

# EVALUATING THE INVESTMENT DECISION-MAKING PROCESS FOR BUSINESS EXPANSION INTO AFRICA: A CASE STUDY

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## Abstract

Africa is a potential domain for international business. However, numerous uncertainties characterize this environment and the challenge for multinationals remains the ability to assess the true value of an Africa-bound investment project. A telecommunications' survey was conducted on Siemens Southern Africa (Siemens) and Mobile Telecommunications' Network (MTN) and the following observations were made: (1) Approaches used by the businesses to value Africa-bound investments were not comprehensive and inclusive. (2) Neutrality existed to the suggestion that Africa is unique and that investment decisions should be customized to suit it. (3) Certain approaches used by the businesses were modified to suit pertaining investment circumstances thereby differing from literature, and (4), participants desired to learn new ways of improving this process suggesting dissatisfaction with the current norm. This paper presents the conflicting ideologies about the decision-making process for business expansion into Africa and suggests ways of improving the process.

**Keywords:** Investment decision-making, uncertainty, investment appraisal, multi-criteria decision making

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## 1 Introduction and Background

Multinationals are constantly confronted with decisions that have to be made under different degrees of uncertainty. Managing a company is primarily about managing these uncertainties and understanding the relationship between the existing risks and the opportunities (Olafsson, 2003). Investing in Africa today poses an even greater challenge for companies assessing the true value of an investment due to the numerous socio-political, cultural and technological influences that make this continent unique.

The African market lies at the helm of the economic development process. Factors like liberalization of trade, the rising number of developing countries, a growing trend in technological change, and a fall in trade barriers are a few of the drivers quickly changing this economic landscape. According to the United Nations Conference on Trade and Development (UNCTAD), recent trends in inflows of foreign direct investment (FDI) indicate a rise of up to \$55million in revenues, with about 30% contributed by northern Africa, 27.5% by South Africa and the rest, to other regions in Africa (World investment report 2011 by UNCTAD).

Africa-bound multinationals face the challenge of determining whether their current concepts,

strategies and approaches for valuing investments, apply to this market without a need for customization. There is insufficient evidence to suggest that such companies are critically evaluating these investments in light of the various unpredictable circumstances facing Africa (Johnson and Turner, 2003). In other cases, this information is kept as "classified" by companies due to the rigorous process of lobbying and meeting compliance requirements, negotiated with the governments in question. However, a growing demand exists to establish the effectiveness of tailored approaches as opposed to standard methods in making expansion decisions.

The inevitable uncertainties associated with investing in Africa are better managed with flexibility rather than fixed scenario expectations. Fixed scenario expectations are usually guided by standardized approaches that ignore certain variables from analysis, which could undermine the true value of a given investment. For instance, investment decisions as cited from literature are consistent with the principle of modern financial theory which states that only those investments that have a positive net present value (NPV) should be funded (Slater and Zwirlein, 1996). According to Zopounidis and Doumpos, (2002), such evaluation tends to ignore important qualitative variables from analysis suggesting that the

conventional NPV criterion fails to capture investment flexibility if it is not customized to account for extraneous variables.

Comprehensive investment decision-making processes in any company determine how accurately a project is evaluated and ultimately, how successful it turns out. Day-to-day decision-making and investment decision-making processes should follow an almost similar pattern with a few exceptions. This is because implementing a company's strategic plan closely relates to implementing a given project although one normally precedes the other.

Thompson and Strickland, (1998), assert that every manager has a role to play in the process of implementing and executing the firm's strategic plan, which ultimately constitutes making investment decisions at some point. Due to insufficient knowledge on investment decision-making for Africa, this paper attempts to explore, extend and hopefully improve on the process.

First, it is important to highlight the inconsistencies associated with the various investment decision-making tools and approaches. The study will then suggest a framework necessary to favor a more accurate investment appraisal process.

This article is organized as follows: this section reviews the relevant literature and proposes a framework to guide investment decisions for Africa; section 2 presents the problem and objectives of the study, section 3 presents the methodology, while the last two sections present the findings and implications for the study respectively.

### **1.1 Investment Appraisal for Multinationals**

The decision to invest abroad is often based on strategic, economic, or behavioral motives. Defensive or aggressive actions are usually taken to strengthen the firm's position (Demirag and Goddard, 1994). The underlying benchmark to such a decision however, should be to determine whether the considered investment will add a value that exceeds the costs and implied risks incurred in implementing it. Although some decisions are taken for non financial reasons, the financial viability of a foreign investment is designed to ensure that the multinational can survive and grow in the long run (Demirag and Goddard, 1994).

Investment decision-makers are provided with various tools with which to value and choose between mutually exclusive foreign investments. A review of these tools cites major practical inconsistencies with their application for investment appraisal mainly due to the rigidity with which they are applied in practice.

