

RISK AND UNCERTAINTY IN INVESTMENT DECISIONS: AN OVERVIEW

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ABSTRACT

The decision making process in business is prone to risk because uncertainty is inherent in the expected outcomes of investments decisions which may lead to losses and business liquidation. The study being a desk research is a descriptive one that applied the Target MOTAD model. It examined the effect of investment decisions, identify inherent risks and suggest proactive measures of handling risk challenges using secondary data such as relevant journals, textbooks and statistical reports. The paper found that a major challenge of investors is recognizing and managing risk due to unstable investment climate. Also the apparent failure of regulatory bodies encouraged greed and dishonesty which informed sharp business practices. This paper thus, concludes that the effects of risk could be minimized, it recommends that regulatory bodies must take proactive measures that could minimize policy summersault and that managements must also be sincere and convinced in their investment decisions in order to minimize their investment portfolio risk.

Key Words: Risk premium, total risk, diversifiable and non-diversifiable risk

INTRODUCTION

Decision making is one of the major management functions. It involves commitment to action which requires quality decisions to be made for the purpose of the day to day running of an organization. To arrive at a quality decision, there must be a plan. Planning refers to setting attainable goals which relates to the future.(ICMA 2006). The environment in which decisions are being made are laced with uncertainties and inherent risks thus, extra cautions are needed in taking investment decisions. Koontz and Weihrich (2010) defined decision making as the selection of a course of action from among alternatives. Olowe (2008), defined decision making, as the process of selecting a logical choice from available options. However where decision making relates to the future events, risks and uncertainty could be involved.

Risk is described as ‘the possibility of loss, or other adverse or unwelcome developments. Lazarte & Tranchard (2011) defined risk as ‘the effect of uncertainty on objectives’. According to Pandy (2009), risk is the variability that is likely to occur in the future returns of a project. This has to do with financial risk which is inherent in an investment decision. Farounbi (2006) supported this view by stating that risk occurs where it is not known what the future outcome will be but where the various possible outcomes may be expected with, some degree of confidence from knowledge of past or existing events, in order words probabilities of alternatives could be estimated while he described uncertainty as a situation where future outcome cannot be predicted with any degree of confidence from knowledge of past or existing events thus probability estimates are not available for possible outcomes. This is an indication that risk and uncertainty affects investment decisions and therefore directly or indirectly affect the

organizational goals and objectives in focus. This explains why Damodaran (2003) view risk to include both downside and upside risk. Risks and uncertainties are evident in investment decisions thus the management is paramount to the success of organizations.

The Port-folio theory such as Capital Asset Pricing Model (CAPM) indicate that 'the greater the potential return being expected, the greater the risk that is being assumed (Pandy 2009). This means for a project with a high expected return, one should expect that the risk involved is equally high. Every investor expects some returns that would cover the organization's financial commitments to services and production as the case may be. However, the problem of inadequacies in risk management has led to various business failures. This was confirmed by Deeson (2012) reporting that 78 business failed in the 2009. The Business Demography (2009) also supported this fact by stating that business mortality was higher than that of birth thus showing the worrisome rate at which investment fail or drop below targeted returns. This confirms the rate at which industries close down and the attendant effects on national economic growth and development as workers were disengaged or sent unexpectedly to the labour market due to failed businesses problems occasioned by inadequate management of investment risk and the uncertain investment climate. This scenario further manifested in the sudden drop in the share prices between year 2008 and 2012. The high rate of none performing bank credits granted to various customers further creates a form of stress on liquidity as evidenced as revealed in statistical reports. (nytime.com) reported that in 2009, 78 businesses were reported closed, in 2010 record showed another 8 businesses closure, while in 2011 new closures totaled 11. Also, lack of immediate funds to meet either new investment or running the operations of the existing business on a continuous basis also resulted in the closure of such business.

From the foregoing, risk is a prevalent phenomenon in all aspects of business. The problem that faces investors however is that the future is uncertain and therefore the value of possible risk to the investment or business cannot be determined precisely. This constitutes a problem to decision making for investors and managers too. Given the sudden and continuous drop in share prices since 2008, risk -averse investors have become apprehensive of which stock is worth the effort whereas for investors in new businesses efforts are still being made. The challenge of such investments are however based on factors such as government policy, inflation, cash flow available, physical factors such as lighting, good roads etc. Thus the focus of this study is essentially on managing the risk involved in financing projects or new investments with the objectives of examining what constitutes risk, the role of managers in managing risks and the inherent challenges in investment decisions in order to find ways of improving the lot of the investors.

