EXTERNAL DETERMINANTS OF STRATEGY IMPLEMENTATION IN STATE CORPORATIONS IN KENYA

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ABSTRACT

To achieve effectiveness and efficiency in strategy implementation in state corporations, change is needed. Due to the rapid changing global environment and increasing demand for service delivery, continuous change is needed. Changes have been taking place in the Kenyan state corporations since 2003 and this has been as a result of corporate strategy implementation. However it is not enough to develop a good strategy, good strategies can fail during implementation. The state corporations in Kenya, like in most countries in Sub-Saharan Africa, have been characterized by slow and bureaucratic processes that retard corporation’s performance. Employees and managers in these corporations have been perceived as not performing as they should. Kenyan state corporations are important to the economy of the country. They provide social and essential services to the Kenyan population. There was therefore a need to investigate ways to improve strategy implementation in state corporations, and the focus was on socio-cultural factors. The study sought to establish the external determinants of strategy implementation among state corporations in Kenya. A survey was conducted using a self-administered questionnaire distributed to 485 managers in state corporations in Kenya. Correlation and exploratory factor analysis, the KMO measure of sample adequacy, Bartlett’s test of sphericity, Kolmogorov-Smirnov test for normality, multi-Collinearity diagnostic and regressions were the main statistical procedures used to test the appropriateness of data, correlation and significance of the relationships hypothesized between the various independent and dependent variables.

The findings revealed a fairly strong statistically significant relationship existed between technology and strategy implementation. The managers of Kenya’s state corporations fully understand the importance of technology in strategy implementation. Furthermore, a fairly strong statistically significant relationship existed between ecological and strategy implementation. The managers of Kenya’s state corporation fully agreed that they used energy-saving devices such as low voltage bulbs, and reduced air pollution by having plants in offices. Lastly, a fairly strong statistically significant relationship existed between global forces and strategy implementation. The managers of Kenya’s state corporation agreed that their corporations compete on a global scale, and that they network with other state corporations on new innovations.

Key Words: Technology, Ecological Factors, Global Forces, Strategy Implementation, State Corporations in Kenya
Introduction

According to Pearce and Robinson (2005:46), for organisations to achieve their goals and objectives, it is necessary to adjust to their environment. A strategy is linked to the organisational environment and is a critical element in organisational functioning. The problem lies in successful strategy implementation. Harvey (2004:102) points out that the implementation of strategies remains the greatest stumbling block as many organisations are not able to achieve their corporate goals and objectives adequately. Furthermore, organisations today face major unpredictable changes that make strategy implementation more difficult and complex than in the past. This is also true for state corporations in Kenya.

According to the World Bank Group’s (2007:25) country assessment report, the quality of service in the state corporations was very low prior to 2003 due to inadequate accountability and responsibility, as well as poor governance. Poor management of the public assets led to an almost total collapse of infrastructure, decline in productivity and an increase in poverty (close to 56 percent of the population were living with incomes of less than US$2 per day) (Kenya National Bureau of Statistics, 2006:48). There was relatively low discipline in management and some of the state corporations that were previously successful went into liquidation such as, for example, the Kenya National Assurance and the Kenya Taxis Company, KENATCO (Republic of Kenya, 2005:15).

In 2003, reform programmes were instituted to change the situation. State corporations were now expected to finance their operations without reliance on the state to bail them out. The rising demand and expectation of improved services by the taxpayers prompted more changes in the management of the state corporations (Flynn, 2007:87; Henry, 2001:65). Strategic planning and performance contracts were instituted, which improved the management of state corporations (Kenya Institute of Management, 2008:10) Although a changing environment in itself necessitates changes, state corporations appear to have inherently less ability to act as freely as private sector organisations (Henry, 2001:87). This study therefore seeks to investigate, the external determinants strategy implementation in state corporations in Kenya.

Statement of the Problem

According to Government of Kenya (2006a:44), the external business environment in Kenya has witnessed dynamic changes. These changes include: accelerated formulations of economic reforms by the government, the liberation of the economy and markets, discontinuation of price controls, privatisations and commercialization of the public sector and increased competition. In this changing environment, state corporations and private sector organisations operating in the Kenyan environment have to constantly adapt to these changes through effective strategy formulation and implementation in order to remain competitive.

Most state corporations in Kenya have proven to be largely ineffective and inefficient in achieving their strategic objectives. Some of the reasons cited by the World Bank (2005:66) for this outcome included: lack of clear vision and poor articulation of objectives; absence of teamwork among the staff; lack of proper strategy formulation and implementation measures and lack of long term political commitment and goodwill to reform public institution. Some of the policies in state corporations were predominantly focused on achieving specific targets. In most cases, these efforts failed to provide enough room or sufficient time to implement a complex framework based on institutional development and capacity building.

