

# STRATEGIC MANAGEMENT FACTORS AFFECTING THE PERFORMANCE OF TECHNOPRENEURIAL START-UPS IN NAIROBI COUNTY, KENYA

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## **Abstract**

*Technopreneurial start-ups are of vital importance to a country and as such a research on the strategic management factors on their performance. In Kenya today, technopreneurial start-ups are the growth drivers of the economy in terms providing services, goods and incomes for both, employees and business holders. Despite their significance, the general success of these start-ups has not been realized. The purpose of this paper was to examine the strategic management factors affecting the performance of technopreneurial start-ups in Nairobi County, Kenya. The strategic management factors in this paper were strategic competition, strategic leadership style and government policy. The findings indicated that both strategic competition and strategic leadership style had significant positive effect on the performance of the technopreneurial start-ups. However, government policy had a significant negative effect. The study concluded that the strategic management factors mentioned affect the performance of technopreneurial start-ups.*

**KEY WORDS:** Technopreneurial start-ups, strategic competition, strategic leadership style, government policy.

## 1. Introduction

Technopreneurship is not a product but a process of synthesis in engineering the future of a person, an organization or a nation (Shakya, 2007). Technopreneurial start-ups are the driving force behind economic growth, innovation and technological progress globally. There has been a lot of sensitization on the need for the technopreneurial start-ups to thrive. The Singapore Government has kick started the ecosystem with various initiatives, such as providing easy access to low-cost workspaces at its Block 71 start-up complex, making it easy to set up a business and cost effective. The government has also provided support in terms of tax reliefs and start-up grants (Yu, 2016). Singapore is regularly ranked as one of the easiest to do business as setting up a new company can be done in hours if not minutes. The intellectual property is respected and the rule of law is transparent (Antony, 2015).

In 2002, the Economic and Social Commission for Asia and the Pacific (ESCAP), found out that there are more than 3000 business incubators all over the world out of which the United States and Europe alone seems to account for about 50 percent. The business incubation industry including technology incubators in the United States of America is extensive and diverse. Although few programmes look alike, most operate on the principle that synergy of providing business assistance and rental space to fledging firms stipulate local enterprise development. Technology incubators are not limited to support the technology development phase alone but include technology transfer, commercialization and diffusion also.

The Government of Malaysia being a pioneer in technopreneurship has embarked on efforts to foster technopreneurship development in the country; these include the establishment of Malaysian Venture capital (MAVCAP), Malaysian Development Corporation (MTDC) and Malaysian Industry Group for High Technology (MIGHT). The Malaysian government has placed equal opportunities for technology-based entrepreneurs and ICT SMEs to participate in the local ICT market as the government realized the importance of SMEs in growing the nation (Jusoh & Halim, 2006). Besides government agencies, the higher learning institutions in Malaysia have also been encouraging in offering relevant courses and programs on emerging technopreneurship discipline.

In Kenya, the rapid advancement of technology has encouraged small and medium-sized businesses (SMEs) to utilize the opportunity to establish, expand, as well as prosper their businesses. During 2000-2009, the annual ICT growth in Kenya averaged to 23%, while ICT investment alone contributed almost a percentage point of GDP growth (which is projected to rise). ICT in Kenya is already the fastest growing sectors, and vision 2030 prioritizes it as a means towards improved government operations (per its e-government strategy) as well as job creation, GDP growth and social inclusion (Ncube & Ondiege, 2012).

Today, technology has become more of a game changer that can spur top-line growth, and create new business models (McKinsey, 2012). SMEs that leverage on technology are widely renowned for their role in the social, political and economic development. By focusing on the technology-based SMEs, technological implementation and ICT progression will work to expand and propel the start-ups as well as the welfare of the citizens of Kenya. Their importance is predominantly evident as they are able to provide rationally priced goods, services, income and employment to the population. There has therefore been a growing concern and interest by the government and other stakeholders for the improved performance and growth of the technopreneurial start-ups in Kenya.

In Kenya, despite their significance, past statistics indicate that three out of five businesses fail within the first few months of operation and those that continue 80 per cent fail before the fifth year (Kenya National Bureau of Statistics, 2007). This menace can be ascribed to detrimental competition, leadership style of the

managers and government policies. The government has tried supporting SMEs through various policies and programs but this has not helped many of them which close shop within a few months of operation. The general success of these start-ups has not been realized. Managers of these start-ups have difficulty in running them due to an imbalance of their skills. Many possess strong technical skills but lack strategic leadership skills which should be a prerequisite for running a business.

The Government of Kenya as an oversight authority has not helped these start-ups significantly. A lot of focus has been put on SMEs in Kenya forgetting the role played by the technopreneurial start-ups. As a matter of fact, technopreneurial start-ups and traditional SMEs operate in a different external environment. These start-ups face stiff competition not only from their peers but also large businesses that would otherwise not focus in the niche markets that were once regarded as a preserve of only smaller businesses. The competition in the technopreneurial start-ups scene is very dynamic hence the need for strategic awareness of their business environment from their owners and managers.

A positive relationship has been documented between small-business development and economic growth in developed countries (Harris & Gibson, 2006). However, minimal research on technopreneurial start-ups has been conducted on the relationship in developing and emerging countries. Studies in technopreneurial start-ups development and performance are necessary in countries like Kenya because of the dissimilarities in the process between developed and developing countries. It is also essential to understand the strategic management factors influencing technopreneurial start-ups performance in African countries because they are significantly different from those facing developed countries. These strategic management factors include: strategic competition, strategic leadership style and government policy.

### **1.1 Objectives of the study**

1. To determine the effect of strategic competition on the performance of technopreneurial start-ups in Nairobi County, Kenya.
2. To determine the effect of strategic leadership style on the performance of technopreneurial start-ups in Nairobi County, Kenya.
3. To establish the effect of government policy on the performance of technopreneurial start-ups in Nairobi County, Kenya.

### **1.2 Research Hypotheses**

This study was guided by the following null hypotheses:

H<sub>01</sub>: There is no significant effect of strategic competition on the performance of technopreneurial start-ups in Nairobi, Kenya.

H<sub>02</sub>: There is no significant effect of strategic leadership style on the performance of technopreneurial start-ups in Nairobi, Kenya.