LITERATURE REVIEW

Koontz and Weihrich (2010) defined decision making as the selection of a course of action from among alternatives. They further stated that, decision making is at the core of planning. This means a plan cannot be said to exist unless a decision – a commitment of resources, direction, or reputation has been made. Most of the times managers see decision – making as their central job because they must constantly choose what is to be done, who is to do it, when, where, and occasionally how to do it. Thus decision making is a step in planning, even when such decisions are taken so quickly with little thought or when it influences actions only a few minutes, it is still part of planning. Decision making is a daily phenomenon in the life of either the individual or corporate organisation, a course of action can seldom be judged alone because virtually every decision must be geared to other plans.

The Chartered Institute of Management Accountant (2006) also defined decision making as a commitment to action which has lasting effect on the organization's goal. In making decision sometimes the coasts are cleared because the outcome of such decision may be certain to the decision maker and sometimes the decision maker is not sure of the outcome as a result of risk and uncertainty. The CIMA (2006) supports this statement by stating that decision making has to be made based on the uncertainty of returns on investment. According to Horngreen (2009), decision making involves five steps which are: problem identification and uncertainties, obtaining necessary information to enable correct decision and making predictions about the future. It also includes making choices among alternatives, implementing decision and evaluating performance so as to make necessary amendments where decisions are not in order. In decision making, managers have to ensure that decision to be taken will make impact on resource control, costs and revenue generation etc. Decision making entails having a foregone cost since choice is made between alternatives Jhingan & Stephens, (2007). In project and business financing, issues involved include purchase decisions, production decisions, marketing decisions etc. In all these decisions, none of them can be reached with utmost certainty, where uncertainty exists, risk is also prevalent. Nwachukwu (1988) defined decision making as the selection of alternative course of action from available alternatives in order to achieve a given objective. Each alternative could have desirable or undesirable (risk/return) effect which may not be known beforehand (uncertainty).

Decision making can be classified into three and they are decision making under certainty, decision making under uncertainty and decision making under risk. The word risk connotes taking an action which may lead to loss or profit especially when it relates to investment. When managers enter into business transactions that involve risks, the intention is to make a worthwhile achievement. According to Olowe (2008), every business decisions involve risk from time to time; this is because the financing and business environment are not certain. Uncertainties exist in business due to the unpredictable nature of the economic environment. The word uncertainty means to be doubtful about the results of an action. There are usually fluctuations in returns that come on investments. For example, in the case of returns on investment, the streams of benefits may possess different degrees of certainty. If two firms have same total expected earnings but the earning of one firm fluctuates so much so that it becomes risky, any investor would surely prefer a firm with certainty of returns even if the profit is small. In business circle, according to (Crown 2010), incidental risks are seen as those that occur unexpectedly as a result of some externalities, while inherent risks are more or less natural with the event being considered.

When a firm decides to invest in a machine which is to be used for a new product line the demand for the new product may be affected by general economic conditions. If the effect is favourable, the new product will yield profitably to justify investing in the new machine. On the other hand, if economic conditions are unfavourable, the new product may yield losses which make investing in the new machine not worthwhile. This in effect may mean going on with the old product lines. This explains the uncertainties that face investment decision. The implication of this is that the capital budgeting technique that considers risk and its effect on investment is necessary for appraising the profitability or otherwise of each investment decision.

THEORETICAL FRAMEWORK

Risk is defined as a state of uncertainty where possible outcomes have undesired effect or significant loss. The Knightian Uncertainty (1921), established the important distinction between

risk and uncertainties. He expressed uncertainty as a lack in expressing for sure the results of actions and decision. The application of probability to the uncertainties gives a quantification of the risk involved in the decision made. For example, a sudden drop in the price of stock at a time when increase in stock price is being expected portends a loss. Uncertainties in stock prices mean risk or loss of part or the whole of the investment. According to Dennis Lindley(2006), he corroborated the view of Knight positing that ‘there are some things that you know to be true and others that you know to be false; yet despite these extensive knowledge that you have there remains many things whose truth or falsity is not known to you thus it is said that you are uncertain about them’. This is the reality of the effect of risk and uncertainty in investment decisions.