Although formulating a consistent strategy is a difficult task for any management team, making that strategy work, in other words, implementing it throughout the organization is even more difficult (Hrebiniak & Joyce, 2006:56). A study by David (2007:98) has shown that a considerable proportion (more than 65%) of organisational strategies fail to get implemented effectively. Previous studies (see for example Awino, 2001:86; Macmillan & Tampoe, 2001:39; Musyoki, 2003:98; Warsame, 2002:67) have attempted to explore the different aspects of organisational management such as strategy and policy formulation, development of a mission and vision and development of strategic goals and objectives. However, no study has been done in Kenya to establish the external factors affecting strategy implementation in Kenyan state corporations. Yet, successful strategy implementation is a critical aspect in the strategic management process. Strategy implementation in Kenyan state corporations has not received much attention like the other components of strategic management, hence the existence of a significant knowledge gap which this study aims at bridging. This led to the following problem being addressed in this study. The main research question is, what are the external factors affecting successful implementation of strategies in Kenyan state corporations?

In view of the fact that strategy implementation is a key component of the strategic management process of state corporations, there is a need for increased research in this area to unveil challenges and constraints as well as the factors that act as impediments to organisational strategy implementation in Kenyan state corporations. Despite efforts to formulate these policies and strategies, service delivery still remains limited and inefficient in most state corporations and government ministries as was indicated in the introduction.

**Research Objectives**

i. To determine the impact of technology on strategy implementation in state corporations

ii. To establish the impact of ecological factors on strategy implementation in state corporations

iii. To ascertain the impact of global forces on strategy implementation in state corporations

**Research Hypothesis**

**H**a.1: Management perceptions of technology are related to strategy implementation in state corporations.

**H**a.2: Management perceptions of ecological factors are related to strategy implementation in state corporations.

**H**a.3: Management perceptions of global factors are related to strategy implementation in state corporations.
Theoretical Review
In order to have a better understanding of the problem statement linked to this research it was useful to explore conceptual models which can support this study. The study was supported by the the planning context environmental scan model and the Nortel network external environment model.

The planning context environmental scan model
Figure 1 outlines the planning context environmental scan model (Public Safety Canada, 2010). This model indicates the internal- and external environmental variables that impact strategy formulation which in turn impact strategy implementation. To ensure successful strategy implementation, the organisation needs to first determine the impact of these variables on the organisation.

Figure 1: The planning context environmental scan model

Adapted From: Public Safety Canada (2010:1)
An environmental scan involves being aware of the context in which an organisation is operating so as to understand how it could be affected. During an environmental scan, the organisation defines the internal- and external parameters to be taken into consideration when formulating- and implementing strategies. It outlines the time, scope, scale and risks affecting the achievement of its objectives. The main variables in the internal environment which impact on strategy formulation and implementation as depicted in Figure 1.1 are: the capabilities, understood in terms of resources and knowledge (e.g., capital, time, people, processes, systems, technologies), including results from the capability improvement process; the organisation activities, policies, goals, objectives and strategies in terms of its strategic intent; perceptions, values and culture of the organisation; the nature and quality of leadership within the organisational functions and decision making processes, an structures (e.g. government, roles and accountabilities).
On the other hand, the key elements of the external environment as can be seen in Figure 1, includes the cultural, political, legal, technological, economic, natural and international (global) environment. These environments influence the key drivers and trends that impact the organization’s objectives (strategy formulation) and ultimately drive the strategy implementation process. It also includes the perceptions and value expectations of external stakeholders.

The Nortel network external environment model

Figure 2 shows the elements of the external environment that impact organisations. The general environment consists of a number of important interacting sub-environments, namely the international-, technological-, economic-, legal-, political-, social-cultural- and natural environment (Daft, 2010:69). Within the external environment is also the task environment. The task or market environment comprises all those variables that have a direct working relationship with the organisation such as (Daft, 2010:69): Customers (the market), with their specific characteristics, purchasing power and behaviour. As recipients of the organization’s output, they determine the organization’s success; Competitors, who are already established in the market and intend to retain or improve their market share; Labour market, the people available for recruitment and selection by the organisation; Suppliers, who supply raw materials to the organisation to produce its output, products for further assembly, services and financing to the organisation. Figure 2 depicts the relationship among the general and task (market) environments.

Figure 2: The Nortel network external environment model

Adapted from: Daft (2010:72)

Changes in these environments can create challenges for organisations, especially when trying to implement strategies.
Conceptual Framework

![Diagram of Conceptual Framework](http://www.ijsse.org)

**Technology factor**
Technology can be classified in terms of product, process and information technology (Krajewski & Ritzman, 2006:440). Bateman and Snell (2002:539) emphasize that managers must ensure that they have knowledge of the technology, are able to convert it into practice, and have adequate funding, skilled labour, time and space available. To avoid obsolescence and promote innovation, organisations must be aware of technological changes that influence its industry (Masedale, 2002:55). Naor (2008:676) notes that information technology has increasingly become important as employees use it to acquire, process and communicate information. According to Kinsey (2005:207), communication by email has revolutionized command and control in organisations. Taylor and Murphy (2004:285) suggest that advanced technologies need more professionally qualified and well-educated employees which in turn can affect strategy implementation. Sekaran (2007:51) notes that managers who are working with and take full advantage of information technology, keep abreast of all the latest innovations.