H<sub>03</sub>: There is no significant effect of government policy on the performance of technopreneurial start-ups in Nairobi, Kenya.

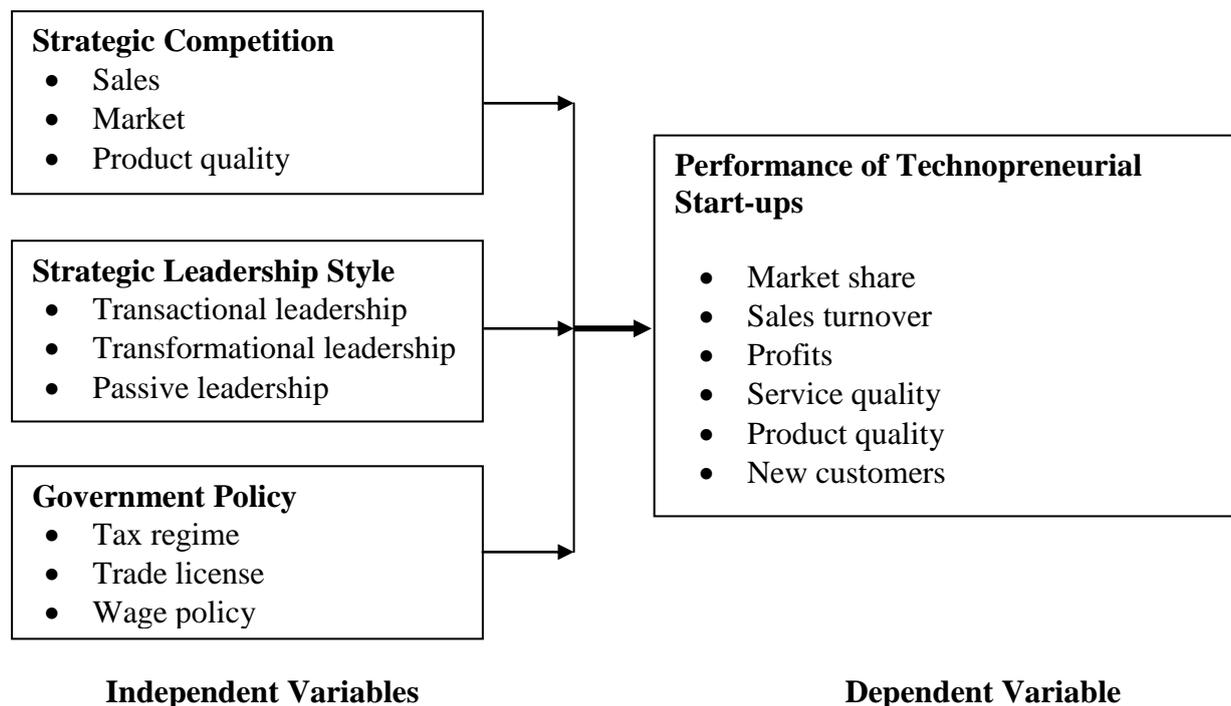
## **2. Theoretical framework**

Fox and Bayat (2007), note that a theoretical framework was the application of a theory or a set of concepts

drawn from one and the same theory to offer an explanation of an event or shed some light on a particular research problem. The decisions made by the owners and managers of the technopreneurial start-ups on the allocation of hard to imitate resources influence the value of the various stakeholders. The advanced this research and enhance understanding among technopreneurial start-ups were: Resource based view theory, full-range leadership theory and stakeholder theory.

## 2.1 Conceptual framework

A conceptual framework refers to a graphical representation of the theorized interrelationships of the variables of a study (Odhiambo & Waiganjo, 2014). The independent variables of the study includes strategic competition, strategic leadership style and government policy. The dependent variable is the performance of technopreneurial start-ups and the operationalization of the variables is shown in figure 1.



**Figure 1: Conceptual Framework**

## 2.2 Literature Review

### 2.2.1 Strategic Competition

Competition is central to the operation of markets, and fosters innovation, productivity and growth, all of which create wealth and reduce poverty (Godfrey, 2008). Strategic competition is a cataclysmic change to some aspect of your business to completely shift the competitive landscape in your favour (Hoos, 2010). There are many social, legal, economic, political and technological factors that determine the structure of competition and in the environment of growing globalization competition is inevitable (Rajagopal, 2006). Many technopreneurial start-ups face up with challenges of competition from their peers and large corporations who are now operating in environments that were thought to be a preserve of small businesses. Technopreneurs face this challenge through trial and error and as a result end up succumbing to the competition.

Due to the dynamism of the technopreneurship industry, there may be some prejudice in describing the competitive environment as hyper-competitive. Hyper-competition occurs when technologies are so new that

standards and rules are in flux, resulting in competitive advantages that can easily be sustained (Althini, Sylven & Holmstrom, 2008). Johnson, Scholes and Whittington (2006) consider a hypercompetitive market as one facing turbulent, fast-changing, uncertain business environments and increased levels of competition. In addition to ensuring a competitive advantage, resources may boost the firm's capability to charge soaring prices and as a result contribute to performance by assisting the firm to appropriate the value linked to competitive advantage. Furthermore, resources may be used to erect entry barriers and so increase performance at the industry level (Newbert, 2007).

Developing competitive advantage can be considered a critical success factor for the small or new, emerging start-ups (Bressler, 2012). For competitive advantage to be successful, technopreneurs need to develop a competitive advantage that can be sustainable over a period of time. The technopreneurial start-ups should not expect the business community to welcome them with open arms; instead, savvy competitors will likely guard against the new entrants to avert their effort in taking the market share. This is evident in situations where market growth freezes, and stops new entrants from entering and gaining any market share without resistance.

### **2.2.2 Strategic Leadership Style**

There are a number of different styles of leadership and management that are based on different theories (Almansour, 2012). The individual style will be used based on a combination of their beliefs, values and preferences, as well as the organizational culture and norms which will encourage some styles and discourage others (Sophonthummapharn, 2005). According to Robbins (2003), transactional leaders are those who guide or motivate their followers in the direction of established goals by clarifying roles and tasks requirement. Transactional leaders are very focused of their task and are receptive to the performance of their followers (Johnson & Klee, 2007). Although, transformational leaders inspire exceptional performance, transactional or non-charismatic leaders aspire to achieve solid, consistent performance that meets agreed upon goals (Boateng, Ndebugre & Boateng, 2015). According to Bass, (1985), transactional leaders are ready to use punishments or rewards to encourage performance, making leader relationship essentially an economic transaction.