The Target MOTAD model is also applied in this study. The study makes use of the linear programming model referred to as Target MOTAD (i.e Minimization of Total Absolute Deviation programming developed by Tauer(1983). The model is criticized because they can only be used when an individual decision maker exists who is risk-averse and whose utility function is available. The Target MOTAD model is said to be superior to other programming models under risk because it is computational, efficient and generates solutions that meet the second –degree stochastic dominance test (Tauer1983). This is characteristic of the model will enhance the process of analyzing the impact of risk.

The Cultural Risk theory is one of the prominent theories of risk perception. The theory treats risk perception as manifesting individuals’ implicit weighing of costs and benefits. Cultural theory asserts that structures of social organization endow individuals with perceptions that reinforce those structures in competition against alternative ones. This position is however criticized by Douglas and Wildavsky (1982) arguing that it ignores the role of cultural ways of life in determining what states of affairs individual see as worthy of taking risks to attain. Other criticisms indicate that the theory does not present reliable measures of individual attitudes and the amount of variance in individual perception of risk. Dake’s (1991) measures are however refined to show that risk perceptions are distributed across persons in patterns better explained by culture other than other asserted influences. In actual fact, risk is common to every facet of business and human life. This agrees with Pandey (2009), Horngreen (2007) and Dennis L (2006). Within the context of risk, it is a phenomenon that has determined the success or failure of investments in projects and businesses in general where adequate care is not taken to prepare ahead for possible uncertainties.

As defined by Pandey (2006), risk is the variability that is likely to occur in the future returns of a project. Risk exists in investments because the decision maker cannot make perfect forecasts due to uncertainties in future events and forecast of cash flows. Several factors like the internal political situation of the organization, unanticipated environmental factors, natural disasters and inconsistent government policies may militate against investment plans and result in alternative sequences of cash flows which a manager may not have expected.

Gate, Nicholas and Walters (2012) posited that objective setting, risk identification and reaction as well as the need for information and communication will enhance the process of risk management. A combination of all these will positively enhance performance to achieve the enterprise goal.

Categorizing risk in order to pave way for effective risk management, Kaplan and Mike (2007), identified the following as types of risks: preventable risks, strategic risks and external risks.

Preventable risks are internal risks arising from within the organization. They are controllable as such should be eliminated. Examples of such risk are employee and managers' incorrect actions and breakdowns in routine operational processes. Since the enterprise does not derive any benefit from these risks they are better eliminated. Strategic risks are risks accepted in order to generate better returns from enterprise strategy. According to Kaplan & Mikes (2007) these risks are key drivers to capturing the potential gains of the business. Since these risks do not create any hindrance, managing them is targeted at ensuring that organization can contain them. Lastly, external risks are risks that are external to the enterprise and as such beyond its control e.g natural and political disasters and major macro- economic shifts. The management of these risks is only by mitigating the effect of such occurrences on the business. Thus there is a strong need for managers to be proactive in handling these forms of risks as they create a very high danger to the life of the business and the effect can be immediate and total.

Common concepts in risk such as risk-averse, risk seeker and risk neutral give an understanding of the various positions from which investors view risk in their investment decisions. The risk averse investor is not interested in high risk investment especially those requiring heavy capital outlay. For this type of investor, he may, unknown to him be losing to inflation as a result of holding the cash loosely without investing it. The risk seeker tends to be on a gaining side because this investor pursues investments with high risk for high capital gain. The risk neutral investor does not have regard for the presence of risk or the uncertainty that follows investment decisions. He attempts any investment that comes his way whether the gain is high or not. For each of these groups, the presence of risk is identified from risk of loss of cash that could have been invested profitably as compared to the risk of losses that can be preempted and managed in order to eliminate or reduce risk.

