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Analysis of Hax Delta Strategic Positioning Model on Performance of Mobile Telecommunication Companies in Kenya

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Abstract: *The aim of this study was to analyze the influences between Strategic Positioning and subsequent Performance in the mobile telecommunication industry in Kenya. Specifically, the study sought to determine the influences of Best Product Strategies, Total Customer Solution Strategies, System Lock-In Strategies on performance and examine the moderating effect of the competition regulation in the mobile telecommunication industry in Kenya. The study was premised on Hax Delta Model as it was appropriate for studying firms' competitive behavior in complex and uncertain market environment. The study applied a combination of explanatory design, descriptive survey research design and cross sectional design. The research adopted proportionate stratified random sampling technique and convergent parallel mixed methods design. The target population consisted of 4 mobile telecommunication firms. Descriptive statistics were used to summarize data while inferential statistics, Pearson correlation coefficient and multiple linear regression were used to test the relationship between the independent and dependent variable. Looking at the overall industry, the multiple linear regressions explained 26% of the independent variables on the variability of the dependent variable. The interaction of the moderating effect accounted for significantly less variance than just regulation and performance by R2 change .003, p = .455, indicating there was no significant moderation effect between independent and dependent variable. Correlation findings further suggested there was a positive and significant relationship between Best Product Strategy (β= .477, p<0.05), Total Customer Solution (β= .407, p<0.05), Systems Lock-in (β=.286, p<0.05) leading to the rejection of the null hypothesis while competition regulation (β= -.036, p<0.455) was not significant.*

Keywords: *Hax Delta Model, Firm Performance, Mobile Telecommunication, Strategic Positioning.*

1. Background of the Study

Strategic positioning in telecommunication companies have been a subject under competitive trials by firms since it determines the contents and the character of its activities thus typifying its behavior. Consequently by typifying their behaviors, the mobile telecommunication companies rely on identifying and measuring the key traits of their strategy and assessing differences and similarities across a profile consisting of a set of characteristics that collectively describe the strategic positioning. Selection of any of these strategic positions depends on two criteria, the firm's position and market attractiveness since strategic position informs the strategic choices that need to be made and subsequently implemented.

As much of the conceptual depictions of strategic positioning and strategy development for the mobile phone companies are similar, their overall performance increasingly depend on how well they execute a strategy. Chew (2009) differentiated between strategic positioning, strategic position and positioning strategy since the term 'positioning' has a variety of meanings in the literature. The significance of these definitions lies in the similarities and weaknesses which reflect the characteristics of strategy and positioning. Strategic positioning is the practice concerned with the choice of business activities by taking a holistic view of the organisation. According to Shelli, (2015) strategic positioning defines, creates, or re-creates an organization's niche within a sphere of influence relative to the competition, other players, or constituents.

Strategic position on the other hand is overall intended objectives and approach to a situation.

Positioning strategy considers the strength and weakness of an organisation, the needs of the customers and market and the position of competitors'. Positioning defines the organization's identity and helps to create distinction in a competitive environment. Telecommunication firms that are well-positioned have a presence which allows them to achieve strategic positioning in a seemingly effortless manner.

1.1. Concept of Strategy

Strategy, according to chandler (1962) the first author articulating the notion of strategy in scholarly circles; is the determination of the basic long term goals and objectives and the adoption of the courses of action and the allocation of resources necessary to carry out these goals. Hax (1990) defines strategy as a fundamental framework through which an organisation can asset its vital continuity while at the same time purposefully managing its adaptation to the changing environment to gain an edge over rivals. Porter (1980) defines it as the creation of a unique and valuable position involving a set of activities.

According to *Mintzberg (2005)*the different approaches to *strategy* are an interaction of a plan (course of action), ploy (outwitting manoeuvre), pattern (stream of decisions), perspective (how a company views itself in the world, through the eyes of its management and employees) and position (niche of particular product for particular market).A strategy has to be a long-term effort to solidify the identity of a company, and its products or services, in a unique space within the minds of the target audience. Thus a company's strategy is all about how management intends to grow the business, how it will build a loyal clientele, out-compete rivals and how organisational performance will be boosted.