Busi and Bititci (2006:12) point out that Information and Communications Technology (ICT) and in particular the Internet, make organisational collaboration possible in practice. However, Internet access can be interrupted and is influenced by power failures. One of a wide range of new and emerging technologies which could significantly minimize the occurrence and impact of electricity power failures, is distribution generation technology (Andersson, Donalek, Farmer, Hatziargyriou, Kamwa, Kundur, Martins, Paserba, Pourbeik, Saz-Gasca, Schulz, Stankovic, Taylor & Vittal, 2005:1926). Kenyan organisations that adopt technology in their operations have a competitive advantage over non-technology organisations (Peace et al., 2002:47). The GOK recognizes the pivotal role of ICT as shaping the future of the world (Government of Kenya, 2006b:41).
Ecological factors

Ecology refers to the relationships among human and other living things, air, soil and water (Charkravarty, 2002:128). There is increasing recognition and a need for sound environmental management and policies has arisen as a result of excessive pressures and demands put on natural resources which will influence strategic decisions (Kouzes & Posner, 2005:92). Effective strategic managers make and implement decisions and strategies taking into consideration ecological requirements (David, 2007:55). Langelo (2012:1) indicates that air pollution from the chemicals that come off furnishings, office equipment and building materials can be reduced with the help of indoor plants. In the current economic climate, organisations are becoming more open-minded about being environmentally friendly, especially with regard to cost-saving initiatives such as energy-saving devices or alternative energy sources such as solar or wind-generated power (Dimmer, 2009:1). Energy conservation has become a very relevant social issue. In the workplace, the emphasis is mainly on optimising formalised production processes and investing in energy-efficient equipment. Although technological solutions (e.g. energy-efficient appliances and bulbs) can help reduce CO₂ emissions, behavioural changes are necessary to achieve sufficient reductions (Schwartz, Betz, Ramirez & Stevens, 2010:452).

More advanced cutting-edge technology nowadays enables organisations to move to a 100% paperless administrative environment while saving large quantities of energy, paper and ink (Harrington, et al. 2006:62). Weber (2011:63) points out that the transition from a paper-based work environment to a largely paperless environment has still a long way to go. Organisations need to ensure that they preserve nature by reducing their use of paper in the workplace. Businesses can find cheaper ways to communicate, such as replacing paperwork with computers and storing information in computer databases, hence centralising their ICT systems so as to eliminate the high cost of running each department independently (Harris, 2008:39). Sias, Pedersen, Gallagher and Kopaneva (2012:253) highlight the fact that electronic communication has changed the landscape of organisational communication. The importance of physical proximity to workplace friendship is diminishing in this electronically connected workplace. E-mail, phone, and texting are central to communication among workplace friends and should be encouraged.

Global forces

Globalization can be defined as the intensification of world-wide social relations which link distant localities in such a way that local happenings are shaped by events occurring far away and vice versa (Martell, 2010:12). Organisations are driven by increasing levels of internationalization and global competitive forces towards adopting strategic business practices (Hinson, 2006:120). Hellriegel et al. (2008:91) are of the opinion that organisations can compete globally if they adapt their strategies in terms of world-wide consistency, standardization and low costs. Marginson and Wende (2007:3) concur that globalization has enabled the flow of employees, information, knowledge, technologies, products and financial capital among organisations. Busi and Bititci (2006:10) emphasize that organisations should form a network and become more collaborative with benefits of sharing risks, resources and knowledge (Tsai, Edward & Sengupta, 2010:17). Crossman and Clarke (2010:601) observe that organisations are promoting cross-cultural comparisons and learning from international best-practice examples. Haste (2009:207) argues that a teamwork approach will be desirable to collaborate in projects across international and cultural boundaries.
Research Methodology

This study adopted the positivistic research paradigm also known as the quantitative, objectivist, scientific, experimentalist or traditionalist research paradigm (Collis & Hussey 2003:47). The positivism research paradigm means that knowledge can be revealed or discovered through the use of a scientific method. In quantitative research the aim is to describe trends and it is a useful approach when making comparisons and testing relationships/hypothesis. The study adopted the descriptive research approach as it determines and reports the ways things are at present (Kothari, 2004:10). This approach is also appropriate because the study involved fact-finding and enquiries of different kinds to determine the factors affecting strategy implementation in state corporations in Kenya. Orodho (2002:47) further observes that descriptive research is designed to obtain information concerning the current phenomena and wherever possible to draw valid general conclusions from facts discussed. Mugenda and Mugenda (2003:55) suggest that a descriptive study can be used to explain or explore status of two or more variables at a given point in time. The population of interest for this research and units of analysis was all top- and middle management of the 104 state Corporations in Kenya. The probability sampling technique was adopted by the study where a total of 31 (30%) state corporations were drawn randomly from the 104 state corporations in Kenya. The sampling frame was obtained from the only available database of state corporations in Kenya namely, the Kenya National Bureau of Statistics.

