdC represents the total dollar value of a single fund's assets. A negative relationship may be indicator for the potentially detrimental impact of fund size on its ability to implement a particular investment style. Table 3 presents 44% are between 500 to 1 billion size of funds, 34.3% are between 200 to 499 million size of funds, 10.3% are between 50 to 199 million size of funds, 9.7% are more than 1 billion size of fund, and only 1.1% are less than 50 million size of funds. This indicates that most of funds examined in this study are around 500 to 1 billion sizes of fund.

MCPFdC provides a measure of the size of the companies which the fund invests and thus provides a measure of the size of the companies which the fund invests and thus provides a measure of the size of the companies which the fund invests and thus provides a measure of fund agility in conjunction with growing assets. As fund size increases and additional investments are considered, funds may be forced to target larger market capitalization firms relative to the target firm size that led to their previous success. This reduction in flexibility suggests a negative relationship between market capitalization and performance. Table 3 shows that 45.7% have a large market capitalization which is between 500 to 1 billion, 34.3% have a medium market capitalization between 200 and 488 million, 10.9% have a small market capitalization between 50 to 199 million, 8.6% have a very large capital which is more than 1 billion, and 0.6% have a very small market capitalization which is less than 50 million. This indicates that most of the market capitalizations in this study are more than 1 billion.

10.2 Results on Relationship between Fund Characteristics and Fund Performance

Table 4 shows the correlation matrix between fund characteristics, firm risk tolerance, and fund performances measured by Sharpe ratio (FPS). From this table, it shows that FPS has a significant relationship with three independent variables that are TOFdC ($p < 0.001$). SFPFdC ($p < 0.05$) and MCPFdC *(*$p < 0.05$). This indicates that this result supported the Hypothesis 1in this study.

Table 4: Correlations Matrix for FdC, THFRT and FPS

	TOFdC	FCGFdC	IObFdC	SFPFdC	MCPFdC	THFRT	RPFRT	FPS
TOFdC	1							
FCGFdC	-.099 (.194)	1						
IObFdC	.057 (.453)	-.039 (.609)	1					
SFPFdC	-.040 (.597)	-.056 (.459)	-.018 (.814)	1				
MCPFdC	-.066 (.387)	-.035 (.642)	-.025 (.739)	.984** (.000)	1			
THFRT	-.007 (.926)	.286** (.000)	-.029 (.700)	.029 (.705)	.036 (.637)	1		
RPFRT	-.052 (.494)	.358** (.000)	-.068 (.373)	-.216** (.004)	-.188* (.013)	.307** (.000)	1	
FPS	.239** (.001)	-.033 (.665)	.006 (.942)	.192* (.011)	.158* (.037)	.104 (.170)	.042 (.578)	1

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Table 5 shows the estimates of coefficients for FdC and FPS relationship. The largest beta coefficient is 0.921 which is for SFPFdC. This means that this variable indicates

the strongest unique contribution in explaining the dependent variable (FPS), when the variance explained by all other predictor variables in the model is controlled for. It suggests that one standard deviation increase in SFPFdC is followed by 0.921 standard deviation increase in FPS. The second highest beta value is for MCPFdC (-0.731), followed by TOFdC (0.230), FCGFdC (0.017) and the beta value for IObFdC (-0.008). This denotes that IObFdC is the least contribution in the model. Based on the estimates of the model coefficients below, only three predictor variables were found to be of significance in explaining fund performance using Sharpe measures (FPS) that is TOFdC, SFPFdC, and MCPFdC.

Table 5: Estimates of Coefficients for FdC and FPS

	Unstandardized Coefficients		Standardized Coefficients		
Variable	**B**	**Std. Error**	**Beta**	**t**	**Sig.**
(Constant)	**-6.637**	**1.686**		**-3.937**	**.000**
TOFdC	**1.649**	**.533**	**.230**	**3.095**	**.002****
FCgFdC	**.035**	**.153**	**.017**	**.227**	**.821**
IObFdC	**-.021**	**.194**	**-.008**	**-.110**	**.912**
SFPFdC	**3.687**	**1.663**	**.921**	**2.217**	**.028****
MCPFdC	**-3.024**	**1.721**	**-.731**	**-1.756**	**.081***

a. Predictors: (Constant), TOFdC, IObFdC, FCgFdC, SFPFdC, MCPFdC,
b. Dependent Variable: FPS
c. R=.340a ,R Square = .116, Adjusted R Square =.089
d. F Statistics = 4.399
e. *p* value = .001

**** Significance at 0.05 level of significance**
***Significance at 0.10 level of significance**

Table 5 also presents the t statistics for TOFdC = 3.095, SFPFdC = 2.217, and MCPFdC = 1.756. These indicated that three variables were significant at 0.01 and 0.05 respectively. The R-square of 0.166 implied that the three predictor variables explained about 11.6 percent of the variance in FPS. In other words, 11.6 percent of the variance (R square) in FPS was significantly explained by the three variables. The ANOVA result shows the computed F statistic of 4.399, with an observed significance level less than 0.001. Thus, the hypothesis that there is a linear relationship between the predictors and dependent variable is accepted.