1.2. Strategic Positioning in Kenya Since the Introduction of Mobile Phone Technology

The strategic positioning process in Kenya mobile phone companies was not always a deliberate or pre-planned one; rather, it was a response to external environmental influences and internal organizational change. Such an emergent strategy stimulated organizational learning and paved the way for a more conscious approach to strategy development at a later organizational stage. This has prompted the mobile firm's inception of strategic positioning which have in turn spurred the building a modern and efficient infrastructure ensuring greater competitive environment. Strategic positioning, as a management planning and marketing tool, has been widely practiced in Kenya since the inception of the mobile phone technology in the early 2000. The reform measures coupled with the proactive policies resulted in an unprecedented growth of the mobile telecommunication industry in Kenya and it is only recently that they have begun to recognize the relevance of positioning as a means of differentiating themselves in an increasingly competitive operating environment (Bruce, 2005; Chew, 2006). While there have been initiatives to improve the operation, infrastructure and performance, there is an urgent need for a good model to help mobile phone companies managers understand and develop their organization's strategic positions.

1.3. Mobile Telecommunication Industry in Kenya

Kenya is ranked position 9 in Africa and 129 in the Global ICT Development Index (IDI) by World Telecommunication Indicators Symposium (2017).Kenya has a subscription base of 39.8 million mobile customers and a mobile penetration rate (teledensity) of 89.2% by early 2017. The number of mobile subscribers in Kenya gives an indication of how vibrant the telecommunication industry is. It also demonstrates the rate of growth of the sector and helps many firms determine their position and respond strategically. Anecdotal evidence suggests that these numbers subscribers are predominantly in the form of dual Simcard holders as opposed to new or switching users. The rise of dual Subscriber Identification Module cards (Simcard, where over half the subscribers own three or four lines) use is an indicator that price-savvy consumers are starting to treat the incumbent operators as complements rather than substitutes – a third symptom of flagging competition in the market (Jonathan & Pogorelsky, 2011). It is also one more step in the direction of forcing operators to compete directly– as opposed to schemes encouraging dual Simcard.

1.4. Statement of the Problem

Until early 2000, the Kenya mobile telecommunication industry kept growing and diversifying and its prosperity within the sector attracted new mobile service providers and operators. Each mobile service providers works to equal the price and service offering of rivals in competing for customers giving rise to a tendency of commoditized competition which has proved to be an insufficient strategic positioning between the service providers. As a result of these, fierce competition and regulations has ensured and forced the mobile phone companies to strategically position and aligning themselves to capture new markets or retain their existing market share.

The lack of sufficient research in the mobile telecommunication may preclude it from securing knowledge useful for the growth of the mobile Telecom industry as a whole. There was therefore a compelling need to conduct a research on strategic positioning in order to address these gaps.

As the Kenyan mobile phone market continues to experience high growth in customer usage, mobile industry regulations is critical and necessary. Competition regulations, which would otherwise favour consumers, would not be implemented and will most likely need to be used to strengthen competition in the market. This disjointed association between the mobile industry providers and competition regulation inertia has translated into an unresolved economic controversy (among service providers) and undermined consumer welfare. Consequently, to bridge this gap and create a well-balanced strategy application, the researcher applies Hax Delta model by identifying and empirically analyzing strategic positioning on performance of the mobile telecommunication companies in Kenya. This study thus sought to establish how doand to what extent activities of the strategic positioning affects performance in context of the Kenya changing telecommunications sector.

1.5. Objectives of the Study

1.5.1. General Objective

To analyze the Hax Delta Strategic Positioning Model on Performance of Mobile Telecommunication Companies in Kenya

1.5.2. The Specific Objectives

The specific objectives for the study were:

- To determine influence of Best Product Strategies on Performance in the mobile telecommunication industry.
- Investigate influence of Total Customer Solution Strategies adopted on Performance in the mobile telecommunication industry.
- To determine influence of System Lock In Strategies on Performance in the mobile telecommunication industry.
- To examine moderating effect of the competition regulationon Performance in the mobile telecommunication industry.