Using the systematic sampling technique, the first state corporations from the list were identified thereafter every third state corporation were selected until the required sample of 31 state corporations was obtained. The criterion for inclusion of individual respondents in the sample was based on the position held in the state corporation, that is, any individual in top- and middle management levels was targeted in the study since they are the decision makers and implementers in the state corporations. The state corporations were contacted to obtain a data basis (organisational chart) of the top- and middle managers. These managers were selected using simple random sampling technique and based on their availability and willingness to participate in the study. A total of 485 questionnaires were distributed.

The study used primary data collected from the top- and middle managers within the state corporations using the survey method. The quantitative study entailed the distribution of a self-administered structured questionnaire to the targeted respondents, as already described. The questionnaires were personally delivered or sent via email to the identified top- and middle managers. The computer programme STATISTICA10 (2011) was used to analyse the data. Kolmogorov-Smirnov test for normality was used to examine the data for normality. To measure sampling adequacy, the Kaiser-Meyer-Olkin (KMO test) and Barlett’s sphericity tests ensure that the data set did not conform to an identity matrix. In this study both face and content validity were utilized as validity tests. The questionnaire was given to experts in the fields of management and statistics as well as the study supervisors to appraise the items’ suitability in obtaining information according to research objectives and study variables.

Exploratory factor analysis was also performed to reduce the number of variables to a small number of factors (constructs) and to confirm the hypothesized constructs to validate the research instrument. A cut-off point of 0.3 and above was used for significant factor loadings. This analysis assesses the convergent and discriminant validity of the measuring instrument. This study utilized the internal consistency method which requires the average correlation among the items and the length of the test by computing Cronbach’s Alpha values to assess the internal reliability of the
data collected. A cut-off point of 0.7 will be regarded as reliable. The Spearman Rho correlation analysis was performed to determine correlation between the factors and multi-Collinearity diagnostics test results to confirm whether Collinearity problems existed between variables of the study. Multiple regressions were performed to determine the independent variables to be retained as having statistically significant relationships with strategy implementation. Descriptive statistics and the results are in the form of frequencies, percentages, mean and standard deviation. The demographic profile of respondents was also presented.

**Results**

The study obtained responses from a total of 30 of 104 possible state corporations in Kenya. A total of 485 questionnaires were administered to the respondents, resulting in a 86.6% final response rate. Out of these, 65 questionnaires representing 13.4% were disqualified due to incompleteness, not being returned, or from those unwilling to participate in the study. The analysis of the results is thus based on 420 questionnaires. Sekaran (2003:244) is of the opinion that a minimum sample size of 30 to a maximum of 500 is sufficient and acceptable for a scientific investigation.

**Kolmogorov-Smirnov Test for Normality**

The data for this study was screened for influential outliers which are linked to normality or non-normality of data. Kolmogorov-Smirnov test was used. According to Hair et al. (2006:132), data screening also includes assessing distributional characteristics of the data. An assessment for distributional characteristics which included examining the data for normality was conducted by performing the Kolmogorov-Smirnov test for normality. This is important because many model estimation methods are based on an assumption of normality since non-normal data may result in inflated statistics and underestimated standard errors (Lei & Lomax, 2005:15). According to Norusis (2007:54), for a data set to be normally distributed, the Kolmogorov-Smirnov (Z-Statistic) significance level should be greater than 0.05 (p>0.05). The results of the Kolmogorov-Smirnov test for normality are shown in Table 1.

**Table 1: Kolmogorov-Smirnov test for normality**

<table>
<thead>
<tr>
<th>Nature of the test</th>
<th>Strategy implementation</th>
<th>External</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample (N)</td>
<td>420</td>
<td>420</td>
</tr>
<tr>
<td>Kolmogorov-Smirnov (Z-Statistic)</td>
<td>4.421</td>
<td>2.177</td>
</tr>
<tr>
<td>Sig. (p-value)</td>
<td>0.328</td>
<td>0.342</td>
</tr>
</tbody>
</table>

As can be seen in Table 1, the Kolmogorov-Smirnov (Z-Statistic) for variables strategy implementation and external variables were all significant since all their p-values were greater that 0.05 (Norusis, 2007:54). This shows that the data set for all the study variables (strategy implementation, internal, market and external variables) had a normal distribution.
Findings in Table 2 show that the KMO statistic was significantly high at 0.804 and greater than the critical level of significance of the test which was set at 0.5 (Field, 2009:77). The Barlett’s test of Sphericity was also significant (Chi-square of 5570.466,104 with 190 degree of freedom, at p < 0.05). These results provide justification for further statistical analysis.