### **1.2 Common Investment Appraisal Methods**

Investment appraisal decisions in practice range from those largely subjective, to those based on sophisticated mathematical models (Demirag and Goddard, 1994). An assessment of the most commonly used investment appraisal techniques (i.e. accounting rate of return, the payback period, internal rate of return and net present value), indicates practical inconsistencies with their use especially under conditions of uncertainty.

The accounting rate of return (ARR), which represents the ratio of an investment's average after-tax profits to the amount initially invested into a given project, uses available accounting data and is simple to administer. However, because it uses accounting profits and not incremental cash flows which normally characterize investments of this nature, it ignores the time value of money principle, a critical factor in the investment evaluation process. Similarly, it fails to account for the size of projects when alternatives have to be considered (Atril and McLaney, 2011).

The payback period (PB) method measures the time taken to recover the initial amount invested into a project. The calculated payback period should be less than the maximum acceptable payback period for a project to be considered. It is commonly used by large firms to value small projects due to its computational simplicity and intuitive appeal. It also measures the level of risk exposure because of its consideration to the timing of cash flows (Arnold, 2008; Gitman, 2009). A study by Grinyer & Green, (2003), found the use of PB, instead of NPV, motivating to risk-averse managers who then, by default, adopt more positive NPV projects, so that the appropriate use of PB results in more wealth for shareholders than would occur using NPV directly. However, this approach is considered inferior to NPV because it is not based on discounted cash flows.

Internal rate of return (IRR) like NPV is a discounted cash flow technique that takes into account the time value of money. It is a percentage measure, unlike NPV, which measures the absolute financial benefit of a project (Arnold, 2008). It's regarded inferior to the NPV because it incorrectly assumes that generated cash flows are reinvested at the IRR rate and may conflict with the NPV when competing projects of differing size or time horizons are considered (Gitman, 2009; Atril and McLaney, 2011).

NPV is the most popular capital budgeting technique found by subtracting a project's initial investment from the present value of its cash inflows discounted at a rate equal to the firm's cost of capital (Gitman, 2009). Theoretically, all projects with a net present value greater than zero should be accepted. However, as literature suggests, not all-positive NPV projects are acceptable due to capital rationing. Based on certain criteria, projects with low negative or zero NPV could also be considered if the investment

climate is positive over the long run. Studies by Olafsson, (2003), recommend the inclusion of management options into the project valuation process. Such options when considered have an impact on the resulting NPV value and influence management's initial decision to accept or reject a project. Analysis also indicates that a manager at a typical company, who receives equity-based compensation, is likely to favor projects that lower the firm's risk, thereby undertaking such projects even if they have negative NPV and ignore some high-risk projects that have a positive NPV (Parrino, Potoshman, and Weisbach, 2005).

What makes discounted cash flow methods like NPV so popular to the valuation process? First, the NPV criterion of valuation is based on a decision analysis approach, a straightforward way of determining the value of a project based on the information available to the decision-maker. It is considered the only approach that is consistent with the firm's objective of maximizing shareholder wealth.

The advantage in NPV valuation lies in its ability to incorporate a risk-adjusted discount rate which can be used as a benchmark for evaluating acceptable projects. This traditional approach to NPV valuation is administratively simple because risk factors can easily be factored into the analysis to raise or lower the hurdle rate. This paves way for a more accurate appraisal process if such factors can be accurately quantified. NPV evaluation also accurately isolates as good, those projects whose expected cash inflows occur in the earlier stages of the investment, from those that occur later during the investment horizon (Brigham and Daves, 2010).

The first major inconsistency with the NPV method lies with its inability to accurately estimate the appropriate discount rate since the latter depends on unstable macro and firm specific factors that cannot be exhaustively and accurately quantified in the valuation process. Secondly, NPV valuation tends to ignore the "strategic" value of a risky investment and helps little in evaluating complex or strategic investments. NPV's limited timeline for accurate valuation (5 to 10 years) makes it inadequate in evaluating the additional value that can result from a project due to prospects of future growth and other managerial flexibilities, that may interact with future uncertainties (Ho and Liu, 2003; Arnold, 2008). Such uncertainties include among others, options to expand or contract a project, the sunk and/or opportunity costs to consider in this regard, and options to delay, hold, or speed up an investment (real options). Thirdly, NPV is not commonly used in production and inventory decisions where the dominant methodologies are long run average cost and total cost without discounting. According to Sun and Queyenne, (2002), the economic order quantity (EOQ) model is commonly used here because of its implicit consideration to cost.

In other related studies done to determine whether NPV maximizes shareholder wealth, Berkovitch and Israel (2004), concluded that whereas the NPV provides a measure by which prospective projects may add value to the firm, other informational and agency considerations prevent it from guiding the implementation of an optimal capital budgeting outcome. They explained that if a manager of a subsidiary were faced with two mutually exclusive projects with positive NPV, a possibility exists that the manager could choose the project that requires a higher initial investment without regard to its NPV. Such a choice could be inconsistent with the company's primary goal of maximizing wealth, but consistent with considerations of the subsidiary's operating environment. Ultimately, the effectiveness of the NPV in guiding the valuation process would be flawed. Against such backdrop, numerous theories and models have been developed to both facilitate the NPV valuation criterion and to substantiate the investment valuation process as a whole.