1.6. Hypotheses of the Study

Based on the specific objectives, a predictive statement that relates an independent variable to a dependent variable by way of a null-hypothesis was tested.

H_{01}: Best Product Strategies does not significantly influence Performance of mobile telecommunication companies in Kenya.

H_{02}: Total Customer Solution Strategies does not significantly influence Performance of mobile telecommunication companies in Kenya.

H_{03}: System Lock-In Strategies does not significantly influence Performance of mobile telecommunication companies in Kenya.

H_{04}: Regulation of competition by competition Authority of Kenya does not significantly accelerate the relationship between strategic positioning and Performance of mobile telecommunication companies in Kenya.

2. LITERATURE REVIEW

2.1. Theoretical Review

2.1.1. Delta Model

The Delta Model (2001), defines strategic positions that reflect new sources of profitability, aligning these strategic options with the activities (processes) of the firm, and introduces adaptation processes able to continually respond to an environment of uncertainties. The customer-centric model was developed by Dean Wilde and Arnoldo Hax whose unique set of frameworks and methodologies underpins *strategic positioning* as a function of customer bonding to services versus industry or market structure. The proponent of this theoryposit that "at the heart of management and, certainly, at the heart of strategy, resides the customer" (Hax & Wilde, 2001). *The Delta model*(after the Greek letter Delta, standing for transformation and change) is a customer centric model *with* very strong bond between the company and customer, which strives to attract, satisfy and retain the customer, which in turn makes the model very sustainable. The Delta Model provides a roadmap for identifying optimal strategic positioning, based on achieving customer bonding, and provides three strategic positions for reaching that objective, best product, customer solutions and system lock-in, (Hax, 2003).

2.2. Conceptual Framework

According to Kombo and Tromp (2009), a conceptual framework is a set of broad ideas and principles taken from relevant fields of enquiry and used to structure a subsequent presentation. The conceptual framework forms part of an agenda for negotiation to be scrutinized, tested, reviewed and reformed as a result of investigation and it explains the possible connections between the variables (Smyth, 2004).

The conceptual framework for this study, as presented in Figure 2.1, examines the link between strategic positioning and performance with competition regulation as the moderating variable. The moderating variable is a second independent variable that was included because it is believed to have a significant contributory or contingent effect on the original independent variable and dependent variable relationship.

This framework identifies three categories of variables that have direct or moderating effects on firm performance, in conjunction with, strategic positioning as the independent variable being manifested by (1) Best product strategy, characteristics that describe a product's features relative to competitor products or, in the case of a new product, relative to the firm's current products; (2)Total Customer Solutions strategy, as a measure of how products and services supplied by a company meet or surpass customer expectation and (3)Systems Lock-In strategy, which is to *lock* customers in and outcompete other players. These are variables constituting firms strategic positions, hence, the independent variables. The strength of the relationship between performance and each of the strategic positions dimensions may vary depending on industry characteristics, customer characteristics, or the type of performance measure used. The effects of these independent variables were hypothesized to influence performance.

