

**The influence of the external environment
on the performance of publicly quoted
companies in Kenya**

———— Vincent N. Machuki and Evans Aosa ————



Full Length Research

The influence of the external environment on the performance of publicly quoted companies in Kenya

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Accepted 14th June, 2011

This study investigated the effect of the external environment on corporate performance. Based on a survey of 23 companies listed on the Nairobi Stock Exchange, three environmental dimensions of complexity, dynamism and munificence were used to describe Kenya's business environment. Performance implications of these environmental dimensions were then examined. The study reports that for the surveyed companies, varying degrees of external environmental complexity, dynamism, and munificence exist which tend to be mostly manifested in economic factors, competitive rivalry, market factors, technological factors, regulatory factors as well as threat of new entrants. Consequently, these factors appeared to have great influence in the companies' strategic decision making. However, the overall results for the effect of external environment on corporate performance were statistically not significant. Based on the findings, implications of the study and suggestions for further study are presented.

Key Words: External environment, corporate performance, publicly quoted companies, Kenya

INTRODUCTION

From time to time, organizational environments undergo catastrophic upheavals which lead to changes that are so sudden and extensive that they alter the trajectories of entire industries, overwhelm the adaptive capacities of resilient organizations, and surpass the comprehension of seasoned managers (Meyer et al., 1990). While the environment of an organization is composed of an infinite set of elements outside the boundaries of the organization, other organizations, associations of individuals, and broad forces represent important segments of the organization's environment (Osborn and Hunt, 1974). Therefore, as the pace of changes in external environment accelerates, organizations' survival increasingly depends on devising entrepreneurial responses to unforeseen discontinuities (Huber, 1984).

Osborn and Hunt (1974) had observed that the literature on the environment of an organization and its direct and indirect impact upon organizational processes and outcomes is in a formative state. Even though

Osborn and Hunt (1974) observed that there has been little agreement beyond the need for organizations to adjust to changes in the environment in order to be effective, a number of subsequent studies with firm/organizational/corporate performance as a dependent variable have treated the external environment as one of the independent constructs (Lenz, 1980; Lenz, 1981; Prescott, 1986; Kim and Lim, 1988; Venkatraman and Prescott, 1990; Marlin et al., 1994; Kotha and Nair, 1995; Luo, 1995; Simerly and Mingfang, 2000 among others). Therefore, studies that have exclusively linked external environment and corporate performance are rare or may not exist, yet performance is contingent upon organizations' appropriate alignment with environmental changes.

Organizational performance has become a recurrent theme in strategic management research (Wang, 2005). It is important from three perspectives. Theoretically because effectiveness of strategies is tested by the level of performance they cause, empirically because there are many constructs that have been employed to capture performance, and managerially as a measure of quality of decisions that managers make on a day to day basis (Venkatraman and Ramanujam, 1986). Measurement of

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performance gives indication as to the effectiveness of an organization, which is also a function of an organization's response to changes in the external environment.

While it may be impossible to establish a direct link between external environment and organizational performance, organizational theorists emphasize that organizations must adapt to their environment if they are to remain viable (Duncan, 1972a). This is mostly emphasized by the strategic success formula put forth by Ansoff and McDonnell (1990) and Ansoff and Sullivan's (1993) which advocates that great firm performance is assured when the responsiveness of an organization's strategy matches the turbulence in the environment but also the organization's capabilities should match the aggressiveness of its strategy. In this paper, we advance an argument that while the external environment's effect on corporate performance may be indirect, there is need to determine its direct relationship with corporate performance. On the basis of this argument, the external environment in which publicly quoted companies in Kenya operate has been broadly viewed as encompassing not only the macro-environmental factors (political, economic, socio-cultural, technological, ecological, and legal), but also the immediate operating environment as well as the industry environment. Consequently, our first focus is on describing the nature of the Kenyan business environment along the dimensions of complexity, dynamism, and munificence. We then assess the influence of the external environmental factors on decision making among the companies. Lastly, we test the effect of the external environment (using the dimensions of complexity, dynamism, and munificence) on the performance of the companies quoted in the Nairobi Stock Exchange.

Literature review and conceptual hypothesis

Within Business Policy (BP), the normative literature in policy has long stressed the need to scan and assess the environment for subsequent matching of opportunities with organizational capabilities and managerial desires (Bourgeois, 1980). However, BP has not substantially utilized or extended the systematic research dealing with environmental characteristics and their effects, whether behavioural or physical (Bourgeois, 1980; Anderson and Paine, 1975). Bourgeois (1980) observed that strategy content and environment have been joined empirically, but there has not been much work that joins the strategy formulation process and environment. Bourgeois points out that only a few studies (Khandwalla, 1976; Miles and Snow, 1978; and Paine and Anderson, 1977) had attempted to do so. These studies established that when managers perceive the environments of their firms as rich in contingencies, as when they are dynamic and uncertain; their strategies are likely to be more comprehensive or multifaceted. The studies also indicated that strategic managers in more uncertain environments tend to be more proactive and innovative

and they tend to assume a higher degree of risk (Bourgeois, 1980).

The relative lack of published research joining strategy formulation and environment was noted by Chandler (1962) when he suggested that the divorcement of environmental issues from administrative analysis was due, in part, to the fact that these tend to be dealt with separately by market economists and administrative theorists, respectively (Bourgeois, 1980). Attempts at redressing this omission are represented by two streams of BP research that Lenz (1978) characterized as the market structure and response field paradigms which correspond with content and process approaches to strategy research respectively.

While the market structure model relates to the objective structural characteristics of an industry to the conduct and performance of both firms and their industries, the response-field model views organizational environments as sources of events and changing trends which create opportunities and threats for individual firms (Lenz, 1978). In sum, most of the BP literature dealing with the environment concept has focused on trends, forces, ratios, or other aggregations (Bourgeois, 1980).

Within Organization Theory (OT), organizations have been conceptualized and researched as open systems engaging in transactions with their environments. Although Barnard (1938) was among the first to recognize the system properties of organizations, Bourgeois (1980) argues that it was Dill's (1958) pioneering study that both defined the components of top management's task environment and suggested a causal relationship in which this task environment affected managerial autonomy. Much of the literature from the post-human-relations era concentrated on defining which organizational structures, management styles, and the like are most appropriate (effective) for different environmental or technological contingencies (Bourgeois, 1980).