Northouse (2001) defined that the transformational leadership is a process that changes and transforms individual. Transformational leadership is the ability to get people to improve, change and to be led. In transformational leadership, the leader has the ability to identify the need for change, to set goals as well as to provide guidance towards the change while managing the transition effectively (Moorhead & Griffin, 1995). Transformational leaders are proactive and endeavour to maximize the individual, group, and organizational development beyond expectation and provide a sense of mission (Avolio & Bass, 2004). Passive leadership is characterized by a style that is marked by a general failure to take responsibility for managing (Bass, 1998). The leader does not lead the group, but leaves the group by itself. They are given maximum freedom in making their own decisions concerning policies and methods. The mechanism of passive leadership is connected to avoidance and neglect (Buisman, 2009). The organization's success or performance is influenced by the difference in the leadership styles (Stahl, 2007). No leader can avoid any of the three styles but the degree of application may vary.

### **2.2.3 Government Policy**

The Kenya Government's Policy for Industrialization and Commerce soon after independence in 1963 was geared towards expansion of overall output focusing on large scale enterprises (Aleke, 2003). This policy did not take into account the small start-ups that wanted to enter the scene. The policy basically assumed that

only large scale enterprises could contribute towards growth and prosperity of the Kenyan economy. This however later changed in late 1970's as the government came up into conclusion that the large enterprises' growth had stagnated and therefore were being unable to solve unemployment problems. The government's focus was now on small enterprises. The government policy before was unfriendly for small enterprises that wanted to come into the scene.

According to Ndemo, (2015), Kenya's first innovation policy was launched in 2006 with the implementation of the vision 2030 initiative. The policy affirmed that Kenya would transition to start doing things differently. The Vision 2030 discourse centred on institutional reforms, human resource development, and enhanced R&D as well as improved science and technology infrastructure. An emphasis was placed on pursuing more and better collaboration and partnerships. The Ministry of Education, Science and technology was formed to lead capacity building and innovation. In 2009, a more comprehensive policy on Science, Technology, Innovation Policy and Strategy (STIPS) was developed. The main aim of STIPS was to mainstream application of science, technology and innovation in all sectors and processes of the economy. This was in tandem to the attainment of the Vision 2030.

Although the government has tried to encourage the growth of ICT innovation, the industry is only driven by a few risk takers. Traditionally licensing, permits, patents and business regulations for instance were major challenges facing technopreneurial start-ups; the complex licensing regime had impeded economic development. Taxation also had been ranked high as a source of regulatory cost and is not an incentive for small businesses (Mwangi, 2013). The government tries by taking up the responsibility and ensures that its policies that are formulated will enable the business environment to be conducive for the positive performance of the business. This however has not helped to improve the performance of these technopreneurial start-ups. Despite the efforts by the government, these start-ups sometimes find it easier to operate outside the law because of the cost and complex programs which involve a lot of bureaucracy. Some of the small business operators prefer operating outside the formal system because it is easy for them to understand and operate. This according to Kinyanjui (2006) is hindering the small sector growth.

Types of government assistance include loans and grants, policy implementation, infrastructure, business advisory and tax incentives (Mohamed & Syarisa, 2001; Lerner, 2010). Governments like China have issued a series of policies to encourage technological innovation, e.g. tax incentives, subsidies for speeding up commercialization of high-tech achievements of technopreneurial centres. In Kenya however, the policies are focussed on the traditional factors that have been mainly detrimental to small enterprises. These policies have failed to help these technopreneurial start-ups as they don't ensure transition from small business to high-end technology businesses.

### **3. Methodology and data**

The target population for this study was the technopreneurial start-ups in Nairobi County. No complete lists of technopreneurial start-ups are available in Kenya. However, according to the Start-up Ranking website, there are 130 technopreneurial start-ups operating in Nairobi County. Therefore, a proportionate sample size of approximate 39 respondents which is a 30% of the population was selected using stratified random sampling technique. The table below shows the target population and the sample size for the technopreneurial start-ups in Nairobi County, Kenya.

**Table 1: Sample Size**

Nature of Start-ups	Population Size		Sample Size
Product Start-ups	35	30%	11
Service Start-ups	64	30%	19
Hybrid Start-ups	31	30%	9
<b>Total</b>	<b>130</b>		<b>39</b>

### 3.1 Reliability Results

Reliability was measured using Cronbach's Alpha coefficient which was used to measure the internal consistency of the variable measures. The study measures were found to be highly reliable in that they all had alpha coefficient greater than the minimum accepted Cronbach's alpha coefficient of 0.70 (Hair et al., 2010).

**Table 2: Cronbach's Alpha**

Variables	Cronbach's Alpha	No. of Items	N
Strategic Leadership Style (SLS)	0.817	4	10
Strategic Competition (SC)	0.802	4	10
Government Policy (GP)	0.901	4	10
Technopreneurial Start-ups Performance (TSP)	0.820	4	10

Overall Cronbach's Alpha for 36 items 0.871

## 4. Descriptive Findings

This section presents the descriptive results on strategic competition, strategic leadership style and government policy.

### 4.1 Strategic Competition

When asked whether they compete on the number of sales, the respondents agreed to a mean of 3.8333 and a standard deviation of 1.028. On whether they mostly compete to gain the market share, the respondents agreed to a mean of 4.3611 and standard deviation of 0.683. When further asked whether they compete on the quality of products and services, they agreed to a mean of 4.3333 and standard deviation of 0.756. When the respondents were asked whether they face competition from their peers and also large corporations, they strongly agreed to a mean of 4.5560 and standard deviation of 0.652. On whether the industry that they operate in is turbulent, fast-changing and uncertain, the respondents agreed to a mean of 4.0556 and standard deviation of 1.013. When asked whether the competitive advantage is a significant factor in these start-ups, they agreed to a mean of 4.1389 and a standard deviation of 0.833. The average mean of the responses was 4.2130 which meant that majority of the respondents were agreeing with most of the statements; however the answers were varied as shown by a standard deviation of 0.828. These high means are supported by Hoos (2010) who established that strategic competition is a cataclysmic change to some aspect of your business to completely shift the competitive landscape in your favour.