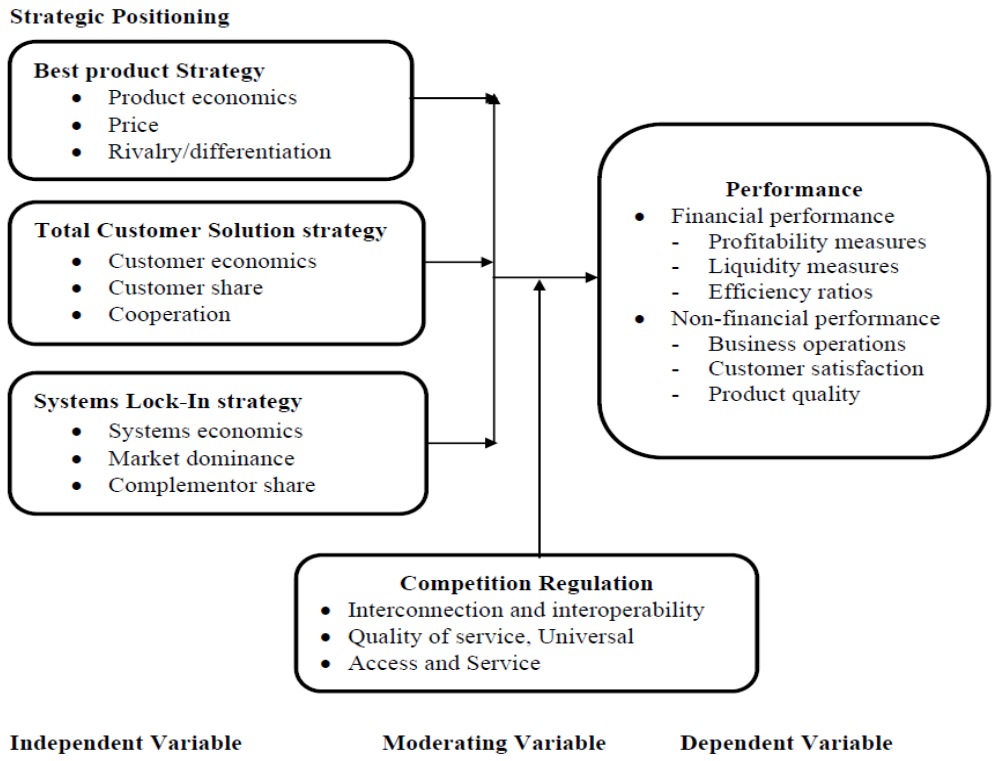

Figure2.1. *Conceptual Framework*

Performance is the dependent variable in this study. The resultant effects measured performance along multiple dimensions, rather than on any single dimension. Multidimensionality implies indicators of different dimensions can be used interchangeably, since they represent different aspects of firm performance. Strategic positioning may also have different impacts on each dimension. Thus, in arriving at a measure for performance, the degree of importance of each dimension were used as weights, with performance on each item being weighted by the relative importance of each item. The items comprising this scale were divided into two subscales, financial performance and non-financial organizational. In addition, the relationship between firms strategic positions and performance were modified by moderating variables namely; the competition regulation. An effective regulatory environment was influenced by the incorporation of interconnection, Quality of Service and Universal Access and Service. These three regulatory factors were considered vital to the consumers and the industry at large and may be impacted and moderated by those characteristics.

3. RESEARCH METHODOLOGY

3.1. Research Philosophy

The researcher adopted a positivist epistemological research philosophy which is an objective-based method and could be used to test a hypothesis from existing theories.

3.2. Research Design

The researcher adopted a mixed method approach design made of explanatory research design and cross-sectional survey design.

3.3. Location of the Study

The area of study was Nairobi County which serves as the capital city of Kenya and with a population of more than four million thus being a major contributor to the economy. The rationale for choosing Nairobi County as the area of study was the existence of mobile telecommunication headquarters.

3.4. Population of the Study

The target population consisted of four mobile operator companies: Safaricom, Airtel Kenya, Telkom Kenya and Equitel. In view of that, the respondents for this study were the 343 managers drawn from

these four mobile firms in Nairobi, Kenya. This included 1 key informant (CEO) who was considered as expert sources of information.