While literature on environment under Business Policy (BP) and Organization Theory (OT) laid emphasis on trends, forces, ratios, or other aggregations and identifying the sources of these gross movements; other authors (Tan and Litschert, 1994) claimed that literature on organizational environments reflects two prominent perspectives. The first perspective is that of information uncertainty, which suggests that the environment is the source of information (Lawrence and Lorsch, 1967; Duncan, 1972a; Tung, 1979). According to Tan and Litschert (1994), a key focus of research based on this perspective is emphasis on perceived uncertainty and the subjective rather than objective data generated by participants in organizations. The second perspective is resource dependence which posits that the environment is a source of scarce resources which are sought after by competing organizations (March and Simon, 1958; Pfeffer and Salancik, 1978) as cited in Tan and Litschert (1994). In making the distinction, Tan and Litschert

(1994) pointed out that as the environment becomes less munificent or more hostile, firms are subjected to greater uncertainty. They observed that management's ability to cope with these conditions by reducing the firm's dependence on or increase its control over these resources will affect organizational effectiveness (March and Simon, 1958) as cited in Tan and Litschert (1994). A similar observation was made by Wan and Yiu (2009) with regard to the effect of environmental munificence on organizational strategy choice (acquisition).

The conceptual works (Emery and Trist, 1965; Terreberry, 1968; Thompson, 1967) as cited in Bourgeois (1980) emphasized that organizations must adapt to external forces in order to maintain viability. This emphasis has its origins in the design and environmental schools of strategy (Mintzberg, 1994) on which Ansoff and Suvillan (1993) also base their strategic success formula which emphasizes that to optimize profitability in a turbulent environment, the responsiveness of an organization's strategy must match the turbulence in the environment but also the organization's capabilities should match the aggressiveness of its strategy. Further, Kim and Lim (1988) contend that successful business strategies depend on defining an appropriate relationship between variables within managerial control, such as marketing, production, and investment decisions, and variables that are generally beyond the direct control of management. They argue that business performance is, for instance, a function of controllable or strategic variables and non-controllable or environmental variables citing Hatten, Schendel, and Cooper (1978). Therefore, the logic relating environment to strategy and in turn to performance is compelling, but empirical demonstrations of the relationships have only recently been made for developed countries and have yet to be made for developing countries (Kim and Lim, 1988). In essence, an organization's external environment has implications for its performance. We hypothesize thus:

External environment has a significant effect on corporate performance

This hypothesis derives from the evidence and clarity to our understanding that the role of environmental context within the genealogy of strategic management is both dominant and subtle (McKiernan, 2006). Of critical importance is organizational theorists' emphasis that organizations must adapt to their environment if they are to remain viable (Duncan, 1972a). A distinguishing characteristic of the strategic management discipline is the emphasis it places on the firm's competitive environment (e.g., Chandler, 1962; Child, 1972; D'Aveni, 1994; Porter, 1980). An organization must find a match or fit between the demands of its competitive environment and its internal management systems in order to survive and succeed (Venkatraman and Prescott, 1990). However, Duncan (1972b) pointed out that if a theory of

organization-environment interaction is to be developed to facilitate empirical research, it is necessary that the components and dimensions of the environment be more clearly defined. A broader understanding of the environments in which organizations operate is vital for the development of appropriate and successful strategies, with equally positive implications for corporate performance.

METHODS

Research design

A cross-sectional survey was used in collecting primary data. Olsen and George (2004) pointed out that in this type of research design, either the entire population or a subset thereof is selected, and from these individuals, data are collected to help answer research questions of interest. They clarified that it is called cross-sectional because the information about the subjects that is gathered represents what is going on at only one point in time. For purposes of this study, all the 53 publicly quoted companies in Kenya were targeted thus making it a census survey.

Measures of key constructs

External Environment

There is no widely held consensus concerning how organizational environments should be assessed and measured. Some theorists and research have treated environments as objective facts independent of firms, and others have treated environments as perceptually determined and enacted (Lenz, 1980; Kim and Lim, 1988). This unresolved issue has been a source of contradiction in empirical results (Tan and Litschert, 1994). Bourgeois (1980), however, concluded that the issue was not whether measures should be objective or perceptual; rather, he suggested that both the objective and the perceived environments are real and relevant to an organization's strategy. Objective environment is relevant to primary strategy making (domain selection), and perceived environment is a prime input to secondary strategy making (domain navigation) (Kim and Lim, 1988; Tan and Litschert, 1994). In this study, environment was treated as a perceptual construct because firms' performance was viewed as a result of strategic decisions that involve navigating within aspects of the macro, micro as well as the industry environments. These environmental categorizations have been found to provide a fairly comprehensive though not exhaustive description of an organization's external environment (Porter, 2008; Johnson, Scholes, and Whittington, 2008; Pearce and Robinson, 2011).

For the purpose of this study, the external environment was operationalized along two main categorizations. First is the composition of organizational environments, which refers to the factors and components that comprise the focal organization's environment; and second is the environmental characteristics or dimensions, which refer to the attributes of the environment confronting the focal organization (Tung, 1979). To assess the nature of the Kenyan business environment, both categorizations were used. Fifteen external environmental aspects were considered and three dimensions (complexity, dynamism, and munificence) were used to describe the environment as manifested by the aspects. Thus respondents were asked their level of dynamism, complexity, and munificence in each of the fifteen environmental aspects/factors. These include political, economic, technological, socio-cultural, regulatory, and ecological factors; creditors' actions; market factors; labour market dynamics; trade unions' activities; threat of new entrants and substitutes; bargaining power of suppliers and buyers; and competitive rivalry. The dynamism dimension was measured by the changeability and predictability of each environmental factor/aspect; complexity was measured by the number of issues the organizations have to deal with in each

environment and the similarity/dissimilarity of the issues while munificence was measured by the favourability of the environments.