**Table 2: KMO and Bartlett's Tests**

<table>
<thead>
<tr>
<th>Nature of the test</th>
<th>Statistics</th>
<th>Deductions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy</td>
<td>KMO statistic 0.804</td>
<td>Significant</td>
</tr>
<tr>
<td>Bartlett's test of sphericity</td>
<td>Chi-Square statistic 5570.466</td>
<td>Significant</td>
</tr>
<tr>
<td></td>
<td>df 190</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sig.(p-Value) 0.000</td>
<td></td>
</tr>
</tbody>
</table>

**Validity of Measuring Instrument**

Construct validity was utilized to assess the convergent and discriminant validity of the measuring instruments. For this purpose, Principal Component Factor analysis was conducted using the statistical software packages Statistica 10 (2010). This study adopted the minimum loading of 0.3 (Hair et al. (2006:113). The items that loaded less than 0.3 were eliminated from the component factor matrix.

**Table 3: Principal Component Factor Matrix**

<table>
<thead>
<tr>
<th>Item no</th>
<th>Technology</th>
<th>Ecological</th>
<th>Global Forces</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>0.324</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>0.422</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>0.482</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>0.380</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>0.402</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>0.487</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>0.847</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>0.823</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>0.755</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>0.727</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>0.587</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>0.505</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>0.313</td>
<td>0.708</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>0.787</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>0.706</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td></td>
<td>0.737</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td></td>
<td>0.543</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td></td>
<td>0.705</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td></td>
<td>0.654</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td></td>
<td>0.526</td>
<td></td>
</tr>
</tbody>
</table>

Table 3 shows the factor coefficients loading matrix of the external factors. None of the items loaded below the minimum threshold of 0.3. For cross loading items, only the item with a loading of 0.5 and above and that differ by more than 0.2, should be retained (Statswiki 2012:6). Item 4 and 6 were deleted from further analysis as the cross loadings were below 0.5. A new factor, F7 loaded with four significant factor loadings and was renamed government directives.
An interpretation of the results of the exploratory factor component matrix follows for each of the internal factors as can be seen in Table 3.

**Technology**

Items 16, 17, 18 and 19 only loaded onto Factor 4. Convergent validity has been confirmed for this scale. Items 2, 9, 10 and 23 have factor loadings less than 0.5. Factor 20 had a factor loading of above 0.5 but did not have a difference of 0.2 when compared to the other cross loading, so were disregarded for further analysis. Five items were retained in this factor.

**Ecological**

Items 22 and 24 only loaded onto Factor 5. Items 23 and 25 were retained in factor 5 due exceeding the threshold of 0.5 for loadings and having a factor loading of least 0.2 higher than the cross factor loadings. Convergent validity has been confirmed for this scale. Item 5 has been disregarded for this factor as their cross factor loading were less than 0.5. A total of four items were retained in this factor.

**Global forces**

Item 26 only loaded onto Factor 6. Items 28 and 29 were retained in factor 6 as their factor loadings exceed 0.5 and are at least 0.2 higher than the other cross factor loadings. Convergent validity has been confirmed for this scale. Items 27 and 30 were disregarded from further analysis as although their loadings exceed 0.5, the cross loading values did not differ by at least 0.2. Three items were retained in this factor.

**Factor Analysis**

**Technology**

Table 4 shows the results of the factor analysis in terms of factor loadings, Cronbach’s alpha values for each item as well as Eigenvalue and variance explained by the technology factor.

**Table 4: Results of the Factor Analysis of Technology**

<table>
<thead>
<tr>
<th>Item no.</th>
<th>Statements</th>
<th>Factor loading</th>
<th>Item correlation</th>
<th>Cronbach's alpha after deletion</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXT16</td>
<td>Has the latest Information Technology equipment to perform tasks</td>
<td>0.847</td>
<td>0.664</td>
<td>0.865</td>
</tr>
<tr>
<td>EXT17</td>
<td>Communicates with customers via latest technology e.g. Facebook</td>
<td>0.823</td>
<td>0.858</td>
<td>0.838</td>
</tr>
<tr>
<td>EXT18</td>
<td>Experiences few Internet disruptions</td>
<td>0.755</td>
<td>0.355</td>
<td>0.815</td>
</tr>
<tr>
<td>EXT19</td>
<td>Has adequate qualified Information Technology staff</td>
<td>0.727</td>
<td>0.672</td>
<td>0.851</td>
</tr>
</tbody>
</table>