### **1.3 Current Trends in Project Appraisal**

New trends in corporate planning are designed to exploit the aspect of environmental uncertainty since the latter is a major factor affecting the accuracy of most investment valuation techniques (Zopounidis and Doumpos, 2002). During times of high uncertainty, Park and Herath (2000) identified three competing methodologies that apply to project valuation. These include;

(1) decision analysis, a straightforward approach of laying down future decisions and sources of uncertainty, in a decision-tree format. The technique is designed to calculate the value of a project by taking into account the amount of information available at one's disposal. The risk attitude of a particular decision-maker may also be quantified through his/her subjective utility function (Park and Herath, 2000). The investment alternative with the highest expected utility is chosen based on a given criterion. Decision analysis complements NPV valuation by identifying critical variables that affect the determination of the hurdle rate (discount rate) used in the valuation formula. Unfortunately, these variables are hard to quantify and may not remain stable over the investment horizon.

(2) capital asset pricing model (CAPM) which adopts the perspective of investors in the market and measures investments based on their value to the market or their contribution to investor's wealth. A market risk premium is added to the risk-free interest rate of a particular market to determine the risk-adjusted rate, which is then used as the discounting rate for the expected future cash inflows. This risk-adjusted discount rate (RADR) captures the risk attitude of the market according to Park and Herath, (2000), and becomes an essential input to the NPV formula or the valuation process in entirety. The

CAPM is essential to the determination of a discount rate because it implicitly considers both systematic and unsystematic risk factors. It paints a clearer picture on the level of uncertainty to be considered in the valuation process. However, it is based on a variety of impractical assumptions that render the calculated rate of return unrealistic and inaccurate. These include, among others, the assumption that capital markets are highly efficient and that investor information is equally distributed. Therefore, it has suitably been used to value security investments and not investments of a strategic nature that require a lot of strategic or resource input. Reilly and Brown (2003) suggested the use of the arbitrage-pricing model (APT) as a more appropriate method for valuing an investment due of its consideration of multiple risk factors and comparably fewer derivation assumptions.

(3) Real option analysis is a recent and more advanced approach to project valuation which is based on the opportunity to make decisions after a firm has assessed how events in its environment unfold. Cash flows from a completed project are used to estimate the value of an expected project with consideration to other extraneous variables existing at the time. The results are then inputted into the option valuation process following a probability analysis to account for uncertainty. The advantage of this method over the CAPM and NPV is inherent in its flexibility to change the course, pace or use of the project in future if events unfold in an unexpected way (Arnold, 2008).

By definition, real option analysis is a new way of thinking about corporate investment decisions in which the decision to invest or divest is simply an option which gives the holder the right to make an investment without the obligation to act on it. It provides executives with the ability to react to new circumstances that could greatly influence their initial investment decisions for better. The presence of real options enhances the worth of an investment so that these options become the sum of the NPV and the value of the real option to consider. The greater the number of options and the greater the uncertainty surrounding their use, the greater the project is worth (Arnold, 2008).

Another trend in the decision-making process was developed by Zopounidis and Doumpos (2002), in which they suggested a multi-criteria approach to

decision making. This new approach provides decision-makers with the ability to view financial decision problems through an integrated and realistic approach based on sophisticated quantitative analysis techniques like; stochastic processes, Monte Carlo simulation and multi-criteria decision analysis (MCDA). The development of MCDA is based on the finding that a single objective, goal, or criterion is rarely used to make real-world decisions. Several valuation techniques lend themselves to a single objective and usually ignore multiple conflicting decision factors. The MCDA approach, according to them identifies the existence of multiple criteria, conflicting situations between criteria, and the complex subjective nature of the evaluation process, becoming an invaluable tool for complex investment decision-making. Most recent approaches to project valuation lend themselves to variations of the above-mentioned approaches and include works by, Munoz, Contreras, Caamano and Correia, (2011) and Xu, (2011). However, such evaluation approaches are regarded complex for most investment decision-makers and may not apply appropriately for Africa.

Current trends on project expansion into Africa should focus on identifying, quantifying and devising means to minimize environmental and other constraints in order to increase investment certainty. Factors which hinder business expansion into Africa (growth factors), and those that hinder the successful entry into foreign markets (international marketing factors), should be considered. This study proposes a scenario-sensitive approach to valuing investments for Africa.

#### 1.4 The Proposed Conceptual Framework

This framework is based on the premise that the marketing and orientation strategy chosen by the company as a model for expansion has implications on the uncertainties the company will have to consider when evaluating an investment. The study identifies typical expansion scenarios for any multinational planning to expand into Africa. These are adapted from Igor Ansoff's product-market growth model (Ansoff and Antoniou, 2005), as depicted in the table below.