Corporate Performance

Organizational performance refers to the achievement of an enterprise with respect to some criterion (or criteria). There is substantial disagreement, however, concerning the measurement of performance (Lenz, 1980; 1981). This notwithstanding, the important role of organizational performance in strategic management warrants close attention to the conceptualization and measurement of business performance (Venkatraman and Ramanujam, 1986). Measuring firm performance has been a major challenge for scholars and practitioners as well (Simerly and Mingfang, 2000). Chakravathy (1986) observed that performance is a multidimensional construct and thus, any single index may not be able to provide a comprehensive understanding of the performance relationship relative to the constructs of interest and therefore, it is important to look at multiple indicators.

Studies that have considered performance as a dependent variable have sought to identify variables that produce variations in performance. March and Sutton (1997) pointed out that researchers who study organizational performance in this way typically devote little attention to the complications of using such a formulation to characterize the causal structure of performance phenomena. In this study, both financial quantitative as well as non-financial qualitative measures of performance were used. These include gross profit, total organizational assets, revenue growth, earnings per share, return on investment, new product introduction, market share, product/service quality, operational efficiency. This operationalization conveniently addressed the contention by Pearce and Robinson (2007) that financial indicators of performance give inadequate or in some cases, inaccurate perspective on the firm's status; hence there is need to include other measures to address this inadequacy (Hull and Rothenberg, 2008).

Data collection

The study relied on both primary and secondary data. Primary data, which mainly concerned external environmental dimensions of complexity, dynamism, and complexity as well as qualitative measures of performance, were gathered using a structured questionnaire. The external environment was captured through a 5-point Likert type scale using 15 items consisting of environmental factors/aspects as perceptual dimensions of complexity, dynamism, and munificence. Data on qualitative measures of performance were gathered the same way while data on quantitative measures of performance were obtained from published sources, that is, the NSE Handbook (2009) and the respective companies' annual reports (2005-2009).

Data analysis

Both descriptive and inferential statistics were employed to analyze data and test research hypothesis. Data analysis for the effect of external environment on corporate performance involved one-sample t-tests, mean scores, and hierarchical as well as multiple regression analyses. The one sample t-test was done at 95% confidence level ($p=0.05$) and test value of 3 (average and mid-point of the 5-point scale). This test generated the mean scores and t-values. Mean scores show the ranking of the external environment aspect that is perceived to exhibit high levels of complexity, dynamism, and munificence. The t-values show whether there were any statistically significant differences across the surveyed companies on the extent to which the external environmental aspects were complex, dynamic, and munificent.

Hierarchical regression analysis tested the independent effect of external environmental dimensions on each of the measures of

corporate performance. Through this analysis the nature of the independent effect (positive or negative) of each external environmental dimension on the various indicators of corporate performance is determined and illustrated. The analysis generates a constant, the standardized beta coefficients (β) for the independent variables, t-values, and significance levels. The beta coefficient (β) shows the contribution of each external environmental dimension towards a unit change in the performance indicator while t-values show the significance of the independent effect of the external environmental dimensions on the performance indicator. Multiple regression analysis tested the combined effect of the external environmental dimensions on each measure of corporate performance. Both analyses were done at 95% confidence level ($p=0.05$).

RESULTS AND FINDINGS

Description of the Kenyan business environment

The key component of this study was the external environment in which organizations operate. This environment determines the opportunities and/or threats facing an organization. First, we describe the Kenyan business environment along the fifteen environmental aspects using the three dimensions of complexity, dynamism, and munificence.

Environmental complexity

As pointed above, environmental complexity was assessed through the number of issues the organizations need to deal with in the various environmental aspects and whether the issues are similar to or different from each other. The results on the number of issues that organizations need to deal with are presented (Table 1a).

The results in table 1a show that the various environmental aspects were ranked differently on the number of issues organizations need to deal with. Economic factors and competitive rivalry received high ranking (mean scores = 3.96 and 3.83 respectively) and therefore present many issues that organizations need to deal with. On the other hand, ecological factors and trade unions' activities received low ranking (mean scores= 2.52 and 2.39 respectively) and therefore present few issues that organizations need to deal with. However, there were statistically significant differences across the respondent organizations on the number of issues they need to deal with in some of the environmental aspects. Statistically significant differences are reported for economic factors (t-value =5.56, $p<0.05$), competitive rivalry (t-value=3.69, $p<0.05$), market factors (t-value 3.14, $p<0.05$), technological factors (t-value=2.71, $p<0.05$), regulatory factors (t-value=2.51, $p<0.05$), trade union activities (t-value=-4.45, $p<0.05$), and ecological factors (t-value=-2.55, $p<0.05$). This means that even though these environmental aspects had high or low rankings, there is disparity across the organizations on the number of issues they need to deal with in these environmental aspects.

Further insight was sought to establish whether the issues which organizations needed to deal with in each environmental aspect are similar to or different from each other (Table 1b).

The results in table 1b show that the issues organizations need to deal in most environmental aspects are neither similar nor different (mean scores range from

Table 1a: Number of Issues organizations need to deal with in each environmental aspect

External Environmental Factors	N	Mean	Sample test (t-value)
Political factors	23	2.9565	-0.225
Economic factors	23	3.9565	5.564
Technological factors	23	3.6522	2.714
Socio-Cultural factors	23	2.8696	-0.826
Regulatory factors	23	3.5652	2.510
Ecological factors	23	2.5217	-2.554
Creditors' actions	23	2.6087	-1.899
Market factors (e.g. customer behavior)	23	3.6957	3.138
Labour market dynamics	23	2.6957	-1.775
Trade unions' activities	23	2.3913	-4.447
Threat of new entrants	23	3.2174	0.926
Bargaining power of suppliers	23	2.6957	-1.432
Threat of substitute products/services	23	3.0870	0.385
Bargaining power of buyers	23	3.0870	0.492
Competitive Rivalry	23	3.8261	3.694

Source: Research Data

*= $p < 0.05$

NB: Ranking was on a 5-point scale: 1-None at all; 2-Very few; 3-Moderate number; 4-Many; 5-Very many