The term uncertainty is used to denote the impossibility of knowing the exact result of a course of action, situation or decision. Uncertainties exist in everyday life because life itself is very uncertain. To this extent, businesses face various forms of uncertainties in the decisions to invest, expand present business, take loans, employ workers or even add new businesses. Every uncertainties expressed involve elements of risk. Such risk could be expressed in terms of reduction in expected returns on investment. Thus management must find a way of managing risks and uncertainties in business activities. Risk management is a structured approach to identifying, assessing and controlling risks that emerge during the course of the policy, programme or project lifecycle. It involves a series of well-defined steps to support better decision making through good understanding of the risks inherent in a proposal and their likely impact. In risk management and risk reduction strategies, consideration is given to active risk management strategies; it is usually adopted for the appraisal and implementation of large policies. Program, project and risk management principles should be applied to smaller proposals before and during implementation. Steps should be taken to prevent and mitigate both risks and uncertainties. It is important to be transparent about the impact of risks and biases in proposals.

EMPIRICAL REVIEW

Risk is seen as the uncertainty that is involved in investment decisions, this is why Hubbard (2009) considers uncertainty as a lack of certainty which is expressed in probabilities with different possible outcomes. He considers risk as risk without uncertainty and uncertainty as without risk. Risk is measurable as a result of loss which is quantifiable but uncertainty cannot be quantified due to the fact that it may not be measurable. In projects with big capital investment the risk is high and as noted by Flyvbjerg (2003), affirming that such projects

typically have high risk overruns, benefit shortfalls, schedule delays including unanticipated social and environmental impacts. Risk as observed by Smith Dennis & Fishbacher (2012) is borderless. This is to say that it can be found in almost all facets of life such as investments, health, socio-technical, geopolitical, organizational, cultural etc. Altman (2009) posited that financial connectivity and risk are obvious and can be identified in failures of financial institutions and businesses. Embo(2004) retrieved 2012, argued that a general concept for evaluating and managing risk will help managers to integrate various aspects of risk. One of such concepts is the system risk (OECD 2003). Systemic risk combines natural events and it covers social, economic and technological developments. Systemic risk requires a holistic perspective to combine the identification of hazards, risk assessment and risk management. It considers variations from the extent of loss and probability of occurrence.

Generally, investing in Government bonds is faced with different degrees of risk. The greater the risk, the greater the expected returns. Government bonds have low risk because the interest rate is known and the chances of defaulting are low. However, investing in shares is prone to risk because returns are not certain. Return is calculated by adding risk free rate to risk premium. When a decision is made to invest in Government bonds with expected interest of say 6%, this can accurately be estimated because it is risk free. But a decision to invest in shares, projects and new businesses is faced with uncertainties because it is impossible to accurately estimate due to the fact that future financial developments can affect share price e.g. inflation risk, market risk, economic risk, interest rate risk etc. This shows the risk inherent due to variability in future returns. As affirmed by Pandy (2006), the greater the variability, the greater the risk.

In most circumstances, the term risk and uncertainty are used interchangeably because of their relatedness. Under risk and uncertainty, the challenge is that actual returns realizable on a project may differ from the expected return. Extant literature view risk as that of a project that should have been accepted but is rather rejected or vice versa. Risk is further explained as a situation in which the occurrence of certain future events is unknown. Risk is said to exist where the probability distribution of cash flows of investments is not known. It is the variability that is likely to occur in the future returns of a project. (Pandy, 2006). As defined by Vessbs (2011), risk is the quantifiable likelihood of loss or less- than-expected-returns.

From above, it is observed that Pandy (2006) defined risk from the angle of investment returns which in reality are not certain. This is due to reasons relating to instability in the value of money, inflation, economic factors such as changes in income level, credit risk, inflation risk, economic risks, unsystematic risk, business risk and so on. Vessbs (2011) equally sees risk as possible quantifiable loss which can result from expected returns of an investment due to natural disasters, inflation etc. In essence both definitions recognize the fact that return on investments is uncertain and it's also prone to some risk. Uncertainty is however described as lack of specific information to formulate a probability distribution of the cash flows. That is, there is possibility that an actual amount of investment will alter in value but the extent of variability is unknown. Risk exists in investments because the decision maker cannot make perfect forecasts due to uncertainties in future events, cash flows cannot be forecast accurately, alternative sequences of cash flows can occur depending on future events, internal political situation of the organization may militate against investment plans, environmental factors which the manager did not anticipate, industrial relationship with other organizations and change in management.