Table 1. Ansoff's growth model

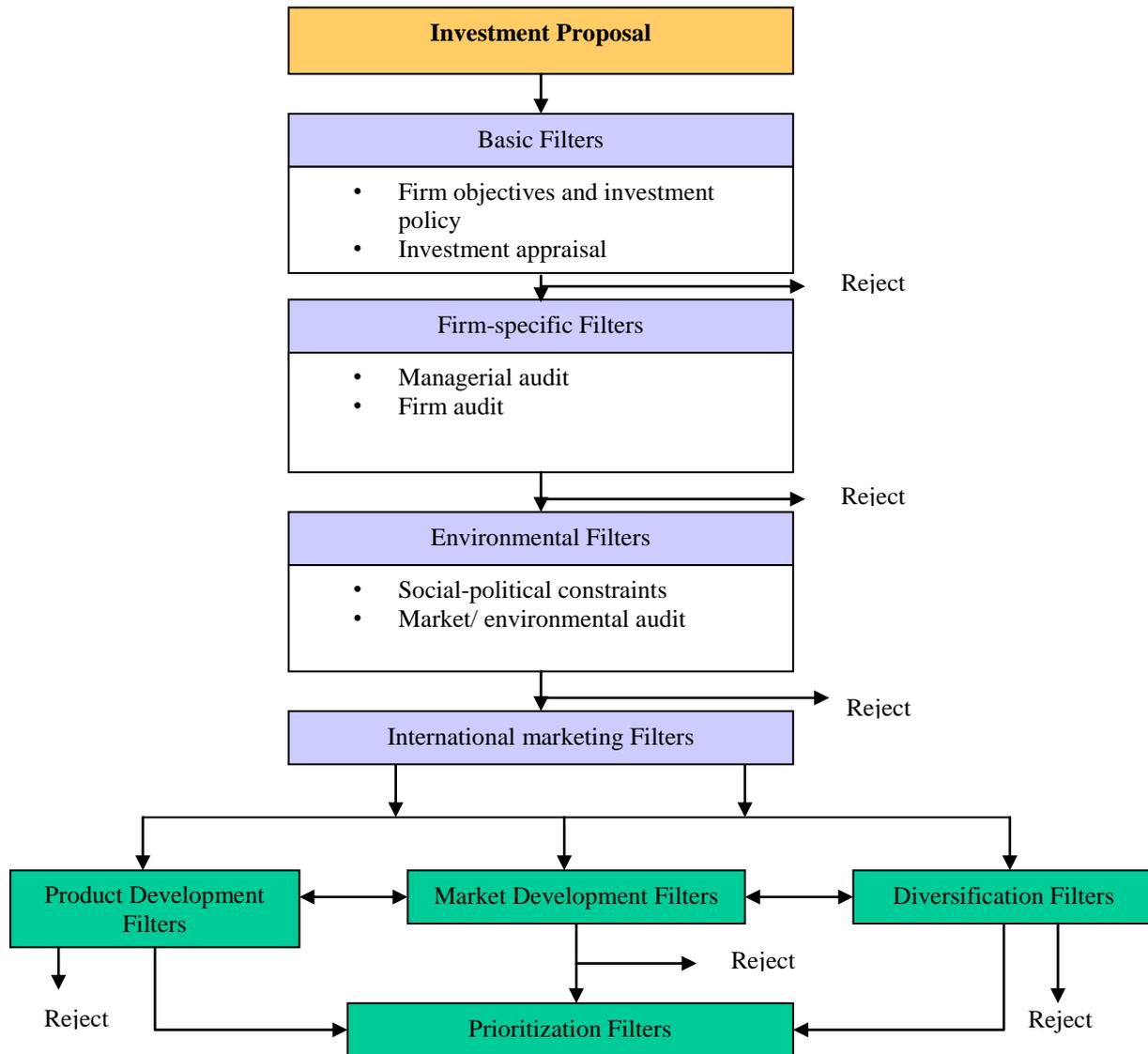
PRODUCT \ MARKET	PRESENT	NEW
PRESENT	Market penetration	Product development
NEW	Market development	Diversification

Source: Adapted from Ansoff, H. and Antoniou, P. 2005

Depending on the market orientation of a company, implications for the strategy chosen and the inherent risk characteristics differ among the three scenarios above. For example, introducing a new product into an existing market (product development) could include among others, numerous cost-constraints or risks from the time ideas are generated up until the rollout phase. Developing a new market

segment for an existing product (market development) entails extensive promotional costs and uncertainties associated with the market audit process. Diversification, on the other hand, is a high-risk strategy because it involves high costs associated with both product and market developments (Onkvisit and Shaw, 2004).