The construct *technology* explains 41.33% of the variance in the data. Table 4 depicts that *technology* has an Eigenvalue of more than 1 (3.33) and all loadings are above the cut-off point of 0.3. The Cronbach's-alpha coefficient for *technology* is 0.847, suggesting that the instrument used to measure this construct is reliable. Naor (2008:676) notes that Information technology has increasingly become important as employees use it to acquire, process and communicate information. According to Kinsey (2005:207), communication by email has revolutionized command and control in organisations. Taylor and Murphy (2004:285) point out that advanced technologies need more professionally qualified and well-educated employees, and may need different leadership and management styles which in turn can an affect strategy implementation.
Sekaran (2007:51) notes that managers who are working with and take full advantage of information technology, keep abreast of all the latest innovations.

**Ecological**

Table 5 shows the results of the factor analysis in terms of factor loadings. Cronbach’s alpha values for each item as well as Eigenvalue and variance explained by the ecological factor. Table 5 shows that ecological has an Eigenvalue of 2.68 which is greater than 1, and all factor loadings are greater than 0.30 which are above the cut-off point. The ecological factor explains 50.25% of the variance in the data. The Cronbach’s alpha coefficient for ecological is 0.678, suggesting that the instrument used to measure this factor is internally reliable. Ecology refers to the relationships between human and other living things, air, soil and water (Charkravarthy, 2002:128). Increasing recognition and the need for sound environmental management and policies has arisen as a result of excessive pressures and demands put on natural resources, including fragile ecosystems, leading to environmental problems such as deforestation, wetland drainage, soil erosion and pollution, which will influence strategic decisions (Kouzes & Posner, 2005:92). Effective strategic managers make and implement decisions and strategies taking into consideration ecological requirements (David, 2007:55). Langelo (2012:1) indicates that air pollution from the chemicals that come off furnishings, office equipment and building materials can be reduced with the help of indoor plants. In the current economic climate, organisations are being more open-minded about being environmentally friendly, especially with regard to cost saving initiatives such as energy-saving devices or alternative energy sources such as solar or wind-generated power (Dimmer, 2009:1).

**Table 5: Results of the factor analysis of ecological**

<table>
<thead>
<tr>
<th>Item no</th>
<th>Statements</th>
<th>Factor loading</th>
<th>Item correlation</th>
<th>Cronbach’s alpha after deletion</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXT22</td>
<td>Uses energy saving devices such as low voltage bulbs</td>
<td>0.505</td>
<td>0.528</td>
<td>0.685</td>
</tr>
<tr>
<td>EXT23</td>
<td>Reduces air pollution by having plants in offices</td>
<td>0.708</td>
<td>0.463</td>
<td>0.695</td>
</tr>
<tr>
<td>EXT24</td>
<td>Encourages electronic communication to all</td>
<td>0.787</td>
<td>0.668</td>
<td>0.687</td>
</tr>
<tr>
<td>EXT25</td>
<td>Has environmental preservation policies</td>
<td>0.706</td>
<td>0.723</td>
<td>0.656</td>
</tr>
</tbody>
</table>

**Global forces**

Table 6 shows the results of the factor analysis in terms of factor loadings. Cronbach’s alpha values for each item as well as Eigenvalue and variance explained by the global forces factor. The construct global forces explain 56.78% of the variance in the data. Table 6 depicts that technology has an Eigenvalue of more than 1 (1.96) and all loadings are above the cut-off point of 0.3. The Cronbach’s-alpha coefficient for technology is 0.782, suggesting that the instrument used to measure this construct is reliable. Globalisation can be defined as the intensification of worldwide social relations which link distant localities in such a way that local happenings are shaped by events occurring far away and vice versa (Martell, 2010:12). Global developments, epitomised by increasing levels of internationalization and competitive forces, are increasingly driving organisations in all countries towards adopting strategic business practices (Hinson, 2006:120).
Marginson and Wende (2007:3) concur that globalization has enabled a flow of employees, information, knowledge, technologies, products and financial capital among organisations. Busi and Bititci (2006:10) emphasize that organisations have and should become more collaborative to form a network that possesses all the resources and competencies needed to satisfy their customers. According to Tsai et al. (2010:17), benefits of collaboration include sharing risks, resources and knowledge.