**Table 3: Mean and Standard Deviation of Strategic Competition**

	<b>Sample Size</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Min</b>	<b>Max</b>
We mostly compete on the number of sales.	36	3.8333	1.028	1.00	5.00
We mostly compete to gain the market share.	36	4.3611	0.683	3.00	5.00
Technopreneurial start-ups mostly compete on the quality of products and services.	36	4.3333	0.756	3.00	5.00
Our organization faces up with challenges of competition from our peers and large corporations.	36	4.5560	0.652	3.00	5.00
The industry that we operate in is turbulent, fast-changing and uncertain.	36	4.0556	1.013	2.00	5.00
Competitive advantage is a significant factor in our organization.	36	4.1389	0.833	2.00	5.00
<b>Average</b>		<b>4.2130</b>	<b>0.828</b>		

#### 4.2 Strategic Leadership Style

When asked whether they use punishment or reward to encourage performance, the respondents were neutral to a mean of 3.4722 and a standard deviation of 1.341. On whether there is maximum freedom in making their own decisions concerning policies and methods, the respondents agreed to a mean of 3.8889 and standard deviation of 1.036. When further asked whether their leaders foster the need for change, to set goals and provide guidance towards change, they agreed to a mean of 4.2778 and standard deviation of 0.567. When the respondents were asked whether their leaders are very focussed on their task and are interested in their performance, they agreed to a mean of 4.1389 and standard deviation of 0.593. On whether the firm's performance is influenced by the difference in the leadership styles, the respondents agreed to a mean of 4.4444 and standard deviation of 0.773. When asked whether leadership style will be used depending on the organizational culture and norms, the respondents agreed to a mean of 4.3056 and a standard deviation of 0.749. The average mean of the responses was 4.0888 which meant that majority of the respondents were agreeing with most of the statements; however the answers were varied as shown by a standard deviation of 0.843. These high means are supported by a study by Zach and Baldegger (2014) that concluded that the CEO or founder's behaviour influences the start-up performance.

**Table 4: Mean and Standard Deviation of Strategic Leadership Style**

	<b>Sample Size</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Min</b>	<b>Max</b>
There is use of punishment or reward to encourage performance.	36	3.4772	1.341	1.00	5.00
There is maximum freedom in making own decisions concerning policies and methods.	36	3.8889	1.036	2.00	5.00
Leaders foster the need for change, to set goals and provide guidance towards the change.	36	4.2778	0.567	3.00	5.00

Leaders are very focused on their task and are interested in your performance	36	4.1389	0.593	3.00	5.00
Firm's performance is influenced by the difference in the leadership styles.	36	4.4444	0.773	3.00	5.00
Leadership style will be used depending on the organizational culture and norms.	36	4.3056	0.749	2.00	5.00
<b>Average</b>		<b>4.0888</b>	<b>0.843</b>		

### 4.3 Government Policy

When asked whether the wage policies in the industry affect their start-up, the respondents agreed to a mean of 3.69944 and a standard deviation of 1.489. On whether their firm is affected by the tax regime from the government, the respondents agreed to a mean of 4.2222 and standard deviation of 0.797. When further asked on whether obtaining trade licenses was a challenge, the respondents agreed to a mean of 3.9167 and standard deviation of 1.156. When the respondents were asked whether the government policies are unpredictable, they agreed to a mean of 4.3333 and standard deviation of 0.793. The respondents also agreed to a mean of 3.5556 and a standard deviation of 1.443, that the government has not formulated policies that are favourable for their start-ups. When asked on whether the business environment is among the key factors affecting their performance, the respondents agreed to a mean of 4.2222 and a standard deviation of 0.797. The average mean of the responses was 3.9907 which meant that majority of the respondents were agreeing with most of the statements; however the answers were varied as shown by a standard deviation of 1.079. These high means are supported by a study by Campbell (2014) that established that the government affects the performance of technopreneurial start-ups.

**Table 5: Mean and Standard Deviation of Government Policy**

	Sample Size	Mean	Std. Deviation	Min	Max
The wage policies in the industry affect our start-up.	36	3.6944	1.489	1.00	5.00
The firm is affected by the tax regime from the government.	36	4.2222	0.797	2.00	5.00
Obtaining trade licenses is a challenge.	36	3.9167	1.156	2.00	5.00
The government policies are unpredictable.	36	4.3333	0.793	3.00	5.00
The government has not formulated policies that are favourable for our start-up.	36	3.5556	1.443	1.00	5.00
Business environment is among the key factors that affect the performance of our start-up.	36	4.2222	0.797	2.00	5.00
<b>Average</b>		<b>3.9907</b>	<b>1.079</b>		

#### 4.4 Market and Financial Outcomes

When asked whether they use the improvements in profit as a measure of performance, the respondents agreed to a mean of 4.3333 and a standard deviation of 0.926. On whether they use the sales growth as a measure of performance, the respondents agreed to a mean of 3.917 and standard deviation of 0.732. When further asked if they use the quality of products and services as a measure of performance, the respondents agreed to a mean of 4.0833 and standard deviation of 0.732. When the respondents were asked if they use the growth in market share as a measure of performance, they agreed to a mean of 4.0278 and standard deviation of 0.941. The respondents also agreed to a mean of 4.1111 and a standard deviation of 0.748, that they use the improvement in quality of clientele served as a measure of performance. When asked on whether they use acquisition of new customers as a measure of performance, the respondents were neutral to a mean of 3.5000 and a standard deviation of 1.028. The average mean of the responses was 3.9954 which meant that majority of the respondents were agreeing with most of the statements; however the answers were varied as shown by a standard deviation of 0.851. These high means are supported by a study by Akinyi (2010) who established that the methods used to measure performance are relative to the context in which the organization operates and the strategic objectives pursued.