**Figure 1.** Framework to guide investment decisions for expansion into Africa



Within the context described above, the basic approach of applying the framework in the diagram below is to subject a typical investment proposal to various investment evaluation filters, designed in a top-down fashion, with evaluation approaches increasing in complexity. Each filter acts as a benchmark above which the proposal can be considered acceptable and below which it should be rejected. The basic filters at the top of the structure deal with first steps in the investment evaluation process and include variables that assess an investment based on the firm's investment policy and

mission statement. Valuation techniques like NPV, IRR and PB are applied at this stage if sufficient knowledge on the project's expected cash inflows is available to support such valuation. Normally, at this stage the expected cash inflows won't be estimated with absolute certainty. For all investments this step is essential since it qualifies the project's minimum requirements for shareholder wealth maximization.

Proposals which meet this minimum criterion are subjected to a more critical evaluation that involves an assessment of firm and environmental-specific constraints that could further affect the investment. A

more detailed financial appraisal approach using the option analysis criterion is done at this stage. Qualifying proposals are then further assessed through international marketing filters, which are to a large extent, scenario biased. It is at this stage that the organization should prioritize proposals based on the available funds.

A scenario-sensitive approach to decision-making has four advantages. First, at every evaluation level, a proposal may be qualified or disqualified based on whether it meets the stipulated minimum requirements. Secondly, depending on the chosen mode of expansion, every investment should be evaluated based on that scenario for expansion and the uncertainties to consider therein, since proposals will differ significantly across scenarios. Thirdly, for refinement purposes, risk factors based on both social-political and marketing constraints can be assigned to every project under valuation so that the latter can be assessed based on a cumulative score - and a decision made based on that. The company may have a minimum benchmark score above which the project can be considered for funding. Lastly, the model helps eliminate in-depth quantitative analysis whose level of accuracy could be low. A typical manager can subjectively disqualify a given investment for failure to satisfy a given qualitative criterion without having to go through the whole process of variable quantification.

For example, in any entity, projects that do not comply with the mission and values of the business should be eliminated without the need to quantify them. Figure 1 represents a summarized schematic of the proposed framework.

## **2 Problem Statement**

Today, the Chief Financial Officer (CFO) of a typical multinational firm is faced with the task of choosing from a multitude of investment proposals, feasible and value-adding projects to consider for funding. This challenge is compounded by the fact that the company may not have in place an appropriate framework with which to evaluate such proposals especially if they pertain to expansion across domestic boundaries. Efficient financing decisions and the complexity of the financial decision-making process become necessary. Common appraisal techniques are based on the assumption that the considered proposal is well formulated regarding the realities involved. There techniques consider a single objective, evaluation criterion, or point of view that underlies the conducted analysis (the mono criteria paradigm). In such cases, financing solutions are easily obtainable.

In reality, however, such proposals are founded on different, often-conflicting decision factors (objectives, goals and criteria), which have to be considered simultaneously. These numerous uncertainties cloud the viability of investments into Africa today making it increasingly impossible for

multinationals to accurately estimate the true value of an investment proposal, with the result that some initially promising projects tend to fail. This requires financial managers to make capital budgeting and financing decisions through an integrated and realistic approach in order to choose investments that add shareholder value in the long run. Frameworks that guide complex decision-making have to be developed to assist managers with this task.

## **2.1 Objectives of the Study**

### **2.1.1 Primary Objective**

The primary objective of this study was to evaluate the investment decision-making process for companies expanding into the African market.

### **2.1.2 Secondary objectives**

To help achieve the primary objective, the secondary objectives of the study were:

1. To provide a literature overview of the investment decision-making framework for business expansion into the African market.
2. To determine the level at which companies expanding into Africa are incorporating these investment decision-making requirements suggested by literature.
3. To develop new concepts or theoretical perspectives to serve as a point of departure for further research.

## **3 Methodology**

An empirical study was conducted on the investment decision-making executive of Siemens Southern Africa (Siemens) and Mobile Telecommunications Network (MTN) - both telecommunication companies resident in South Africa, but with several interests within Africa. A total of 60 questionnaires designed using a five-point Likert scale were administered to a projected target sample of 60 respondents, 30 from each company. The choice of the sample of respondents was done purposively to identify members who form part of the investment decision-making executive of the businesses. To ensure this, the CFO of each company was requested to distribute the questionnaires to members who constitute the investment decision-making executive of his company.

The questionnaire containing 28 questions including biographic data, had questions based on the literature-developed financial decision-making framework for business expansion. It was then divided into four broadly defined analytical components; structure, process, tools and perceived level of satisfaction, with questions ranging from, among

others; the perceived composition of the investment decision-making executive, the required level of interdepartmental involvement, the sequence and complexity of tools and/or approaches to apply, the duration required for the decision-making process, the uniqueness of the African market and the level of satisfaction towards the current approaches adopted by the business.

Results highlighting key variations in the investment decision-making process were then analyzed and represented using frequency distribution graphs and pie charts to assess the general trend in the investment decision-making process. Using the Statistical Analysis Software (SAS) package and Pivot tables from Microsoft excel, mean scores on these components were determined together with their measures of relative spread (standard deviation scores) to assess the respondents' perceived degree of opinion regarding the investment decision-making process of their business.