Table 1b: Similarity/Dissimilarity of the Issues

External Environmental Factors	N	Mean	Sample test (t-value)
Political factors	23	2.6957	-1.232
Economic factors	23	3.0435	.165
Technological factors	23	3.3478	1.447
Socio-Cultural factors	23	2.5652	-1.738
Regulatory factors	23	3.1304	.485
Ecological factors	23	2.7391	-1.187
Creditors' actions	23	2.6957	-1.071
Market factors (customer behavior)	23	3.2609	.947
Labour market dynamics	23	2.8696	-.680
Trade unions' activities	23	2.3043	-3.810
Threat of new entrants	23	2.5652	-1.480
Bargaining power of suppliers	23	2.4348	-2.335
Threat of substitute products/services	23	2.4783	-1.963
Bargaining power of buyers	23	2.3043	-3.019
Competitive Rivalry	23	2.7826	-.654

Source: Research Data

*= $p < 0.05$

NB: Ranking was on a 5-point scale: 1-Similar; 2-Somewhat Similar; 3-Neither Similar nor different; 4-Somewhat Different; 5-Different

2.57 for creditors' actions and threat of new entrants to 3.35 for technological factors). Organizations deal with somewhat similar issues in trade unions' activities, bargaining power of suppliers and buyers, and threat of substitutes (mean scores < 2.48). However, statistically significant differences are reported for trade union activities (t-value=-3.81, $p < 0.05$) and bargaining power of suppliers and buyers (t-values -2.34 and -3.02 respectively, $p < 0.05$). This means that there was variance across organizations on the extent to which the issues in these environmental aspects are somewhat similar to each other.

Environmental dynamism

Environmental dynamism was assessed through

predictability and changeability in the various environmental aspects. Respondents were asked to indicate on a 5-point likert scale the extent to which developments in each of the environmental aspects have become more predictable. They were also asked to indicate how much change they have observed in each environmental aspect for the last five years (2005-2009). The study results on predictability of developments in the various environmental factors for the whole sample are presented (Table 2a).

The results in table 2a show that technological factors, competitive rivalry, and market factors were highly ranked (mean scores= 3.83, 3.70, and 3.61 respectively). This means that developments in these environmental aspects had become more predictable. However, statistically

Table 2a: Predictability of Developments in the Environment

External Environmental Factors	N	Mean	Sample test (t-value)
Political factors	23	3.0435	.165
Economic factors	23	3.1739	.940
Technological factors	23	3.8261	4.229
Socio-Cultural factors	23	3.1739	.940
Regulatory factors	23	3.3913	1.899
Ecological factors	23	3.2174	1.155
Creditors' actions	23	3.3043	1.274
Market factors (e.g. customer behavior)	23	3.6087	3.730
Labour market dynamics	23	3.1739	.778
Trade unions' activities	23	3.0000	.000
Threat of new entrants	23	3.2174	1.096
Bargaining power of suppliers	23	2.9565	-.204
Threat of substitute products/services	23	3.2174	1.045
Bargaining power of buyers	23	3.3043	1.499
Competitive Rivalry	23	3.6957	3.019

Source: Research Data

*= $p < 0.05$

NB: Ranking was on a 5-point scale: 1-Not at all; 2-Less Extent; 3-Moderate extent; 4-Large extent; 5-Very large extent

Table 2b: Changeability in the Environment

External Environmental Factors	N	Mean	Sample test (t-value)
Political factors	23	3.7391	4.715
Economic factors	23	3.9565	6.500
Technological factors	23	4.0000	4.592
Socio-Cultural factors	23	2.7826	-1.311
Regulatory factors	23	3.6087	4.041
Ecological factors	23	3.0000	.000
Creditors' actions	23	2.6087	-1.521
Market factors (customer behavior)	23	3.7826	4.159
Labour market dynamics	23	2.6957	-1.432
Trade unions' activities	23	2.5217	-2.307
Threat of new entrants	23	3.5652	2.614
Bargaining power of suppliers	23	2.8261	-.848
Threat of substitute products/services	23	3.1739	.848
Bargaining power of buyers	23	2.8696	-.617
Competitive Rivalry	23	4.0435	5.700

Source: Research Data

*= $p < 0.05$

NB: Ranking was on a 5-point scale: 1-No change at all; 2-Little change; 3-Moderate change; 4-Great change; 5-Dramatic change

significant differences are reported across organizations on the extent to which the developments in the highly ranked environmental aspects had become more predictable (t-values = 4.23, 3.73, and 3.02 respectively for technological factors, market factors, and competitive rivalry, $p < 0.05$). The results show that developments in the rest of the environmental aspects were predictable to a moderate extent (mean scores range from 2.96 for bargaining power of suppliers to 3.39 for regulatory factors). The results also report no statistically significant differences across organizations on the extent to which the developments are moderately predictable (low t-values, $p > 0.05$).

Another measure for dynamism was how much change organizations have observed in each environmental

aspect for the last five years (2005-2009). The results in table 2b show high ranking for competitive rivalry (mean score=4.04), technological factors (mean score=4.00), economic factors (mean score=3.96), market factors (mean score=3.78), political factors (mean score=3.74), regulatory factors (mean score=3.61), and threat of new entrants (mean score=3.57). However, statistically significance differences are reported across organizations on how much change they have observed for the last five years (2005-2009) in the highly ranked environmental aspects (t-values range from 2.61 for threat of new entrants to 6.50 for economic factors, $p < 0.05$). This implies that there was great disparity across organizations on how much great change they have observed in these environmental aspects for the last five years.

Table 3: Favorability of the Environment

External Environmental Factors	N	Mean	Sample test (t-value)
Political factors	23	3.0870	.371
Economic factors	23	3.6087	2.522
Technological factors	23	3.9130	4.396
Socio-Cultural factors	23	2.8696	-.569
Regulatory factors	23	3.4783	2.208
Ecological factors	23	2.7826	-1.045
Creditors' actions	23	3.3913	1.401
Market factors (e.g. customer behavior)	23	3.7391	4.715
Labour market dynamics	23	3.2174	.926
Trade unions' activities	23	2.7826	-1.045
Threat of new entrants	23	2.5652	-2.206
Bargaining power of suppliers	23	2.6087	-1.817
Threat of substitute products/services	23	2.8696	-.617
Bargaining power of buyers	23	3.0435	.182
Competitive Rivalry	23	2.9130	-.419

Source: Research Data

*= $p < 0.05$

NB: Ranking was on a 5-point scale: 1-Not at all; 2-Less Extent; 3-Moderate extent; 4-Large extent; 5-Very large extent

The results in table 2b also show that little to moderate change was observed in the rest of the environmental aspects. However, significant differences across organizations were reported on how much little change was observed in trade unions' activities (t-value= -2.31).