10.3 Moderating Effects of Time Horizon on Fund Characteristics and Fund Performance using Sharpe Ratio

This section examined the moderating variable of Time Horizon (THFRT) in relation between fund characteristics (FdC) and fund performance (FPS). The model summary of the moderating regression with THFRT as the moderating variable in FdC and FPS relationship is shown in Table 6 which produced the R square of 0.104

and is statistically significant at the 0.002 level ($p < .05$). The analysis of variance (ANOVA) in this table shows that *F* value of 3.882 is significant at the 0.05 level. Thus, the results can be interpreted to suggest that a 10.4 percent of variance (R square) in the FdC and FPS relationship was explained by the moderator, THFRT. The coefficient results indicates the significant finding of THFRT where THFRT does moderate on TOFdC ($t = 1.836$, $p < 0.100$), SFPFdC ($t = 2.672$, $p < 0.5$), and MCPFdC ($t = -2.427$, $p < 0.05$). In other words, THFRT, significant at the 0.05 level, is a moderator of the TOFdC, SFPFdC, MCPFdC and FPS relationship. From Table 6, the results show that THFRT does not moderate on FCGFdC ($p > .1000$) and IOBFdC ($p > .1000$).

Table 6: Estimates of Coefficients for the Moderating Effects of Time Horizon (THFRT)

	Unstandardized Coefficients		Standardized Coefficients		
Variables	**B**	**Std. Error**	**Beta**	**t**	**Sig.**
(Constant)	**-3.027**	**.636**		**-4.761**	**.000**
TOFdCxTHFRT	**.216**	**.118**	**.185**	**1.836**	**.068**
FCGFdCxTHFRT	**-.046**	**.038**	**-.117**	**-1.197**	**.233**
IoBFdCxTHFRT	**.001**	**.049**	**.002**	**.021**	**.983**
SFPFdCxTHFRT	**.989**	**.370**	**1.706**	**2.672**	**.008**
MCPFdCxTHFRT	**-.919**	**.378**	**-1.561**	**-2.427**	**.016**

a. Predictors: (Constant), TOFdCxTHFRT, IObFdCxTHFRT, FCgFdCxTHFRT, FPFdCxTHFRT, MCPFdCxTHFRT.
b. Dependent Variable: FPS
c. R=.322a, R Square = .104, Adjusted R Square = .077
d. F Statistics = 3.882
e. *p* value = .002

10.4 Moderating Effects of Risk Profile on Fund Characteristics and Fund Performance using Sharpe Ratio

This section examined the moderating variables of risk profile (RPFRT) in relation between fund characteristics (FdC) and fund performance (FPS). Table 7 shows the results of the possible moderating effects of RPFRT on FdC and FPS relationship. The model summary of the moderating regression with RPFRT as the moderating variable in FdC and FPS relationship is shown in this table which produced the R square of 0.123 and is statistically significant at the 0.000 level ($p < .001$).The analysis of variance (ANOVA) shows that *F* value of 4.692 is significant at $p < .001$. Thus, the results can be interpreted to suggest that a 12.3 percent of variance (R square) in the FdC and FPS relationship was explained by the moderator, RPFRT. Table 7 also indicates the coefficient whereby the significant finding of RPFRT shows that RPFRT does moderate on TOFdC ($t = 2.487$, $p < 0.05$), SFPFdC ($t = 3.255$, $p \leq 0.001$) and MCPFdC ($t = -3.000$, $p < 0.05$). In other words, RPFRT, significant at level 0.001 and 0.05, is a moderator of the TOFdC, SFPFdC, MCPFdC in relation to

FPS. The results show that RPFRT does not moderate on FCGFdC (t = -1.3337, p > .1000) and IoBFdC (t = -0.301, p >.1000).