A decision-support scale designed to mirror the 1 to 5 point Likert scale was used to categorize mean and standard deviation scores per question into zones of framework support (4 to 5), indecision (2-4) and zones of framework rejection (0-2). The data on the responses was coded and tested for reliability and validity before analysis was done. It was then assumed that the distribution of respondents and responses followed a normal distribution pattern so that decisions made by the companies to invest into Africa followed a normal distribution pattern. This enabled the researcher to make inference based on average and standard deviation measures and to extrapolate the findings to depict a general trend in the investment decision-making process for multinationals in the telecommunications' industry, currently expanding into Africa. The decision-support tool used to categorize the findings is depicted in the table below:

**Table 2.** The decision support tool

<b>1 STRONGLY DISAGREE</b>	<b>2 DISAGREE</b>	<b>3 NEITHER AGREE NOR DISAGREE</b>	<b>4 AGREE</b>	<b>5 STRONGLY AGREE</b>
<b>ZONE OF FRAMEWORK REJECTION</b>	<b>ZONE OF FRAMEWORK INDECISION</b>		<b>ZONE OF FRAMEWORK SUPPORT</b>	

**4 Results**

The target sample of respondents (60) comprising the investment decision-making executive of the businesses, provided a response level of 44 fully answered questionnaires (25 from Siemens and 19 from MTN), representing about 73% of the total sample targeted. 36% of these were female while 73% belonged to the finance department. Senior management, management and executive positions accounted for 86% of the respondents. 83% of the respondents had participated in the investment decision-making process of their business. An analysis of the various components under study indicated the following:

**4.1 Structure**

Selected questions from the questionnaire were used to assess this analytical component and to identify; what respondents perceive as the optimal composition of the investment decision-making executive, the perceived level of interdepartmental involvement necessary and whether or not decision-making for Africa should be left exclusively to the finance department. The majority of respondents were uncertain or disagreed that top management should be responsible for identifying and appraising investment

opportunities for their business (2.86 average on the rating scale). However the majority believed that this task should be left to the finance department (4.09 average on the rating scale). The spread in either of these cases was minimal (0.69 and 0.89 respectively), indicating a level of accuracy. A majority of respondents (4.27 average on the rating scale with a spread of 0.22), acknowledged the need to adopt projects that offer a return higher than their company's adjusted weighted average cost of capital (WACC). This suggests a high level of financial knowledge when making investment decisions in general. However, there was neutrality on interdepartmental involvement.

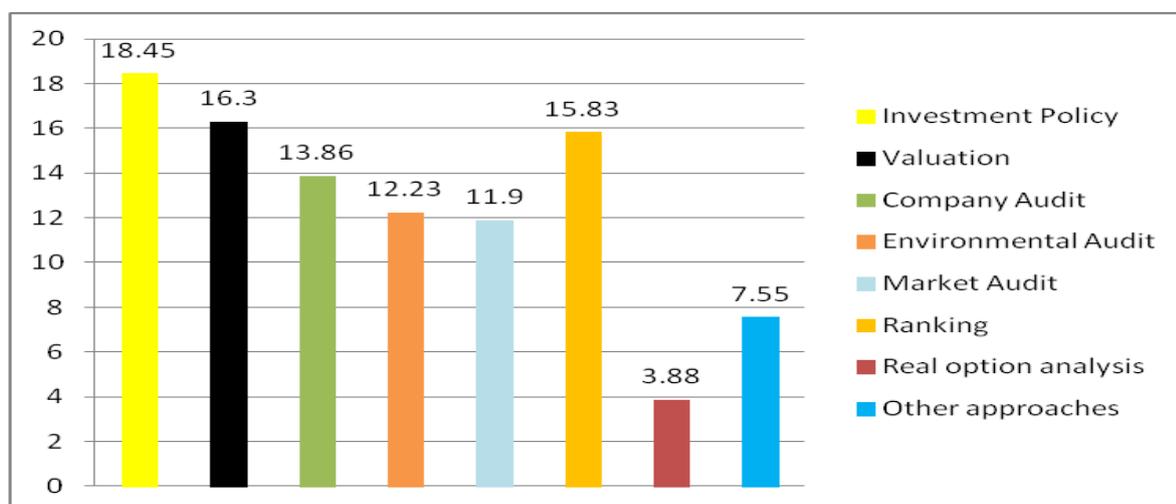
**4.2 Process**

This component assessed the perceived level of complexity or "depth" typical of any investment decision-making process in terms of approaches, tools and the time-frame required to complete an accurate evaluation for an Africa-bound investment proposal. Results indicated a high level of agreement (4.32 average on the rating scale with a spread of 0.39) that both quantifiable and non quantifiable factors should be considered when making expansion decisions into Africa. A majority of respondents (3.23 average on the rating scale) were unsure whether approaches to

appraise investments for Africa should be similar to those applied when investing in other developed continents. Also, a majority of respondents (4.27 and 4.14 average on the rating scale respectively), recognized the need to apply time value of money concepts and to include a greater interdepartmental participation in the decision-making process suggesting that such projects perform better than those deliberated only by top executives. These results agreed with what is documented in literature but contradicted an earlier observation that this process should be handled exclusively by the finance department. It was noted that complexity of a given investment determines how long the deliberation

process takes and the necessary number of tools and/or approaches to apply, consistent with the developed framework. Figure 2 below illustrates the order in which these investment appraisal techniques are applied. An interesting observation is that 7.55% of respondents selected the option “other” thereby supporting the suggestion that companies expanding into the African market are modifying their investment appraisal process to differ from literature and possibly to align with the market. These approaches warrant further investigation.