**Table 6: Mean and Standard Deviation of Market and Financial Outcomes**

	<b>Sample Size</b>	<b>Mean</b>	<b>Std. deviation</b>	<b>Min</b>	<b>Max</b>
Improvement in profits.	36	4.3333	0.926	2.00	5.00
Sales growth.	36	3.9167	0.732	3.00	5.00
Increase in quality of products and services.	36	4.0833	0.732	3.00	5.00
Growth in market share.	36	4.0278	0.941	2.00	5.00
Improvement in quality of clientele served.	36	4.1111	0.748	2.00	5.00
Acquisition of new customers.	36	3.5000	1.028	2.00	5.00
<b>Average</b>		<b>3.9954</b>	<b>0.851</b>		

#### 4.5 Empirical findings

##### 4.5.1 Correlation coefficients between strategic management factors and TSP

In order to establish the relationship among strategic management factors and the technopreneurial start-ups performance a correlation matrix was used. From the findings below, there was a significant positive correlation between the strategic competition and the performance of technopreneurial start-ups of 0.661. The results are supported by a study on strategic competition which established that a firm that integrates strategic competition tilts the competitive landscape in ones favour (Hoos, 2010). It was also inferred that there was a significant positive correlation 0.685 between strategic leadership style and the performance of technopreneurial start-ups. The results are supported by Zach and Baldegger (2014) who established that founders or CEO leadership behaviour influence start-up performance.

In contrast, there was a significant negative correlation of -0.335 between the government policy and the performance of technopreneurial start-ups. The results are supported by Campbell (2014) who established that the government should not interfere with the operations of technopreneurial start-ups. The strategic leadership style had the strongest correlation with significance of 0.985, followed by strategic competition at

0.661 as related to the performance of technopreneurial start-ups. Government policy had the least with -0.335 correlations to the performance of technopreneurial start-ups.

**Table 7: Correlation coefficients between strategic management factors and TSP**

SMF		TSP	SLS	SC	GP
<b>TSP</b>	Pearson Correlation	1	.685**	.661**	-.335*
	Sig. (2-tailed)		.000	.000	.046
	N	36	36	36	36
<b>SLS</b>	Pearson Correlation	.685**	1	.744**	-.036
	Sig. (2-tailed)	.000		.000	.835
	N	36	36	36	36
<b>SC</b>	Pearson Correlation	.661**	.744**	1	.042
	Sig. (2-tailed)	.000	.000		.808
	N	36	36	36	36
<b>GP</b>	Pearson Correlation	-.335*	-.036	.042	1
	Sig. (2-tailed)	.040	.835	.808	
	N	36	36	36	36

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

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

SC: Strategic Competition, SLS: Strategic Leadership Style and GP: Government Policy

#### 4.6 Multiple linear regression analysis

The study was set out to evaluate the collective or overall effect of all independent variables, which are: strategic competition, strategic leadership style and government policy on the performance of technopreneurial start-ups.

##### 4.6.1 Model summary

Table 8 below shows the coefficient of determination which is the R square. The R square in this study is 0.633. The coefficient of determination explains the extent to which changes in the dependent variable can be determined by the changes in the independent variables. It further indicates the percentage of variation in the dependent variable performance of technopreneurial start-ups in Nairobi County, Kenya as used in the study that is explained by independent variable in the study, which are “government policy, strategic leadership style and strategic competition”. The study findings indicates that 63.3% of performance of technopreneurial start-ups in Nairobi County is attributed and determined by combination of all three independent factors investigated in this study, while the remaining 36.7% are explained by other variables which are not described in this research.

**Table 8: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of Estimate
1	0.796 <sup>a</sup>	0.633	0.599	0.21022

a. Predictors: (Constant), Government Policy, Strategic Leadership Style, Strategic Competition

#### 4.6.2 Overall significance (ANOVA)

Table 9 below provides the results on the overall analysis of the variance (ANOVA). The results indicate that the overall model was statistically significant. Further, the results imply that the independent variables are good predictors of performance. This was supported by an F statistic of 18.429 and the reported p value (0.000) which was less than the conventional probability of 0.05 significance level.

**Table 9: Overall ANOVA**

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2.443	3	.814	18.429	0.000 <sup>b</sup>
	Residual	1.414	32	.044		
	Total	3.857	35			

a. Dependent Variable: Performance

b. Predictors: (Constant), Strategic competition, Strategic Leadership Style, Government Policy.

#### 4.6.3 Individual significance (coefficients)

Multiple regression analysis was conducted to determine the relation between the independent variable and the dependent variable.

As shown in Table 10 below, the study regression equation was:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon \text{ thus } TSP = 0.860 + 0.468SC + 0.465SLS - 0.165 GP + \varepsilon$$

Where:-

Y = Technopreneurial Start-up Performance (TSP)

$\beta_0$  = Constant or intercept (value of dependent variable when all independent variables are zero)

$\beta_i$  = Coefficient for  $X_i$  (i=1, 2, 3)

$X_1$  = Strategic Competition (SC)

$X_2$  = Strategic Leadership style (SLS)

$X_3$  = Government Policy (GP)

$\varepsilon$  = Stochastic Error Term

**Table 10: Multiple Regression Model Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std.	Beta		
	(Constant)	0.860	0.486		1.768	0.000
1	SLS	0.465	0.195	0.383	2.379	0.023
	SC	0.468	0.193	0.390	2.422	0.021
	GP	-0.165	0.053	-0.338	-3.137	0.004

a. Dependent Variable: TSP

The model was tested to establish if they were valid in predicting whether the strategic management factors affected the performance of technopreneurial start-ups. The null hypotheses for the study asserted that independent variables had no significant effect on the performance of technopreneurial start-ups (i.e.; the model was insignificant). The alternative hypotheses for the study asserted that the independent variables had significant effect on the performance of technopreneurial start-ups (i.e. Ha; the model was significant).

#### 4.7 Hypotheses Testing

The study used multiple regression analysis to establish the linear statistical effect of independent variables on dependent variable of this study.

##### 4.7.1 Test of Hypothesis 1

H<sub>01</sub>: There is no significant effect of strategic competition on the performance of technopreneurial start-ups in Nairobi County, Kenya.

The general multiple regression model for hypothesis 1 was:

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$  and the resulting multiple regression model for hypothesis testing was:  
Performance of Technopreneurial Start-ups = 0.860 + 0.468 Strategic Competition + 0.465 Strategic Leadership Style - 0.165 Government Policy.