Environmental munificence

Lastly, environmental munificence was assessed by how favourable the developments in each environmental aspect have been to the organizations. This favorability determines the abundance or otherwise of the resources required by the organizations and their costs. On a 5-point likert scale, respondents were required to indicate the extent to which developments in each environmental aspect have been favourable to their organizations during the last five years (2005-2009). The results are presented in table 3.

The results in table 3 show high ranking for technological factors (mean score=3.91), market factors (mean score=3.74), economic factors (mean score=3.61), and regulatory factors (mean score=3.49). However, statistically significant differences are reported for these environmental aspects (t-values = 4.72, 4.40, 2.52, and 2.21 respectively for market, technological, economic, and regulatory factors, $p < 0.05$). This implies that even though the four environmental aspects were highly ranked as being favourable to a larger extent, there were variations across organization on the extent to which they were largely favourable. Similar results are reported for the threat of new entrants (t-value = -2.21), meaning that there was lack of unanimity across organizations on the extent to which the threat of new entrants has been less favourable. In spite of this, there was unanimity across organizations that most of the environmental aspects were favourable to a moderate extent (low t-values, $p > 0.05$).

External environment and strategic decision making

In addition to determining the nature of the Kenyan

business environment, further insight was sought on the influence of the various environmental factors on strategic decision making among the corporate organizations. Prescott (1986) observed that regardless of how environments are modeled, research findings suggest that their characteristics influence decision making through managerial perceptions and objective dimensions of industries' structures. Bourgeois (1980) suggested that both the perceived and the objective environments are real and relevant to an organization's strategy. The study's results on the extent to which the various environmental aspects influence decision making are presented (Table 4). These results are largely descriptive of the perceived influence across the surveyed companies.

The results in table 4 show high ranking for economic factors, market factors, regulatory factors, competitive rivalry, technological factors, political factors, threat of new entrants, and labour market dynamics (mean score range from 3.61 for labour market dynamics to 4.74 for economic factors). However, statistically significant differences across organizations are reported for these aspects with regard to their influence strategic decision making (t-values range from 2.71 for threat of new entrants to 18.58 for economic factors, $p < 0.05$). The results imply that even though the aforementioned environmental aspects have great influence on decision making, there were differing degrees across organizations on the perceived influence. Conversely, unanimity across organizations is reported for the moderate influence on decision making by the rest of the external environmental aspects (low t-values, $p > 0.05$).

External environment and corporate performance

This study was based on the premise that the external environment influences organizational strategy which then influences corporate performance (E-S-P paradigm),

Table 4: Influence of Environment on Decision Making

External Environmental Factors	N	Mean	Sample test (t-value)
Political factors	23	3.9130	5.524
Economic factors	23	4.7391	18.577
Technological factors	23	4.2174	5.850
Socio-Cultural factors	23	3.3913	1.994
Regulatory factors	23	4.4783	8.971
Ecological factors	23	3.3043	1.775
Creditors' actions	23	3.4348	1.638
Market factors (customer behavior)	23	4.6957	17.285
Labour market dynamics	23	3.6087	3.480
Trade unions' activities	23	3.1304	.646
Threat of new entrants	23	3.6522	2.714
Bargaining power of suppliers	23	2.9565	-.204
Threat of substitute products/services	23	3.1739	.778
Bargaining power of buyers	23	3.2174	.816
Competitive Rivalry	23	4.3478	9.052

Source: Research Data

*= $p < 0.05$

NB: Ranking was on a 5-point scale: 1-Not at all; 2-Less Extent; 3-Moderate extent; 4-Large extent; 5-Very large extent

but external environment can have an independent effect on corporate performance. As indicated earlier on, the study focused on three environmental dimensions (complexity, dynamism and munificence) that are a description of fifteen external environmental aspects/factors. To determine the effect of external environment on corporate performance, indices for the environmental dimensions were calculated and used in the regression analysis on the indicators of corporate performance.

The indices for the environmental dimensions were calculated from the various responses on the fifteen environmental aspects/factors that were used in the study. The index for complexity was calculated from the responses on the number of issues organizations need to deal with and the similarity to or dissimilarity from each other. The index for dynamism was calculated from the responses on predictability and changeability of the environmental aspects/factors. Lastly, the index for munificence was calculated from responses on favourability of the environmental aspects/factors. As pointed out earlier, corporate performance was taken as 5-year averages of profit before tax, total net assets, sales revenue growth rate, earnings per share and return on investment. Performance was also qualitatively measured as new product introduction, product/service quality, market share growth, and operational efficiency.

Through hierarchical multiple regression analysis at 95% confidence ($p=0.05$), the nature of the independent effect (positive or negative) of each environmental dimension on the various indicators of corporate performance will be determined and illustrated. This analysis generates a constant, the standardized beta coefficients (β) for the independent variables, t-values, and significance levels among other outputs. The beta coefficient (β) shows the contribution of the independent

variable towards a unit change in the dependent variable while t-values show the significance of the independent effect of the independent variable on the dependent variable. This significance is confirmed by comparing the resultant significance level with $p=0.05$ (the test confidence level).

In making the interpretations, use is made of absolute figures for beta coefficients and t-values. The higher the beta coefficient, the higher the weighting of the independent variable in the model and therefore the greater its effect on the dependent variable but the significance of the effect is determined by the t-value. The greater the t-value, the higher the significance of the independent variable's effect on the dependent variable, and the lower the p-value ($p < 0.05$).

External environment and profit

The study reports statistically not significant results for the independent effects of environmental dimensions on profit before tax (PBT) (low t-values, $p > 0.05$). However, positive effect is reported for complexity and dynamism while negative effect is reported for munificence. Further, environmental complexity is reported to have a relatively high positive impact on PBT ($\beta=0.426$) while environmental munificence has a relatively high negative impact ($\beta=-0.179$) (Table 5a).