Figure 2. Sequence of application of valuation approaches



### 4.3 Tools

This component assessed the perceived approaches necessary to appraise investments for Africa, including the various techniques employed. There was a general consensus (4.05 average on the rating scale), that several other factors other than valuation techniques are essential for valuing investments for Africa. However, whether or not companies apply these approaches could not be verified since most of the respondents were unsure (3.22 average on the rating scale). It was concluded from the respondents that they do not apply a detailed evaluation process since subjects (2.73 average on the rating scale), did not know what various approaches like multi-criteria decision analysis and real option analysis entailed. Similarly, they could not say whether projects with low negative or zero NPV but with viable real options value are acceptable. This suggests a general lack of knowledge about recent trends in the evaluation process.

### 4.4 Level of satisfaction

The level of satisfaction with current approaches adopted by the business, in valuing Africa-bound

investments, was an important measure for establishing whether there is a need for improvement. Respondents were neutral (3.05 average on the rating scale) to the suggestion that the African market is unique and that investment evaluation methodology be customized to suit it. A significant number (3.17 average on the rating scale) did not think enough time is accorded to evaluating investments of this nature and could not support the statement that their company regularly evaluates its investment decision-making process in order to improve it (3.68 average on the rating scale). Finally, subjects were neutral to the suggestion that they were satisfied with the current approaches adopted by their business (3.18 average on the rating scale), and a significant number were keen to learn ways of improving this process (4.14 average on the rating scale).

### 4.5 Overall means procedure

The Statistical Analysis Software (SAS) was used to determine the overall mean score and the overall spread around this mean. These values were chosen based on the Likert Scale and a high average score would indicate support for the literature-developed

decision-making framework. The results obtained are indicated in the table below.

**Table 3.** Overall means scores (SAS)

ANALYSIS VARIABLE SCORE				
N	Mean	Standard Deviation	Minimum	Maximum
616	3.569264	1.1406	1	5

The overall results indicate a general level of indecision among the respondents, with a considerable spread in opinion. This means that the develop framework received only partial support as the majority could not support or reject it.

### 5 Conclusions and Managerial Implications

This study set out to investigate how the investment decision-making process for companies expanding into Africa is done in order to suggest ways of improving it. From a theoretical perspective, the researcher noted that an accurate evaluation process should be inclusive of other departments other than the finance department and that the process should be adapted to accommodate advanced methods of valuation like real option analysis and scenario planning, among others, to supplement the conventionally used NPV valuation methods which fail to account for investment flexibility. These, and others, were the areas of focus during this study.

In practice, it was determined that this process is left exclusively to the finance department and involves little interdepartmental participation although respondents expressed a need for involvement. The need to involve other departments in investment decision-making cannot be over stressed! For all projects, an efficient procedure for channeling investment knowledge is essential since each project development plan entails a different degree of uncertainties. It will not make investment sense for top management to approve a project while the human capital required to drive the implementation process is scarce, for instance. Similarly, identification of viable investment projects cannot be restricted to top executives alone as senior management and management teams can quite effectively identify viable projects on a strategic management perspective. Their closer interaction with lower management also ensures greater project cohesiveness and stimulates cooperation. An all inclusive departmental involvement in the process of decision-making is therefore crucial.

Whether approaches for appraising investments for Africa should be customised to suit this market or not, remains an area for further study because respondents were neutral to this suggestion. The important question to ask is whether Africa has the same uncertainties compared to the more developed continents of Europe and America? Greater

uncertainty requires a careful and comprehensive project evaluation process. At this point, it can only be argued the investment appraisal for Africa requires greater flexibility to account for the ever changing environmental variables that undermine the true value of an investment.

There was perceived knowledge on the investment valuation process, regarding time value of money techniques. However, this excluded the use of complex evaluation approaches, like real option analysis and multi-criteria decision analysis. It was concluded that investment appraisal eliminates important variables from the project valuation process. Recent trends in project appraisal are complex and challenging for decision-makers. However, when employed, such techniques reduce investment uncertainty and increase accuracy. Criteria to include such approaches in the investment decision-making process should set the precedence for further studies.

The complexity of the decision-making process, it was noted, depends on the level of company commitment to the project, size of the project and the considered time horizon required for completing the project. This is a logical finding given that investment projects into Africa are characterised by options for growth and sustainability, among other factors. The question of whether investment projects should be evaluated in phases, depending on the expansion plan, requires further studies.