To check for the significance of the overall multiple regression model, an F test was performed and the regression equation was found to be valid and significant as a whole and the findings were as follows:

{F (3, 32) = 18.429, P-value < 0.000} when performance of TSP was measured (see Table 9) the decision rule was rejected H<sub>0</sub>:  $\beta_i = 0$  (i=1, 2, 3) if the regression coefficient is significantly different from zero and subsequently accept the alternative hypothesis H<sub>a</sub>:  $\beta_i \neq 0$  (i=1, 2, 3). The null hypothesis 1 (H<sub>01</sub>) was rejected since the standardized regression coefficient was significant and statistically different from zero as indicated in Table 10.

**Table 11: Regression Analysis results on effect of SC on TSP**

Dependent variable	Predictor variable	Beta coefficients	R-Squared	F-test	t-test	Significance
TSP	SC	0.390	0.437	18.429	2.422	0.021

The regression analysis findings of this study revealed that strategic competition did affect the performance of TSP. Use of strategic competition was statistically significant, hence included as a predictor variable in the regression model as depicted on Table 11, meaning that the variable had a significant effect. Table 11 shows that strategic competition is a good predictor of performance of TSP with beta value of 0.390. This variable alone accounted for 43.7% of the variation in performance of TSP ( $R^2 = 0.437$ ).

When t-test was performed to confirm whether strategic competition had significant contribution to the whole variance explained by regression, it was noted that strategic competition had a significant contribution to the variation in the performance of TSP,  $t = 2.422$ . The findings on Table 10 showed that strategic competition positively and significantly affected performance of technopreneurial start-ups in Nairobi, Kenya ( $\beta = 0.468$ , P-value  $< 0.05$ ). This meant that with every unit increase in strategic competition there was a respective increase in performance of technopreneurial start-ups.

The correlation analysis findings on Table 7 showed here was a strong, positive and significant association between strategic competition and the performance of technopreneurial start-ups ( $r = 0.661$ , P-value  $< 0.000$ ), significant at 0.01 level of significance. All these findings are supported by an average mean score of 4.2130 indicating that the respondents agreed that strategic competition affected the performance of technopreneurial start-ups.

#### 4.7.2 Test of Hypothesis 2

$H_{02}$ : There is no significant effect of strategic leadership style on the performance of technopreneurial start-ups in Nairobi County, Kenya.

The general multiple regression model for hypothesis 2 was:

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$  and the resulting multiple regression model for hypothesis testing was:

Performance of Technopreneurial Start-ups =  $0.860 + 0.468$  Strategic Competition +  $0.465$  Strategic Leadership Style -  $0.165$  Government Policy.

To check for the significance of the overall multiple regression model, an F test was performed and the regression equations were found to be valid and significant as a whole and the findings were as follows:

{ $F(3, 32) = 18.429$ , P-value  $< 0.000$ } when performance of TSP was measured (see Table 9) the decision rule was rejected  $H_0: \beta_i = 0$  ( $i=1, 2, 3$ ) if the regression coefficient is significantly different from zero and subsequently accept the alternative hypothesis  $H_a: \beta_i \neq 0$  ( $i=1, 2, 3$ ). The null hypothesis 2 ( $H_{02}$ ) was rejected since the standardized regression coefficient was significant and statistically different from zero as indicated in Table 10.

**Table 12: Regression Analysis results on effect of SLS on TSP**

Dependent variable	Predictor variable	Beta coefficients	R-Squared	F-test	t-test	Significance
TSP	SLS	0.383	0.470	18.429	2.379	0.023

The regression analysis findings of this study revealed that strategic leadership style did affect the performance of TSP. Use of strategic leadership style was statistically significant, hence included as a predictor variable in the regression model as depicted on Table 12, meaning that the variable had a significant effect. Table 12 shows that strategic leadership style is a good predictor of performance of TSP with beta value of 0.383. This variable alone accounted for 47.0% of the variation in performance of TSP ( $R^2 = 0.470$ ).

When t-test was performed to confirm whether strategic competition had significant contribution to the whole variance explained by regression, it was noted that strategic leadership style had a significant contribution to the variation in the performance of TSP,  $t = 2.379$ . The findings on Table 10 showed that strategic leadership style positively and significantly affected performance of technopreneurial start-ups in Nairobi, Kenya ( $\beta = 0.465$ , P-value  $< 0.05$ ). This meant that with every unit increase in strategic leadership style there was a respective increase in performance of technopreneurial start-ups.

The correlation analysis findings on Table 7 showed here was a strong, positive and significant association between strategic leadership style and the performance of technopreneurial start-ups ( $r = 0.685$ , P-value  $< 0.000$ ), significant at 0.01 level of significance. All these findings are supported by an average mean score of 4.0888 indicating that the respondents agreed that strategic leadership style affected the performance of technopreneurial start-ups.

### 4.7.3 Test of Hypothesis 3

$H_{03}$ : There is no significant effect of government policy on the performance of technopreneurial start-ups in Nairobi County, Kenya.

The general multiple regression model for hypothesis 3 was:

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$  and the resulting multiple regression model for hypothesis testing was:

Performance of Technopreneurial Start-ups =  $0.860 + 0.468$  Strategic Competition +  $0.465$  Strategic Leadership Style -  $0.165$  Government Policy.

To check for the significance of the overall multiple regression model, an F test was performed and the regression equations were found to be valid and significant as a whole and the findings were as follows:  $\{F(3, 32) = 18.429, P\text{-value} < 0.000\}$  when performance of TSP was measured (see Table 9) the decision rule was rejected  $H_0: \beta_i = 0$  ( $i=1, 2, 3$ ) if the regression coefficient is significantly different from zero and subsequently accept the alternative hypothesis  $H_a: \beta_i \neq 0$  ( $i=1, 2, 3$ ). The null hypothesis 3 ( $H_{03}$ ) was rejected since the standardized regression coefficient was significant and statistically different from zero as indicated in Table 10.

**Table 13: Regression Analysis results on effect of GP on TSP**

Dependent variable	Predictor variable	Beta coefficients	R-Squared	F-test	t-test	Significance
TSP	GP	-0.338	0.112	18.429	-3.137	0.004

The regression analysis findings of this study revealed that government policy did affect the performance of TSP. Use of government policy was statistically significant, hence included as a predictor variable in the regression model as depicted on Table 13, meaning that the variable had a significant effect. Table 13 shows that government policy is a good predictor of performance of TSP with beta value of  $-0.338$ . This variable alone accounted for 11.2% of the variation in performance of TSP ( $R^2 = 0.112$ ).