External environment and total net assets

The study reports positive effect of complexity and dynamism on total net assets but negative effect of munificence on the same. Relatively high positive impact is reported for environmental dynamism ($\beta=0.290$) while a high negative impact is reported for munificence ($\beta=-0.172$). Overall, the study reports statistically not significant results for the independent effect environmental dimensions on total net assets (low

Table 5a: Significance for the effect of Environmental Dimensions on PBT

Environmental Dimensions	Unstandardized Coefficients		Standardized Coefficients Beta	t-value	Sig.
	B	Std. Error			
(Constant)	-1354610.540	1973142.889	-	-0.687	0.501
Complexity	1059338.450	712909.603	0.426	1.486	0.154
Dynamism	293925.892	1058461.980	0.104	0.278	0.784
Munificence	-393975.015	669775.161	-0.179	-0.588	0.563

Source: Research Data

Table 5b: Significance for the effect of environmental dimensions on TNAs

Environmental Dimensions	Unstandardized Coefficients		Standardized Coefficients Beta	t-Value	Sig.
	B	Std. Error			
(Constant)	-22446037.579	22959276.471	-	-0.978	0.341
Complexity	5529999.397	8295338.758	0.198	0.667	0.513
Dynamism	9200776.498	12316148.705	0.290	0.747	0.464
Munificence	-4268522.326	7793431.071	-0.172	-0.548	0.590

Source: Research Data

Table 5c: Significance for the effect of environmental dimensions on Sales Revenue

Environmental Dimensions	Unstandardized Coefficients		Standardized Coefficients Beta	t-Value	Sig.
	B	Std. Error			
(Constant)	-6.293	12.653	-	-0.497	0.625
Complexity	3.607	4.572	0.237	0.789	0.440
Dynamism	2.889	6.788	0.167	0.426	0.675
Munificence	-9.909	4.295	-0.067	-0.212	0.835

Source: Research Data

Table 5d: Significance for the effect of environmental dimensions on EPS

Environmental Dimensions	Unstandardized Coefficients		Standardized Coefficients Beta	t-Value	Sig.
	B	Std. Error			
(Constant)	.479	7.684	-	0.062	0.951
Complexity	4.161	2.776	0.446	1.499	0.150
Dynamism	-1.223	4.122	-0.115	-0.297	0.770
Munificence	-.893	2.608	-0.108	-0.342	0.736

Source: Research Data

t-values, $p > 0.05$) (Table 5b)

External environment and sales revenue

The study reports statistically not significant results for the independent effect of environmental dimensions on sales revenue (low t-values, $p > 0.05$). However, positive effect is reported for complexity and dynamism while negative effect is reported for munificence. Relatively high positive effect is reported for environmental complexity ($\beta = 0.237$) on sales revenue (Table 5c).

External environment and earnings per share

The study reports statistically not significant results for the independent effect of environmental dimensions on EPS (low t-values, $p > 0.05$). However, positive effect is

reported for complexity while negative effect is reported for dynamism and munificence. Further, relatively high positive impact is reported for environmental complexity ($\beta = 0.446$) while a high negative impact is reported for dynamism ($\beta = -0.115$) (Table 5d).

External environment and return on investment

The study reports positive effect for complexity and munificence while negative effect is reported for dynamism. Relatively high positive impact is reported for environmental complexity ($\beta = 0.322$) while a high negative impact is reported for dynamism ($\beta = -0.380$). Overall, statistically not significant findings are reported for the independent effect of environmental dimensions on ROI (low t-values, $p > 0.05$) (Table 5e).

Table 5e: Significance for the effect of environmental dimensions on ROI

Environmental Dimensions	Unstandardized Coefficients		Standardized Coefficients Beta	t-Value	Sig.
	B	Std. Error			
(Constant)	17.075	15.710	-	1.087	0.291
Complexity	5.931	5.676	0.322	1.045	0.309
Dynamism	-7.980	8.428	-0.380	-0.947	0.356
Munificence	3.132	5.333	0.192	0.587	0.564

Source: Research Data

Table 5f: Significance for the effect of environmental dimensions on New Product Introduction

Environmental Dimensions	Unstandardized Coefficients		Standardized Coefficients Beta	t-Value	Sig.
	B	Std. Error			
(Constant)	1.083	.315	-	3.433	0.003
Complexity	-.004	.114	-0.010	-0.033	0.974
Dynamism	-.239	.169	-0.542	-1.414	0.173
Munificence	.168	.107	0.488	1.570	0.133

Source: Research Data

Table 5g: Significance for the effect of Environmental Dimensions on Market Share

Environmental Dimensions	Unstandardized Coefficients		Standardized Coefficients Beta	t-Value	Sig.
	B	Std. Error			
(Constant)	.909	.264	-	3.444	0.003
Complexity	.107	.095	0.330	1.120	0.277
Dynamism	-.250	.142	-0.681	-1.768	0.093
Munificence	.100	.090	0.348	1.115	0.279

Source: Research Data

External environment and new product introduction

The study reports statistically not significant results for the independent effect of environmental dimensions on new product introduction (low t-values, $p > 0.05$). However, positive effect is reported for munificence while negative effect is reported for complexity and dynamism. A relatively high positive impact is reported for environmental munificence ($\beta = 0.488$) while a high negative impact is reported for dynamism ($\beta = -0.542$) (Table 5f).

External environment and market share

The study reports statistically not significant results for the independent effect of environmental dimensions on market share (low t-values, $p > 0.05$) with positive effect being reported for complexity and munificence while negative effect is reported for dynamism. Further, a relatively high positive impact is reported for environmental munificence on market share ($\beta = 0.348$) while environmental dynamism has a relatively high negative impact ($\beta = -0.681$) (Table 5g).

External environment and product/service quality

The study reports statistically not significant results for the independent effect of environmental dimensions on product/service quality (low t-values, $p > 0.05$). However,

positive effect is reported for munificence while negative effect is reported for complexity and dynamism. Relatively high negative impact is reported for environmental dynamism ($\beta = -0.482$) (Table 5h).

External environment and operational efficiency

The study reports positive effect for complexity and munificence while negative effect is reported for dynamism. A relatively high positive impact is reported for environmental munificence ($\beta = 0.437$) while a high negative impact is reported for dynamism ($\beta = -0.321$). The results for the independent effect of environmental dimensions on operational efficiency are however not statistically significant (low t-values, $p > 0.05$) (Table 5i).