3.5. Sampling Procedure and Sample Size

Proportionate stratified random sampling was employed because the sampling frame was not homogeneous since the sample contained subgroups thereby necessitating a fair representation of these sub-groups in the sample size. The sample size was obtained using the formula propounded by Nassiuma (2000).Nassiuma suggests that the coefficient of variation should range between 21% and 30% while the standard of error margin should be between 2% and 5%.

$$n = \frac{\mathrm{N}C^2}{C^2+(\mathrm{N}-1)e^2} \quad \ldots\ldots (1)$$

Where;

n= Sample required

N=Total population size

C=Coefficient of variation

e^2 =Standard error which in this case is 0.02

$$n = \frac{343 * 0.30^2}{0.30^2 + (343-1)0.02^2} = 142$$

The margin of error was 5%: being the amount of error that could be tolerated: while the confidence level being 95% was the amount of uncertainty that was tolerated (Nassiuma, 2000).Thirty percent coefficient of variation was used to ensure that the sample was wide enough to justify the results being generalized. Higher coefficients of variation were used to emboldena larger sample. Using formula (1) the study sample size for the mobile telecommunication managers was 142 as seen in Table 3.1.

The corresponding sample size distribution of the respondents was as shown in Table 3.1 using the following formula:

$$n_i = \left(\frac{n}{N}\right) N_i \quad \ldots\ldots (2)$$

Where: n_i = sample size in the stratum,

n = Total sample size;

N = Total population size (343),

N_i = Number of respondents. (142)

Table3.1. *Sampling Frame and Sample Distribution*

Mobile Network Operator	Management Level	Stratum Population(N)	Sample Size(S)
Safaricom	Top	10	4
	Middle	39	16
	Lower	66	27
Airtel Kenya	Top	8	3
	Middle	30	12
	Lower	58	24
Telkom Kenya	Top	6	3
	Middle	21	9
	Lower	48	20
Equitel	Top	4	2
	Middle	22	9
	Lower	31	13
Total		**343**	**142**

3.6. Instrumentation

This study used two research instruments to collect data: questionnaire and an interview guide. The questionnaire was divided into six sections. Section A presented demographic information aspects of the respondents, Section B for Best Products Strategy items, Section C for Total Customer Solution strategy items while Section D for System Lock-In strategy items. Section E, which was the dependent variable which captured aspects of performance while Section F concentrated on the moderating effect. The key informant interview was a follow-up to the questionnaire survey

3.7. Validity and Reliability of Research Instrument

A reliability coefficient of over 0.70 was assumed to reflect the internal reliability of the instruments implying it was above the recommended value and therefore suitable for administration.

3.8. Pilot Testing

The researcher conducted a pilot study to test the design of the questionnaire and evaluate feasibility, time, cost, adverse events and effect size (statistical variability). The time for each respondent to complete the questionnaire was reduced from 25minutes (pilot study) to approximately 15 minutes (actual survey) in order to be time efficient. To increase the validity and reliability of the research, the amendments from the pretest were included in the final draft of the questionnaire.

3.9. Data Collection Procedures

Drop- and –pick method was preferred because it reduced Non response bias through reduction of non-coverage, noncontact or refusal to participate.

3.10. Data Analysis Procedures

Pearson correlation coefficient was applied to test the relationship between strategic positioning and performance and thus revealed the magnitude and direction of the relationships. Multiple linear regression analysis was conducted to generate a measure of the degree of association, appropriate at 95 percent confidence level (α=0.05).

The multiple regression equation used to assess the predictive effect of two independent variables (X and Z) on Y is: $y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$

Whereby:

Y= Performance,

β_0Is the constant

α =Constant (intercept)

β_1Is the coefficient of X_1 for i= 1, 2, 3, 4,

X_1= Best Product Strategy,

X_2= Total Customer Solution Strategy,

X_3 = System Lock-In Strategy,

X_4= Competition Authority,

Z = the hypothesized moderator

The moderated regression equation used to analyze and interpret a 2-way interaction is:

y =α+ β_1X+ β_2Z+β_3 XZ +ε

$\beta_3 XZ$ is the coefficient of $X_1 * Z$the interaction term between CA and each of the independent variables. (Amount of change in the slope of the regression of Y on X when Z changes by one unit).

εIs the error term which is assumed to be normally distributed (difference between the results of the model and actually observed results).