When t-test was performed to confirm whether government policy had significant contribution to the whole variance explained by regression, it was noted that government policy had a significant contribution to the variation in the performance of TSP,  $t = -3.137$ . The findings on Table 10 showed that government policy significantly affected performance of technopreneurial start-ups in Nairobi, Kenya ( $\beta = -0.165$ , P-value  $< 0.05$ ). This meant that with every unit increase in government policy there was a respective decrease in performance of technopreneurial start-ups.

However, correlation analysis findings on Table 7 showed here was a moderate, negative and significant association between strategic leadership style and the performance of technopreneurial start-ups ( $r = -0.335$ ,  $P\text{-value} < 0.000$ ), significant at 0.046 level of significance. All these findings are supported by an average mean score of 3.9907 indicating that the respondents agreed that government policy affected the performance of technopreneurial start-ups.

**Table 14: Summary of hypotheses test results**

<b>Hypothesis</b>	<b>P-values</b>	<b>Decision</b>
<b>H<sub>01</sub>.</b> There is no significant effect of strategic competition on the performance of technopreneurial start-ups in Nairobi County, Kenya.	0.021	Rejected H <sub>01</sub>
<b>H<sub>02</sub>.</b> There is no significant effect of strategic leadership style on the performance of technopreneurial start-ups in Nairobi County, Kenya.	0.023	Rejected H <sub>02</sub>
<b>H<sub>03</sub>.</b> There is no significant effect of government policy on the performance of technopreneurial start-ups in Nairobi County, Kenya.	0.004	Rejected H <sub>03</sub>

## 5. Results & Implications

### 1. Strategic Competition Objective

The results revealed that there was a statistically positive significant effect of strategic competition on the performance of technopreneurial start-ups. These results were supported by a study on strategic competition which established that a firm that integrates strategic competition tilts the competitive landscape in ones favour (Hoos, 2010).

### 2. Strategic Leadership Style Objective

The results revealed that there was a statistically positive significant effect of strategic leadership style on the performance of technopreneurial start-ups. The results were in agreement with Stahl (2007), who established that the organization's success or performance is influenced by the difference in the leadership styles.

### 3. Government Policy Objective

The results revealed that there was a statistically negative significant effect of government policy on the performance of technopreneurial start-ups. The results were in agreement with Campbell (2014), who recommended that government policy should change, letting technopreneurial start-ups get on with building what they've already started.

## 5.1 Recommendations

From the discussion of the research findings of this study, certain policy recommendations need to be instituted. Based on the findings of the study and as per the specific objectives, the study recommends as follows:

1. The technopreneurial start-ups should put in place strategic competition measures to enable them perform better in the turbulent and dynamic business environment.
2. The strategic leadership style which is highly recommended is transformational leadership style. The three strategic leadership styles mentioned are transformational, transactional and passive leadership styles. Therefore, the technopreneurial start-ups should ensure that they employ a strategic leadership style that suits the workforce and as a result increase the market and financial outcomes of the start-ups.
3. The technopreneurial start-ups should understand that the policies by the government would not propel their performance but over reliance in them will hamper it. The government should provide other mechanisms for the technopreneurial start-ups to improve their performance enabling them transition to high end organizations.

## 5.2 Implications

### 5.2.1 Policy implications

From the study, it came out clear that strategic competition and strategic leadership had a significant positive effect on technopreneurial start-up performance. Government policy had a significant negative effect on technopreneurial start-up performance. The study will assist the government with the clear road map on not what to engage in when trying to assist the technopreneurial start-ups improve their performance.

### 5.2.2 Managerial implications

The findings of this research reveal positive implications for the owners and managers in the technopreneurial start-up industry in Kenya on the adoption of strategic management factors. The implications are that the owners and managers need to adopt the stated strategic management factors that had a positive effect in their performance, specifically select the ones that are suited to their individual circumstances and reduce the one which hampered their performance. The findings of this study provide an insight to the technopreneurial start-ups owners and managers on the importance of strategic leadership style and strategic competition. Owners and managers also need to consider the combinations of the stated technopreneurial start-ups market and financial outcomes in order to improve their performance drastically.

### 5.2.3 Theoretical implications

The gap in literature suggests that the research has made a significant contribution to the body of knowledge. The study will assist intellectuals and be a reference for future studies and practitioners undertakings on strategic management factors and technopreneurial start-ups performance. The results obtained from this study are important in terms of reflecting the situation on the usage and performance levels of strategic management factors of technopreneurial start-ups performance in Nairobi County, Kenya. The findings of the study will add to the theoretical literature on the strategic management factors of technopreneurial start-ups performance by the testing the proposed model to find out its future effect on technopreneurial start-ups performance.

### 5.3 Areas of Further Research

This study concentrated on the strategic management factors affecting the performance of technopreneurial start-ups in Nairobi County, Kenya. There is need for more studies in this area to examine the strategic management factors affecting their performance. Thus areas suggested for further study may include focusing on other businesses like the creative industries sector for comparisons purposes. The time limit for this study did not allow in-depth analysis of many of the factors that could be responsible for the variations in the performance of technopreneurial in Nairobi County, Kenya. The study concentrated on Nairobi County, and thus, the same study can be conducted on other counties for comparison purposes.