Table 7: Estimates of Coefficients for the Moderating Effects of Risk Profile (RPFRT)

	Unstandardized Coefficients		Standardized Coefficients		
Variable	B	Std. Error	Beta	t	Sig.
(Constant)	-3.660	.806		-4.538	.000
TOFdCXRPFRT	.365	.147	.216	2.487	.014
FCgFdCXRPFRT	-.061	.045	-.126	-1.337	.183
IObFdCXRPFRT	-.018	.058	-.024	-.301	.764
SFPFdCXRPFRT	1.700	.522	1.941	3.255	.001
MCPFdCXRPFRT	-1.585	.528	-1.811	-3.000	.003

a. Predictors: (Constant), TOFdCxRPRFRT, IObFdCxRPRFRT, FCGFdCxRPRFRT, , SFPFdCxRPRFRT, MCPFdCxRPRFRT
b. Dependent Variable: FPS
c. R=.350a, R Square = .123, Adjusted R Square = .096
d. F Statistics = 4.692
e. *p* value = .000

11. Summary of Hypothesis Testing on Fund Characteristics (FdC), Firm Risk Profile (FRT) and Fund Performance (FPS)

From the above relationship results, the hypothesis of this study was supported. The supported results of Hypothesis 1 and 2 were consistent with the previous study by Ang Le,Walters, and Kroll (2006); Neubaum and Zahra (2006); Amihud and Mendelson (1986). This indicates that the relationship between TOFdC, SFPFdC, MCPFdC and fund performance measured by Sharpe ratio is moderated by time horizon (THFRT). Additionally, the supported results of Hypothesis 3 were consistent with the previous studies by Zhao, Li, Tan, and Liu (2008); Pablo, Sitkin, and Jemison (1996); Covin and Slevin, (1989). This indicates that the relationship of TOFdC, SFPFdC and MCPFdC with fund performance measured by Sharpe ratio (FPS) is also moderated by firm risk profile (RPFRT).

A summary of hypotheses results for this study is presented in Table 8. The supported results of hypotheses 1 were consistent with the previous studies by Basu (1983); Breeden, Gibbons, and Litzenberger (1989); Carhart (1997); Elton, Gruber, Das, and Blake (1996); Fama and French, (1993); Fung and Hsieh (2000). This indicates that type of funds (TOFdC) and popularity of funds (SFPFdC and MCPFdC) are positively related to fund performance measured by Sharpe ratio.

Meanwhile, the supported results of hypothesis 2 were consistent with the previous study by Anh Le, Walters, and Kroll (2006); Amihud and Mendelson (1986). This indicates that the relationship between TOFdC, SFPFdC, MCPFdC and fund performance measured by Sharpe ratio (FPS) is moderated by time horizon (THFRT). Additionally, the supported results of hypothesis 3 were consistent with the

previous studies by Zhao, Li, Tan, and Liu (2008); Pablo, Sitkin, and Jemison (1996); Covin and Slevin (1989). This indicates that the relationship of TOFdC, SFPFdC and MCPFdC with FPS is also moderated by firm risk profile (RPFRT).

Table 8: Summary of Hypothesis Results

	Hypothesis	Supported	Not Supported
Hypothesis 1: FdC and its dimensions are positively related to FPS			
H1a	Type of funds (TOFFdC) are positively related to FPS	√	
H1b	Fund Categories (FcgFdC) are positively related to FPS		√
H1c	Investment objectives (IobFdC) are positively related to FPS		√
H1d	Popularity of funds (SFPFdC and MCPFdC) are positively related to FPS	√	
Hypothesis 2: The relationship between FdC and FPS is moderated by THFRT			
H2a	THFRT has moderating effects on TOFDC and FPS	√	
H2b	THFRT has moderating effects on FCgFdC and FPS		√
H2c	THFRT has moderating effects on IObFdC and FPS		√
H2d	THFRT has moderating effects on popularity of fund (SFPFdC and MCPFdC) and FPS	√	
Hypothesis 3: The relationship between FdC and FPS is moderated by RPFRT			
H3a	RPFRT has moderating effects on TOFDC and FPS	√	
H3b	RPFRT has moderating effects on FCgFdC and FPS		√
H3c	RPFRT has moderating effects on IObFdC and FPS		√
H3d	RPFRT has moderating effects on popularity of fund (SFPFdC and MCPFdC) and FPS	√	