The preliminary findings presented so far show statistically not significant results for the independent effect of external environmental dimensions on the various indicators of corporate performance. However, the results demonstrate that each external environmental dimension has a weighted effect on the indicators of performance. For each performance indicator, at least one environmental dimension has relatively high positive or negative effect. Therefore, the findings demonstrate that developments in the Kenyan business environment have multifaceted effects on corporate performance.

Table 5h: Significance for the effect of Environmental Dimensions on Product/Service Quality

Environmental Dimensions	Unstandardized Coefficients		Standardized Coefficients Beta	t-Value	Sig.
	B	Std. Error			
(Constant)	1.076	.193	-	5.585	0.000
Complexity	-.014	.070	-0.059	-0.201	0.843
Dynamism	-.130	.103	-0.482	-1.257	0.224
Munificence	.053	.065	0.251	0.806	0.430

Source: Research Data

Table 5i: Significance for the effect of environmental dimensions on Operational Efficiency

Environmental Dimensions	Unstandardized Coefficients		Standardized Coefficients Beta	t-Value	Sig.
	B	Std. Error			
(Constant)	0.610	0.201	-	3.033	0.007
Complexity	0.050	0.073	0.205	0.687	0.500
Dynamism	-0.089	0.108	-0.321	-0.825	0.420
Munificence	0.094	0.068	0.437	1.381	0.183

Source: Research Data

Table 6: Summary of effect of external environment on corporate performance

Model	Multiple r	R ²	F-Value	Sig.
Profit before tax=f(External Environment)	0.44	0.19	1.48	0.252
Average total assets =f(External Environment)	0.36	0.13	0.93	0.444
Sales Revenue =f(External Environment)	0.34	0.11	0.80	0.510
Earnings per share =f(External Environment)	0.36	0.13	0.93	0.447
Return on Investment=f(External Environment)	0.26	0.07	0.44	0.725
New Product Introduction =f(External Environment)	0.39	0.15	1.11	0.369
Market share =f(External Environment)	0.38	0.14	1.05	0.395
Product/service quality =f(External Environment)	0.32	0.15	0.74	0.539
Operational efficiency=f(External Environment)	0.35	0.12	0.87	0.473
External Environment: complexity, dynamism, munificence				

Source: Research

Results of the tests of hypothesis

So far, the findings presented above focused on the independent effect of external environmental dimensions on the various measures of corporate performance. To test the combined effect of the environmental dimensions on the various measures of performance (test of stated hypothesis), multiple regression analysis was used. The outputs of the regression analysis include multiple r, R², and F-ratio values. The significance level values were also generated. The multiple r value shows the strength of the relationship between the environmental dimensions (combined) and each measure/indicator of performance. The R² value shows the proportion of the performance indicator that is accounted for by the combined effect of external environmental dimensions. The F-value demonstrates the overall statistical significance of the model which predicts the effect of external environment on corporate performance at 95% confidence level (p=0.05). The decision to confirm the hypothesis was made at values of F-value where p<0.05 (Table 6).

Data

The results of the tests of the hypothesis show that there is a relationship between the external environment (measured by complexity, dynamism, and munificence) and the various indicators of corporate performance (multiple r ranges from 0.26 for ROI to 0.44 for PBT). These results also indicate that different variations in corporate performance indicators are accounted for by the external environment (R² ranges from 7% for ROI to 19% for PBT). The corresponding F-values for the various models range from 0.44 for ROI to 1.48 for PBT).

Further, the results show that the corresponding p-values are more than the test level of 0.05 (p>0.05) for all the indicators of performance. This means that the study results for the effect of external environment of corporate performance are statistically not significant. Consequently, the results do not confirm our stated hypothesis. The results imply that even though the external environment explains variations in corporate performance of the publicly quoted companies in Kenya, these variations are not statistically significant. Therefore,

despite existence of a relationship between the external environment and corporate performance, the external environment does not appear to have a significant effect on the performance of publicly quoted companies in Kenya.

DISCUSSION

Despite statistically not significant results for the effect of external environment on the performance of publicly quoted companies in Kenya, the companies cannot ignore its reported effect. The results show that there is correlation between the external environment and the various indicators of performance. The results indicate that the higher the correlation (multiple r) between the external environment and corporate performance, the larger the proportion of variability (R^2) in corporate performance that is accounted for by the external environment.

Among the nine indicators of performance that were used in the study, the companies' profit before tax appears to be the most affected by the external environment ($R^2 = 19\%$). This proportion is attributable to the positive effect reported for environmental complexity and dynamism as well as the negative effect reported for environmental munificence. This implies that as environmental complexity and dynamism increase, profit also increases. Similarly, it also means that as the external environment become less munificent (unfavourable), there is a decrease in profit. As earlier reported, the external environment presents managers with moderate and somewhat similar issues to deal with during decision making. High to moderate predictability of most of the external environment factors was also reported as well as less to moderate favourability. Therefore, ease of predictability most likely neutralizes effects of increased dynamism and complexity; hence a positive effect on profitability but negative effect results due to a less favourable environment.

The results show that return on investment is the least affected by the external environment ($R^2 = 7\%$). This variability is accounted for by the positive effect of environmental complexity and negative effect of environmental dynamism and munificence. This contradicts our expectations because the investment intensity is dependent on the favourability of the environment but also on the profitability of the companies over time. It appears that most organizations have had fixed investments over time and therefore the variability is largely on returns.

For the rest of the performance indicators, the results show that the external environment accounts for the variation in corporate performance which ranges from 11% for sales revenue to 15% for new product introduction and product/service quality. The positive effect of environmental complexity and dynamism as well as negative effect of munificence account for 11% variability in the companies' sales revenue. A 12%

variation of the companies' earnings per share is accounted for by positive effect of environmental complexity and negative effect of dynamism and munificence while 13% of changes in total net assets is explained by the positive effect of environmental complexity and dynamism, and the negative effect of munificence. A further 13% variation in the companies' operational efficiency is accounted for by the positive effect of environmental complexity and munificence as well as negative effect of dynamism. Lastly, 15% of new product introduction and product/service quality of the surveyed companies are attributable to negative effects of complexity and dynamism, and positive effect of munificence. It is clear that even though the results are statistically not significant, the different levels of complexity, dynamism, and munificence that characterize Kenya's business environment explain fairly significant variations in the various indicators of corporate performance to differing degrees.