Table 6: Results of the factor analysis of global forces

<table>
<thead>
<tr>
<th>Item no.</th>
<th>Statements</th>
<th>Factor loading</th>
<th>Item correlation</th>
<th>Cronbach’s alpha after deletion</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXT2 6</td>
<td>Can compete on a global scale</td>
<td>0.737</td>
<td>0.909</td>
<td>0.797</td>
</tr>
<tr>
<td>EXT2 8</td>
<td>Networks with other state corporations on new innovations</td>
<td>0.705</td>
<td>0.558</td>
<td>0.768</td>
</tr>
<tr>
<td>EXT2 9</td>
<td>Learns from best practices abroad</td>
<td>0.654</td>
<td>0.628</td>
<td>0.759</td>
</tr>
</tbody>
</table>

Cronbach’s alpha = 0.782

Correlation Analysis

Table 7 illustrates the factor correlation relationships of the external factors and the dependent variable strategy implementation. As can be seen in Table 7, some of the correlation results indicate weak relationships. However, strategy implementation has fairly strong relationships with ecological- and global forces as well as an average relationship with technology. Technology had weak relationships with ecological forces and an average relationship with global forces. Ecological forces had a fairly strong relationship with global forces. Sababu (2005:34) observes a correlation between social-cultural environment and strategy implementation, and argues that the pace at which the social-cultural environment changes has consequences for strategy implementation in organisations. In addition, Taylor and Murphy (2004:285) note a direct relationship between technology and strategy implementation. These authors further argue that technological changes such as obsolescence, new discoveries, and speed of technology transfer impact to strategy implementation. On the other hand, David (2007:55) correlates ecological environment and strategy implementation and argues that effective strategic managers make decisions and implement decisions and strategies taking into consideration ecological requirements. Some of the ecological requirements considered include environmental protection laws, waste disposal, and energy consumption. A positive correlation is also found between global forces and strategy implementation (Hellriegel et al., 2008:91). These authors maintain that global strategies force organisations to adapt strategies in terms of world-wide consistency, standardization and low costs, which ultimately impact on strategy implementation efforts.
Table 7: Correlation Analysis

<table>
<thead>
<tr>
<th>Factors</th>
<th>SI</th>
<th>T</th>
<th>E</th>
<th>G</th>
<th>GD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategy Implementation (SI)</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Technology (T)</td>
<td>0.373</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ecological (E)</td>
<td>0.558</td>
<td>0.290</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Global forces (G)</td>
<td>0.565</td>
<td>0.331</td>
<td>0.679</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Results of the Multi-Collinearity Diagnostics Testing

According to Trochim (2006:85), multi-collinearity exists when two or more variables are highly correlated with each other. Roux (2006:55) believes that proper multi-collinearity diagnostics are necessary since highly correlated variables designed to test different concepts usually measure the same theoretical concepts. Multi-collinearity diagnostics analysis facilitates the identification of measuring items or variables that have a high correlation among themselves. According to Campbell and Fiske (2009:88), when multi-collinearity exists within the data set, it can negatively affect the parameters of measurement, especially in a multiple regression model, and hence produce a misleading result. During multi-collinearity diagnostics analysis, Field (2009:66) suggests that a tolerance value of less than 0.1 indicates a serious collinearity problem. In addition, when the Variance Inflated Factor (VIF) values are greater than 10, then there is cause for concern. Table 8 indicates the results of the multi-collinearity diagnostics analysis test performed for external variables.

The tolerance values depicted in Table 8 for the external factors vary from 0.486 to 0.792 which are all higher than the acceptable limit of 0.1. The VIF values for all the variables are less than 10, indicating that the variables are not highly correlated among themselves; hence the data set is free from multi-collinearity problems.

Table 8: Results of the Multi-Collinearity Diagnostics Test

<table>
<thead>
<tr>
<th>Dependent variable: Strategy implementation</th>
<th>Multi-Collinearity statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>External variables</td>
<td>Tolerance value</td>
</tr>
<tr>
<td>Technology</td>
<td>0.792</td>
</tr>
<tr>
<td>Ecological</td>
<td>0.515</td>
</tr>
<tr>
<td>Global forces</td>
<td>0.486</td>
</tr>
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</table>

Multiple Regression Analysis

Table 9 shows the results of the statistically significant relationships of the external factors model. As can be seen in Table 9, about 53.1 per cent of the variance in strategic implementation can be explained by the variances in the external factors. Evidence was found of statistically significant relationships ($p<0.001$ and $p<0.05$) between the independent variables technology, ecological and global forces and the dependent variable strategy implementation. These independent variables therefore impact strategy implementation. This is also evident from the t-values which exceed critical value of $t \geq 1.96$ at $p < 0.05$ significance level and of $t \geq 3.09$ at $p < 0.001$ significance level.