In this equation, if (the interaction between the independent variable and moderator variable) is not statistically significant, then Z is not a moderator variable, it is just an independent variable. If is statistically significant, then Z will be a moderator variable, and thus moderation is supported causing an amplifying or weakening effect between X and Z.

4. RESULTS AND DISCUSSIONS

4.1. Inferential Statistics

In order to test the hypothesis, this study used inferential statistics to make inferences from the data to more general conditions. Normality was undertaken to check on the extent to which the sample data distributed according to normal distribution and thus support the reliability of the interpretations and inferences of the results. Correlation analysis, multiple linear regression, and ANOVA results are presented in this section to evaluate the inherent relationship between the dependent and independent variable.

4.1.1. Test of Normality

Checking for normality was done to ensure that the t-statistic gave the correct message as to whether the independent variable was significant to explanatory variable or not. Normality test focused on the extent to which the sample data distributed according to normal distribution (Hair, Black, Babin& Anderson, 2010) to support the reliability of the interpretations and inferences of the results and was applied to determine if it met the assumption to use multivariate techniques to test the hypotheses. This study adopted Shapiro-Wilk and as it tends to have very good power under a broad range of useful alternatives and Skewness/Kurtosis tests. Result show that the Shapiro Wilk have a p value greater than 0.5 while Skewness test and Kurtosis test indicate that the data are normally distributed therefore the assumption of the normality is not violated. The data was normally distributed.

4.1.2. Multicollinearity

Multicollinearity refers to the assumption that the independent variables are uncorrelated and its effect on the dependent variable is low and the researcher can make inferences about the causes and effects of variables reliably. In this study, Multicollinearity was measured by use of the multiple linear regressions' two commonly used measures: Tolerance and the Variance Inflation Factor (VIF). Tolerance measures the influence of one independent variable on all other independent variables while the VIF is an index of the amount that the variance of each regression coefficient is increased over that with uncorrelated independent variables (Keith, 2006).They were based on the *R*-squared value obtained by regressing a predictor on all of the other predictors in the analysis. According to Meyers, Gamst and Guarino (2006), a VIF value above 10 or a tolerance value less than 0.10 are commonly used as cut-off points for determining the presence of Multicollinearity.

To ensure that there is no violation of the assumption of Multicollinearity, the researcher evaluated tolerance value and the variance inflation factor (VIF). There are no Multicollinearity Symptoms in the model involving the three independent variables (VIF<10). Low Collinearity is demonstrated by high tolerance and low VIF values. Tolerance values were (BPS= 0.829, TCS= .524& SLI=.584) while VIFs were 1.207, 1.909 and 1.711 for BP TCS and SLI respectively. Given the value of VIF and tolerance value, found in the regression analysis, the assumption of Multicollinearity is not violated.

4.1.3. Linearity

Linearity defines the dependent variable as a linear function of the predictor (independent) variables and relates to the bias of the results of the whole analysis (Keith, 2006). In the event the relationship between independent variables and the dependent variable is not linear, the results of the regression analysis will under-estimate the true relationship. This under- estimation carries two risks: increased chance of a Type II error for that independent variables, and in the case of multiple regression, an increased risk of Type I errors (over- estimation) for other independent variables that share variance with that independent variables (Osborne & Waters, 2002). A scatter plot of standardized residuals showed a random scatter about the horizontal line indicating no departure from linearity.

4.2. Correlation Analysis

Karl Pearson's Correlation analysis was used to determine the average relationship between the variable. The coefficient of **correlation** symbolized by "r" measured the degree of association of the variables (i.e. strength of the relationship) between the independent and dependent variables. The value of "r" ranges from -1.0 to +1.0 and the closer the 'r' is to +1 or -1, the closer the coefficients and greater are the strength of positive/negative the relationship between the variables. When the value of one variable increased, the value of the other variable also increased. If 'r' is negative it

means that as one gets larger, the other gets smaller (often called an "inverse" correlation).The researcher classified this relationship as being moderately strong from (0.5 to 0.7), moderately weak (0.3 to 0.5), weak (0.1 to 0.3) and none or very weak (-0.1 to 0.1). Table 4.1 presents the correlations matrix for all the aggregated variables.