Our results are fairly comparable to other empirical studies that have considered external environment as part of the study variables in relation to corporate performance. An empirical study by Kotha and Nair (1995) examined the roles played by the environment and realized strategies on firm-level performance in the Japanese Machine Tool Industry. They established that both firm strategies and the environment play significant roles in influencing profitability and growth. More specifically, whereas both strategy and environmental variables were significantly related to firm profitability, only environmental variables were associated with firm growth. Our study results offer partial support to Kotha and Nair's (1995) study on the explanatory power of the external environment on profitability.

Another related study by Simerly and Mingfang (2000) established that competitive environments moderate the relationship between capital structure and economic performance and that the match between environmental dynamism and capital structure is associated with superior economic performance. However, the current study laid focus on testing the direct effect of the external environment on corporate performance. Overall, the study reports statistically not significant results and therefore failed to confirm our stated hypothesis. The results could stand on their own merit because most studies have not directly tested environment-performance relationship. However, a study by Marlin et al (1994) provides empirical support on how different environmental situations determine choice of strategy, which then determines performance.

CONCLUSIONS

The study results presented and discussed in this paper reveal that external environment appears to be among the factors that affect corporate performance albeit not statistically significant. Changes in the external environment in which organizations operate can either

bring forth opportunities and/or threats. Therefore, a thorough understanding of the implications of these changes is important for strategic decision making. In this paper, we argue that although the results were statistically not significant, they offer insight on the multifaceted nature of the effects of the external environment on the various indicators of performance. Consequently, how a particular organization initiates its strategic behaviour in response to these effects is likely to have performance implications.

The results offer partial support to most extensive studies on relationships between environment and organizational performance within the field of industrial organization economics. Lenz (1981) observed that within this discipline the environment is referenced with respect to the market or industry in which a firm competes. The focus of empirical research is on the idea that the structure of a market influences the conduct of firms within it and their conduct, in turn, affects performance (Mason, 1939; and Caves, 1977 as cited in Lenz, 1981). In essence, the results offer some support for the propositions of open systems and contingency theories that organizations as open systems (Ludwig, 1973) are in continuous interaction with the environment in which they operate. Decision making as well as performance are also contingent upon the prevailing environmental developments.

IMPLICATIONS

The results of the study have implications that touch on the theory, methodology, and management practice. Despite reporting varying degrees of relationships amongst the variables of study, the overall results for the hypothesized relationship are statistically not significant. Therefore, we could not be categorical in terms of theory implications. This is because of deficient statistical power inherent in the study that was occasioned by high non-response rate. However, the results lead to observations that are indicative of theoretical implications.

The results show that there is correlation between the external environment and the various indicators of performance. The level of correlation was found to correspond to the explanatory power of external environment on corporate performance. The results offer some implications with regard to the theoretical anchorage in strategic management research on the continued relevance of the external environment to organizations.

The fact that the results of this study have not provided statistically significant support for all the hypothesized relationships serves as a basis for methodological implications. The principal focus of this study, as that of much research was post hoc explanations of statistical relationships. As proposed by Lenz (1981), there is need to explore the processes which cause these relationships. This therefore implies that methodological choices should go beyond the choice of statistical models

to explore and test interactions among the various variables that are under study.

The choice of regression and correlation analysis as statistical approaches had great bearing of the post hoc statistical relationships reported in this study. Given that the focus of the study was predominantly testing the statistical significance of the effect of the independent variables on the dependent variable, the choice of the prop-value has implications for the statistical significance of the results. Therefore, statistically not significant results may turn out to be statistically significant if the prop-value changes.

The study has provided evidence that the external environment is multifaceted and exhibit different levels of complexity, dynamism and munificence. The study also offers evidence regarding the influence of external environment on decision-making in organizations. These results therefore imply that organizational managers have to develop adequate capacity to monitor environmental developments in order to inform appropriate decision-making as well as institute appropriate strategic responses.

LIMITATIONS AND SUGGESTIONS FOR FURTHER RESEARCH

The results of this study can only be interpreted and understood within the confines of inherent limitations. First, this study did not achieve 100% response rate. This is because of high rate of non-response occasioned by most target companies' restrictive policies and reluctance of the targeted respondents to return back the questionnaires and accept to be interviewed. Coupled with limited time and resources, efforts of obtaining more responses were greatly hampered. Therefore the results could have improved if more data were obtained for analysis. This explains why there is lack of statistical power in the results that can inform convincing conclusions. It is therefore suggested that a similar study be carried out targeting companies that never responded and compare the results with those of the current study.

Second, the study predominantly utilized regression and correlation analysis in testing the various relationships between and among various variables. This choice was made with assumption that the relationships were linear. There is a possibility that the relationships between and among the variables is non-linear and therefore testing their relationships using non-linear regression models is likely to lead to different results. Therefore, more research is required that will utilize non-linear regression models as well as different operationalization of the variables that will also allow for use of other analytical techniques to test the hypothesized relationships for this study.

Lastly, the sampling frame was limited to publicly quoted companies in the Nairobi Stock Exchange. This means that there are many categories of organizations that were not covered by this study. Given that majority of

the targeted companies did not participate in the study, there is limitation on the extent to which these results could be generalized across all the publicly quoted companies in Kenya. Therefore, the findings and conclusions drawn here might not apply to all the publicly quoted companies in Kenya as well as those in other categories that were not covered. Consequently, a similar study is necessary in other types of organizations (e.g. Wholly State Owned Enterprises, NGOs, SMEs, etc) in order to validate and/or enhance this study's findings.

ACKNOWLEDGEMENTS

We wish to acknowledge the support of the companies whose managers agreed to spare their valuable time to provide the sought information during this research. We also appreciate the support by the School of Business of the University of Nairobi for facilitating the study and providing the necessary direction. To all those who offered support and encouragement in one way or another that we may not mention here, we greatly appreciate.

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