It was also observed that a gap exists in the approaches adopted by the companies under study (practice) and the approaches recommended from literature (theory). It cannot be ascertained whether these approaches lead or lag one another. However, after detailed investigation, the CFO of one of the companies (name not disclosed), claimed that the company supplements common valuation approaches with excel-enhanced sensitivity measures based on the expected earnings before interest and tax with depreciation (EBITDA), and will only undertake a project that falls within its predetermined sensitivity domain. Whether such an approach leads or lags the conventional approaches evidenced from literature, requires further study. This observation indicated that these companies are customizing some valuation approaches to suit their investments environment.

Finally, the developed investment decision-making framework for business expansion into Africa, received partial support about its correlation to the current approaches adopted by the businesses. Some suggestions from the framework received total support

while others, none. Overall, respondents expressed a need to learn more advanced techniques for project evaluation, especially for companies venturing into Africa. This study was investigative to pave way to a more accurate analysis. The methodology was designed with simplicity, merely to provide an indication of the investment decision-making choices of companies expanding into Africa today. These results reflect investment behaviour of companies within the telecommunications' industry and cannot be generalised to all companies currently expanding into Africa. Certain aspects of the investment decision-making processes (as identified in literature) warrant further study.

## References

1. Ansoff, H., I. & Antoniou, P. 2005. *The secrets of strategic management: The Ansoffian Approach*. London: Booksurge.
2. Arnold, G. 2008. *Corporate financial management*. 4<sup>th</sup> ed. London: Prentice Hall.
3. Atril, P. & McLaney, E. 2011. *Accounting and finance for non-specialists*. 7<sup>th</sup> ed. London: Prentice Hall.
4. Berkovitch, E. & Israel, R. 2004. Why the NPV criterion does not maximize NPV. *Journal of financial studies*. 17 (1) pp 239-255.
5. Brigham, E., F. & Daves, P., R. 2010. *Intermediate financial management*. 10<sup>th</sup> ed. New York: Cengage
6. Demirag, I. & Goddard, S. 1994. *Financial management for international business*. London: McGraw Hill.
7. Gitman, L., J. 2009. *Principles of managerial finance*. 12<sup>th</sup> ed. New York: Pearson edition
8. Grinyer, J., R. & Green, C., D. 2003. Managerial advantages of using payback as a surrogate for NPV. *The engineering economist*. 48 (2) pp 152-163.
9. Ho, S., P. & Liu, L., Y. 2003. How to evaluate and invest in emerging A/E/C technologies under uncertainty. *Journal of engineering and management*. 129 (1) pp 16-24.
10. Johnson, D. & Turner, C. 2003. *Intermediate Business: themes and issue in the modern global economy*. London: Routledge.
11. Munoz, J., I., Contreras, J., Caamano, J. & Correia, P., F. 2011. A decision-making tool for project investments based on Real Options: a case of wind power generation. *Ann Oper Res Journal* (2011) 186 pp 465 -490.
12. Olafsson, S. 2003. Marketing decisions under uncertainty – implications for high technology investments. *BT Technology Journal*, 21 (2) pp 170-174.
13. Onkvisit, S. & Shaw, J., J. 2004. *International marketing: analysis and strategy*. 4<sup>th</sup> ed. London: Routledge.
14. Park C., S. & Herath, S., B. 2000. Exploiting uncertainty- investment opportunities as Real Options: A new way of thinking in engineering economics. *The engineering economist*. 46 (1) pp 1-7.
15. Parrino, R. Potesman, A., M. & Weisbach, S., M. 2005. Measuring investment distortions when risk-averse managers decide whether to undertake risky projects. *Journal for financial management*. Spring (2005) pp 21-60.
16. Reilly, F., K. & Brown, K., C. 2003. *Investment analysis and portfolio management*. 7<sup>th</sup> ed. Ohio: Thomson South-western.
17. Slater, F., S. & Zwirlein, T., J. 1996. The structure of financial strategy: Patterns in financial decision-making. *Journal of managerial and business economics*, 17 (3) pp 253-266.
18. Sun, D. & Queyranne, M. 2002. Production and inventory model using net present value. *Journal of operations research*. 50 (3) pp 528-537.
19. Thompson, A., A & Strickland, A., J. 1998. *Crafting and implementing strategy: Texts and Readings*. 10<sup>th</sup> ed. Boston: McGraw Hill.
20. UNCTAD: Geneva. 2011. *World Investment Report: Non equity modes of international production and development*.
21. Xu, Z. 2011. Approaches to multi-attributable group decision-making. *International Journal of information technology and decision-making*. 10 (2011) pp 121-146.
22. Zouponidis, C. & Doumpos, M. 2002. Multi-criteria decision aid in financial decision making: Methodologies and literature review. *Journal of multi-criteria decision analysis*. 11 (4-5) pp 167-186.