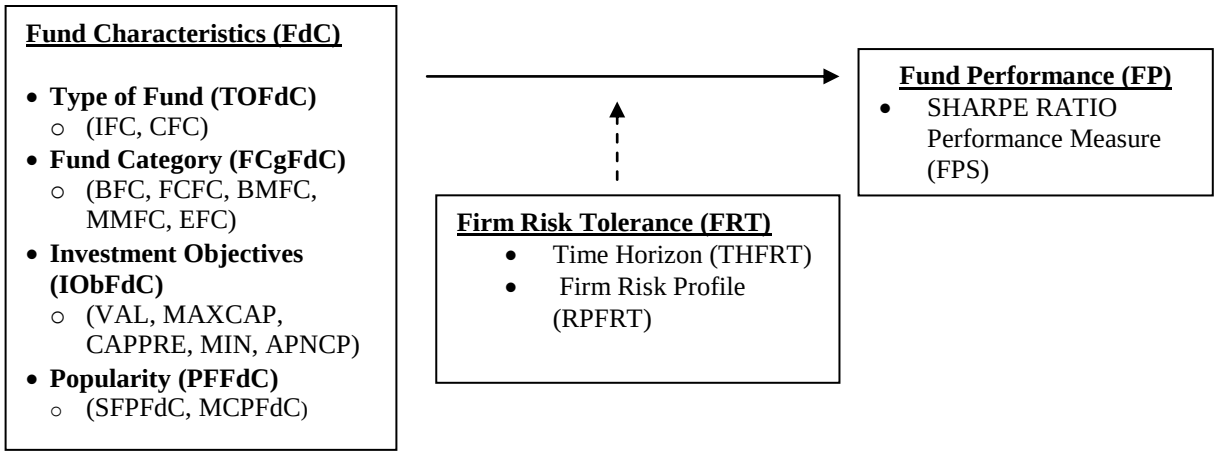
12. Conclusions

The empirical evidence from this study has proved significant relationship between FdC and FP with the moderator effects of THFRT and RPFRT. The group analysis findings indicate that in FdC and FPS relationship, three variables were found to be significant, that is TOFFdC ($p < 0.05$), SFPFdC ($p < 0.05$), and MCPFdC ($p < .100$).

When the study examined the moderating variable of THFRT and RFFRT in the relationship, it was found that THFRT act as a moderator in TOFFdC ($p < 0.1000$), SFPFdC ($p < 0.100$) and MCPFdC ($p < 0.05$) with FPS relationship. The researcher carried out the next moderator variable that is RPFRT in FdC and FPS relationship, and the results show that RPFRT does moderate on TOFFdC ($p < 0.05$), SFPFdC ($p < 0.001$) and MCPFdC ($p < 0.05$).

Figure 2 shows the relationship between FdC and FPS with moderator variable (THFRT and FRP) in between. The moderator variable which consists of time horizon (THFRT) and firm risk profile (RPFRT) may alter the strength of the causal relationship. This study contributes a key part of moderation on the relationship between FdC and FPS and provides a causal relationship for effects of THFRT and RPFRT where the effect of FdC on FP for a given value of THFRT and RPFRT as the simple effect FdC on FP. Figure 2 shows how the moderating variables interact with other variables by using path diagram which is summarized in the model.

Figure 2: The Moderator Models of THFRTand FRP in relation with FdC and FPS.



This study also contributes to the literature by advancing a risk tolerance models (as shown in Figure 2). The model was developed based on the links between the sub-variables of FdC and FP. The objective is to ascertain which sub-variable are the significant predictors to explain the dependent variables. By given the fact that empirical studies on risk tolerance are insufficient and have been frequently conducted from the fund managers perspective and firms perspective, this study has adopted Sharpe ratios fund performance measurement as an indicators that had empirically examined and offered empirical evidence on the significant relationships between risk tolerance and fund performance that is measured by Sharpe ratio (FPS).

The results and findings of this study have generated several significant implications for fund managers, firms and investors. The model of this research validates the time horizon in investment are the trading strategies which has become obvious that the simplified notion of perfectly rational behavior and the derived buy and hold strategy reflect only part of the fund managers' world. The findings in this study shows that time horizon do moderate the fund performance

Finally, as a new contribution to fund performance literature, the results of this study provide empirical evidence of the significant role of risk tolerance as one of the variables that may affect the fund performance. Comparable to other types of fund in the fund management industry such as insurance fund, government link corporation fund, and others fund management institution, risk tolerance have some significant influence on the investment decision making. It is important to study the characteristics that may influence the fund performance and the degree of risk tolerance involves in fund management.

Within the intrinsic epistemological premises, this study has been conducted with certain assumptions and delimitations. The sample population in this study was limited to the fund management company who has five (5) years returns in operation. The fact that only 31% of the firms in the sample are operated for 5 years implies that the results of the data my be more generalizable to less than 3 years return firm. A replicating study could be conducted to include other fund management industries that are actively involved in managing investor's fund. This study can also be extended to insurance industries, government link corporations, and others that involve with fund management and definitely involve their risk tolerance in investing.

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