In order to determine the extent of risk in investment decisions, various techniques of risk adjustment are suggested by Pandey 2006 and CIMA 2006. These are Certainty equivalent approach, standard deviation combined with variance computation and Sensitivity analysis. Due to variability of interrelated projects different scenarios have to be examined in practice. Thus major components of the projects are analysed through sensitivity analysis by finding the percentage change that affects the decision making. This method (sensitivity analysis) considers the impossibility of accurately forecasting cash flow, this is because the cash flow depends on the revenue generated or expected, and this on its own is also a function of the price of the materials, selling price and other attached costs. Hence the method analyses the change in the project net present value (NPV) for a given change in the other variables. The Net Present Value is computed under three criteria – expected, optimistic and pessimistic. The benefits include making the decision makers to consider the variables which affects forecast in order to understand the totality of the investment decision; It shows the critical variables for which additional information may be required, it exposes wrong forecast and guide decision making towards relevant variables. The limitations include absence of clear cut result and lack of focus on the interrelationships of variables, change in variables such as increase or decrease in the selling price, fixed cost output, volume etc. The underlying assumption is that variables are independent of each other. According to Pandey (2005), a change in one variable may affect another variable, e.g; change in selling price may mean change in sales volume. The following methods are used in adjusting for risk. Under the pay back adjustment method, risky projects are set for shorter periods than the company's payback period. If the company's Accounting rate of return is 25% the project will be adjusted with 45%.

In risk premium method, the adjustment is on the cost of capital. A cost of capital higher than the company's cost of capital is used to adjust risk projects. For example where a company's cost of capital is 10%, adjustment rate for the risk may be 15%. The difference of 5% is the risk premium. Decisions on long term project where probabilities are attached are based on the expected values. This connotes that deviation from the mean will capture the risk in projects. The general rule is "the higher the standard deviation, the higher the risk". The method involves testing decision options for vulnerability to adverse changes in its constituent variables such as expected sales, volume, selling price per unit, cost of material, labour etc. Hence major components of the projects are analyzed through sensitivity analysis by finding the percentage change that affects the decision making.

Arnold, Benford, Hampton and Sutton (2012) suggested the need for enterprises to imbibe a culture of managing risks. Risk management involves aligning financial risk management with the business strategy (Collier 2009). This agrees with the position of (Beasley & Frigo 2007, Collier 2009) that there is the need to monitor threats and the strategic nature of management demands a broader focus, identifying, assessing and seizing opportunities. Buhman et al (2005), added that when enterprises collaborate, benefits come from a combination of information and knowledge sharing and risk control. An added benefit is the promotion of absorptive capacity and risk mitigation. According to Hulme (2012), there are four types of cost concepts used in cost and benefit analysis of risks. These require consideration of costs in present value terms and identifying negative costs, consideration of the economic costs of a given sector using costs under different scenarios, using measures of macroeconomic costs and consideration of the level of gross domestic product account for costs of interrelationship between sectors, as well as welfare costs such as employment, income distribution and the neo-market value of environment quality.

Elinner (2011), suggested further that managing risks, integration into the wider business and boosting innovation and growth is where the future of overcoming uncertainties in financing and other business decisions lies. Furthermore, the following approaches render meaningful results in managing risks; identify possible risks in advance and put mechanisms in place in order to minimize the likelihood of negative effects. Have processes in place to monitor risks and access to reliable up-to-date information about risks. The right balance of control in place to mitigate the adverse consequences of the risks if they should materialize. Decision making process needs to be supported by a framework of risk analysis and evaluation.

For larger investment projects, strategies to be adopted to prevent and mitigate risk include early consultation to identify needs at the onset and avoid later cost increase, defer irreversible decisions to allow more information about risks and investigate other means of attaining objectives, pilot studies will lead to more information about risks so that steps to mitigate adverse consequences can increase benefit. Take precautionary action to prevent or reduce risk of very bad outcome; transferring risks to the private sector such as insurance. Reinstatement and develop different options. Commission a research to confirm or disapprove new technology or reassess nature of danger and design projects into stages. Abandon project if the risk is too high.

According to WBGV (2000), there are three challenges that are identified in risk management and they are complexity, ambiguity and uncertainty. Complexity refers to the difficult task of identifying causal links between a multitude of potential risks and specific adverse effects. Renn (2004) however suggested experts' deliberation over the challenges of complexity, ambiguity and uncertainty. Kalecki (2000) however opine that the challenge of illiquidity and probable business closure is akin to small capital investments. Other challenges identified are narrow market which limits opportunity for big loans in case of need for expansion.