Table 9: Multiple regression Results

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## Hypotheses

<table>
<thead>
<tr>
<th>Dependent variable: Strategy implementation</th>
<th>R² = 0.531</th>
<th>Hypotheses</th>
<th>Hypotheses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent variables</td>
<td>Beta</td>
<td>T-value</td>
<td>Sig. (p)</td>
</tr>
<tr>
<td>Technology</td>
<td>0.093</td>
<td>2.449</td>
<td>0.015**</td>
</tr>
<tr>
<td>Ecological</td>
<td>0.221</td>
<td>4.711</td>
<td>0.000*</td>
</tr>
<tr>
<td>Global forces</td>
<td>0.236</td>
<td>4.887</td>
<td>0.000*</td>
</tr>
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</tbody>
</table>

* p < 0.001 ** p < 0.05

### Conclusions

A fairly strong statistically significant relationship existed between technology and strategy implementation. The managers of Kenya’s state corporations fully understand the importance of technology in strategy implementation. They have the latest IT equipment to perform tasks, and communicate with customers via the latest social media such as Facebook. These managers are of the opinion that they experience few Internet disruptions and have adequately qualified IT staff. Taylor and Murphy (2004:285) assert that the new technology can completely change the rules of competition in an industry. According to Peace et al. (2002:47), the Kenyan ICT sector is undergoing strong growth, which has changed people's lives and the way they participate in development activities, using various information and communication devices such as mobile cellular phones, radios, faxes, televisions and computers. According to Kinsey (2005:207), communication by email has revolutionised command and control in organisations as it permits information to flow easily and quickly within organisations and facilitates quick decision-making because employees share information, which positively affects strategy implementation.

A fairly strong statistically significant relationship existed between ecological and strategy implementation. The managers of Kenya’s state corporation fully agreed that they used energy-saving devices such as low voltage bulbs, and reduced air pollution by having plants in offices. They further seemed to encourage staff to use electronic communication. There are environmental preservation policies in place. This shows that the managers of Kenya’s state corporation acknowledge the interaction between human activities and their impact on the environment, and their impact on the corporation’s strategic decisions. Kouzes and Posner (2005:88) assert that the interaction between an organisation and its surroundings can result in air pollution created by dust particles and other arid gaseous discharges, and water pollution when industrial toxic wastes are dumped or leaked into the water supplies. David (2007:55) points out that some organisational activities, especially in the manufacturing sector, result in solid waste pollution, which is caused by the disposal of industrial toxic wastes on land, such as scattered used polythene packages, papers, garbage and so on, and this has an impact on strategy implementation.

A fairly strong statistically significant relationship existed between global forces and strategy implementation. The managers of Kenyan’s state corporation agreed that their corporations compete on a global scale, and that they network with other state corporations on new innovations. The managers acknowledged that they learn from best practices abroad, and created opportunities for knowledge exchange with other international state corporations. According to Amegago (2009:33), there is a general awareness among managers of state corporations that globalization allows for growth in world systems, networks, movements and relationships, not only economic and technological but cultural, social and political as well. Crossman and Clarke...
(2010:601) observe that organisations are promoting international exchange or mobility programmes and cross-cultural comparisons, and are learning from international best-practice examples. Hellriegel et al. (2008:91) point out that global strategies force management to adapt strategies with world-wide considerations. Haste (2009:207) argues that with increased internationalization of customers and markets, managers in most industries are now concerned with developments in both domestic and international markets, which create both opportunities and competitive challenges for organisations seeking profitable growth.

**Recommendations**

It is recommended that managers of Kenyan state corporations: adapt the latest and appropriate technology in order to monitor the changing expectations of society, to enhance the implementation of strategic decisions. Using the latest technology can assist them in remaining competitive, and increase job effectiveness and efficiency; communicate to customers by email and utilize other modern methods like social media as it permits information to flow easily and quickly, and facilitates quick decision-making during strategy implementation because employees can share information and also obtain a Management Information System (MIS) to detect problems at an early stage during the strategic implementation process. This will require employing qualified IT staff. The MIS can provide them with forecasting scenarios which help to improve the effectiveness of the strategic implementation process and overall profitability of the state corporation; provide for Internet disruptions and power failures by having back-up documentation in a hard copy version to aid business in times of interruption.

It is also suggested that Kenyan state corporations’ managers: develop policies and regulations aimed at conserving the environment, such as reducing air pollution, waste, deforestation, and the excessive demands put on natural resources. They then need to develop and implement strategies after careful considering these ecological influences and also encourage staff to have plants in their offices, as this is environmentally friendly. Staff also need to be encouraged to reduce the use of paper, and instead communicate with each other, their customers and suppliers via electronic communication. They should also equip offices with energy-saving devices such as low voltage bulbs.

The study further recommends managers of Kenyan state corporations: adequately prepare to function as “global citizens” who are internationally recognised. They should equip themselves with international knowledge, and acquire appropriate skills and experience to ensure they understand the local and global business environment; increase performance standards of quality, cost, productivity, product introduction time and smooth flowing operations, as this will enable them to compete globally; need to change or adjust their strategies and/or implementation process to accommodate changes in the international market; seriously collaborate with international state corporations and other global partners through mutually beneficial networks which may assist them to become globally competitive. They should learn from best practices abroad and create opportunities for knowledge exchange with other international state corporations. These international networks can also provide them with information on new innovations.

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References