### REFERENCES

- Aleke, D. (2003). *The Nature and Characteristics of Small-Scale Industries in Kenya*. Nairobi: K-Rep Report No. 3.
- Almansour, Y.M. 2012. The relationship between leadership styles and motivation of managers: conceptual framework. *Journal of Arts, Science and Commerce*, 3(1): 161-166.
- Althini, E., Sylven, A. & Holmstrom, C., (2008). Is it possible to make competition irrelevant in a hypercompetitive converging environment?: A study of mobile content providers' competitive strategies. Uppsala University.
- Antony, S., (2015, February, 25<sup>th</sup>). How Singapore Became an Entrepreneurial Hub. Retrieved from <https://hbr.org/2015/02/how-singapore-became-an-entrepreneurial-hub>.
- Avolio, B. J. & Bass, B. M. (2004). *Multifactor leadership questionnaire: Manual and sample set*. Redwood City, CA: Mind Garden.
- Bass, B. M. (1985). *Leadership and performance beyond expectations*. New York: Free Press.
- Bass, B. M. (1998). *Transformational leadership: Industry, military, and educational impact*. Mahwah, NJ: Erlbaum.
- Boateng, J. K., Ndebugre, M. T., & Boateng, J. (2015). Leadership as a Motivational Tool for Employees' Job Related Outcomes. *International Journal of Economics, Commerce and Management*. Vol. 3 Issue. 1.
- Bressler, M. S., (2012). How small businesses master the art of competition through superior competitive advantage: South-eastern Oklahoma State University: *AABRI journals*: 121156.
- Buisman K, 2009. The understanding of the moderating effect of leadership styles on the relationship between hierarchical conflicts and employee satisfaction. University of Twente, the Netherlands, cheating behaviour. *Journal of Business Ethics*.2, 557-580.

- Campbell, D., (2014, January, 6<sup>th</sup>). Is the Government breaking down tech barriers – or putting them up? Retrieved from <http://techcitynews.com/2014/01/06/breaking-down-or-putting-up-barriers-to-growth-tech-city-and-government-policy/>
- Fox, W. & Bayat, M. S. (2007). *A Guide to managing Research*. Cape Town: JUTA and Co Ltd. Shredding.
- Godfrey, N. (2008). Why Is Competition Important For Growth and Poverty Reduction?: *Competition Policy*. Global Forum on International Investment. London.
- Hair, J., Black, W., Babin, B. & Anderson, R. (2010). *Multivariate Data Analysis: A global perspective: (7th ed.)* Upper Saddle River: Pearson Education.
- Harris, M. L and Gibson, S. G. (2006). Determining the common problems of early growth of small business in Eastern North California. *Sam Advanced management Journal*, 71(2), 39-45.
- Hoos, A., (2010, September, 9<sup>th</sup>). Strategic and Natural Competition. Retrieved from <http://aaronhoos.com/2010/09/09/bcg-on-strategy-strategic-and-natural-competition/>
- Johnson, G., Scholes, K. & Whittington, R. (2006). *Exploring corporate strategy: Text and cases. 7th Ed.* New Jersey, Prentice Hall.
- Johnson, N. J., & Klee, T. (2007). Passive-aggressive behavior and leadership styles in organizations. *Journal of Leadership & Organizational Studies*, 14, 130-144.
- Jusoh, M. A., & Halim, H. A. (2006). Role of Technopreneurs in Malaysian Economic. Sultan Idris Education University. Malaysia.
- Kenya National Bureau of Statistics (2007). Kenya Economic Survey. Nairobi: Government printers.
- Kinyanjui, M N. (2006). *Overcoming Barriers to Enterprise Growth: The Experience of Micro and Small Enterprises in Rural Kenya*. Nairobi: University of Nairobi Press.
- Lerner, J. (2010). The Future of Public Efforts to Boost Entrepreneurship and Venture Capital. *Small Business Economy* , 255-264.
- McKinsey, (2012). Perspectives on Digital Business. Retrieved from <http://docplayer.net/467663-Mckinsey-center-for-business-technology-perspectives-on-digital-business.html>” (Center for Business Technology).
- Mohamed, A., & Syarisa, Y. A. (2001). Strengthening Entrepreneurship in Malaysia. Malaysian Institute of Economic Research.
- Moorhead, G. and Griffin, R. W. (1995). *Organizational behavior managing people and organizations*. Boston, MA: Houghton Mifflin. Nairobi: K-Rep Report No. 3.

- Ncube, M and Ondiege, P. (2012). Silicon Kenya: Harnessing ICT Innovations for Economic Development. African Development Bank Group.
- Ndemo, B. (2015 July 15<sup>th</sup>). We Must Emphasize on Applied Research. Extracted from: <http://www.businessdailyafrica.com/Opinion-and-Analysis/We-must-emphasise-on-applied-research/539548-2790554-7jrksl/index.html>
- Newbert, S. L., (2007). Empirical research on the Resource based view of the firm. An assessment and suggestions for the future research. *Strategic Management Journal*.
- Ngechu, M. (2004). *Understanding the Research Process and Methods: An Introduction to Research Methods*. Nairobi: Acts Press.
- Northouse, P. G. (2001). *Leadership Theory and Practice. Second edition*. Thousand Oaks, CA: Sage Publications, Inc.
- Odhiambo, M. & Waiganjo, E. (2014). Role of Human Capital Management Strategies on Employee Mobility in Kenya Public Universities: A Case Study of Jomo Kenyatta University of Agriculture and Technology (JKUAT). *International Journal of Business and Social Science*, 5(6), 185-189.
- Rajagopal, (2006). Competition vs Cooperation: Analyzing strategy Dilemma in Business Growth under Changing Social Paradigms: Mexico, ITESM Mexico City Campus, Mexico DF 14380.
- Robbins, S. P. (2003). *Organizational behavior*. Upper Saddle River, NJ: Prentice Hall. Saddle River, NJ: Pearson Education.
- Shakya, R. (2007, September). What is Technopreneurship? Retrieved from <http://gebbtechno.blogspot.co.ke/?m=1>.
- Sophonthummapharn, K. (2005). Leadership styles and E-commerce adoption: An analysis of Thai food Exporters.
- Stahl, M. J. (2007). *The influential leader. Leader to Leader*, 46, 49.
- Yu, E., (2016 April 28<sup>th</sup>). Singapore Must Support Overseas Entrepreneurs to Drive Local Start-up Ecosystem. Retrieved from [www.zdnet.com/google-amp/article/singapore-must-support-overseas-entrepreneurs-to-drive-local-start-up-ecosystem](http://www.zdnet.com/google-amp/article/singapore-must-support-overseas-entrepreneurs-to-drive-local-start-up-ecosystem).
- Zach, S., Baldegger, U. (2014). Leadership in Start-ups. University of Liechtenstein, Institute for Entrepreneurship, Fürst-Franz-Josef-Strasse, Vaduz, Liechtenstein.