However a review into investment of small businesses as obtains in low capital based businesses, Wellisz (2012) avers that the entrepreneur's risk and the lender's risk increase with the size of the loan. He opined further that with the investor's limited capital, the size of loan is limited. Basing investment on the investor's own capital therefore may mean a decrease in potential risk to finance even as the size of the business increases. The risk involved shows that the rate of growth of the business under different risk conditions will create a difference in the capital structure of the firm. According to Kalecki (2012) there is increase in the marginal risk on the invested sum due to danger of illiquidity and the challenge to the wealth of the investor in case of business closure. In the Review of Economics,(retrieved), it posited that while some will not pay much attention to the risks in small capital investment, other experts argue that small capital investment offer more opportunity for growth even though opportunity for loss is equally possible. Enron (2012), however argue that risks exist throughout the market since reduced risk comes with reduced growth. Hence, investing with small capital demands a lot of caution. For example, Anaro (2011) stated that the closure of businesses during rampages and strikes led to a crash in inter-bank lending rate which is a negative risk impact on the interest charges on loans. This portends danger to borrowers as interest rates were generally affected.

Management of risks involved in operations requires efficiency and effectiveness in the operations of the organization. The trade-off involves balancing risks and opportunities due to the fact that managing risk and opportunity depends on how the choice is made in the process of decision making. Sparrow (2012) suggested that an overt, systematic approach to managing risks is more effective and efficient than an informal process of risk management. The process of risk management highlighted the following risk factors that are inherent in investment decision

making. The policy making process has often been reported as very inconsistent due to regular changes and in-continuity of laid down guidelines such as tax, interest rates, imposition of levies etc. This has created serious challenges for investors. There is a high level of executive corruption which has permeated the various sectors of governance. This has created so much fear, uncertainty and challenges as decision making for investment has to be taken with extreme care. The influence of the super powers on the developing countries too has not given room to free market investments and operations. Other factors adduced are issues relating to instability in the value of money, inflation, economic factors such as changes in income level, credit risk, inflation risk, economic risks, unsystematic risk, business risk and so on.

Furthermore, due to determination to continue in business, the investor is faced with several challenges. These are viewed by Skok (2012) as inability to raise cash for further investments which determines the continuity of such business, poor management team that usually portray a weak system and lack of good strategies, inability to recover the cost of acquiring customers within a year, failure to regulate investments and to conserve cash for further needs, product problems which may lead to loss of market. Other areas of risk identified are natural disasters such as flood, fire outbreak, inconsistencies in government policy, inflation, cash flow available, physical factors such as lighting, good roads etc.

CONCLUSION AND RECOMMENDATIONS

The study concludes that risk is a prevalent issue in investment decisions because it could not be avoided but can be managed. Investment without risk element might not be a worth-while investment because overcoming risk could launch the business into unprecedented success. The extent of to which it constitutes a discouraging factor to investment depends on the investor's attitude to risk. From the general perspective that "prevention is better than cure," managers need to preempt risk and its effect through risk analysis methods. First an investigation into the types of risk and plausible means of prevention is essential. Consideration should be given to the nature of business and the need to attain organization goals since each business is exposed to specific risk. Second, government needs to reduce the rate of policy changes as this usually leads to price instability and other negative impacts on investment. Third, there is need for regulatory bodies such as Central Bank, tax authorities among other to create investment friendly climate such easy access to loan at low rate and tax holiday and avoid multiple tax regime as in Nigeria where the Federal, State and Local government impose tax on nearly the same tax field. Fourth, the role of the accountants in educating loan beneficiaries on investment issues is needful as this will sensitize program beneficiaries to determining inherent risks in their decision to invest. To reduce risk meaningfully, the accountants should further ensure that the source of capital to the business be analyzed with interest rate attached, as well as the effect of inflation on the capital and the operations of the business. In summary, as opined by Withers (2009), the problem of risk requires the understanding of key decision makers and how such decisions are affected by risk. It requires proactive managers to analyze the effect of decisions reached, identify risks inherent and manage the risk challenges therein through risk analysis methods such sensitivity analysis, expected value approach, pay- back period among others.

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