Table4.1. *Correlation Results Of Strategic Positioning On Performance*

Variables		Performance
Best product	Pearson Correlation	.477
	Sig. (2-tailed)	.000
	N	121
Total Customer Solution	Pearson Correlation	.407
	Sig. (2-tailed)	.000
	N	121
Systems Lock-in	Pearson Correlation	.286
	Sig. (2-tailed)	.001
	N	121
Competition Regulation	Pearson Correlation	-.036
	Sig. (2-tailed)	.694
	N	121

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

Source: Research data, 2017

Table 4.1 presents correlation coefficients between Strategic Positioning on Performance. Based on the analysis the Significance of (1-tailed/ 2-tailed) the p-value was used reject the null hypotheses. Statistical significance instructs to reject H_0 if $p \leq .05$ and accept H_0 if $p \geq .05$ (Pallant, 2007). The results showed that there was a significant positive correlation between the Best Product Strategy (IV1) &Performance (DV) with coefficient correlation r = .477 at p< 0.00 level; there is a positive and significant correlation between the Total Customer Solution (IV2) &Performance (DV) with coefficient correlation r=.407 at p <0.00 level; there is a significant positive weak significant correlation between Systems Lock-in(IV3) &Performance (DV) with coefficient correlation r = .286 at p < 0.00 level. However, the moderating effect of the competition regulation on performance was negative and not significant (r=-.036, p=0.694). This finding implied that any influence of competition regulation would lead to a decrease in performance.

The strongest relationship examined was between Best Product Strategy and Performance followed by Total Customer Solution and lastly Systems Lock-In Strategy. This suggests that change in one variable is accompanied by a change in the other variable and due to the complex and dynamic competitive business environment; the mobile firms need to be consumer oriented so as to cope with the changes and achieve superior performance.

4.2.1. Regression Analysis

Multiple Linear regression analysis was used to test the predictive ability of a set of independent variables on one dependent measure by determining which variables influenced the dependent variable most and which of those factors were more significant. In addition, the influence of Competition regulation directly influence firm performance and moderate the relationship between Best Product Strategy, Total Customer Solution and Systems Lock-In. To establish the statistical significance of the respective hypotheses, multiple regression analysis was conducted at 95% confidence level. Validity of the model was checked with f- test while (R^2) was measured the model's goodness of fit. The nature and outline of their relationships was described by the results of regression analysis. The coefficient of determination measured how well the regression line represented the data.

Table4.2. *Moderated Regression Analysis Model Summaries*

Model	R	R Square	Adj. R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.530[a]	.281	.263	.48889	.281	15.252	3	117	.000
2	.533[b]	.285	.260	.48981	.003	.561	1	116	.455

a. Predictors: (Constant), Best product, Total Customer Solution, Systems Lock-in competition regulation

b. Dependent Variable: Performance

Source: *Research data, 2017*

Table 4.2 shows the coefficient of determination from model 1 and 2 which represents the percent of the data that was closest to the line of best fit. The adjusted coefficient of determination (R-squared) was used to indicate the percentage of variability of the variables that was accounted for by the factors under study**.** The coefficient of determination from model 1 was indicated by R square of 0.263 showing that the predictors in the model can explain 26% of the variation in dependent variable by variation in the independent variables. This shows that 74% of the variations in changes in organization performance are explained by other factors not captured in the model. The positivity and significance of all values of R shows that model summary is significant and therefore gives a logical support to the study model. This further presents an opportunity for future studies to include additional variables that could explain mobile firm's performance.

The moderation was tested by determining the R square in two levels. Level one (model 1) was done before the moderating variable which is also called the interaction term and the second level(model 2) was tested after including the interaction term in the model. The coefficient of determination from model 2 was used to determine the statistical significance of the interaction term and subsequently check whether regulation by Competition Authority of Kenya moderates effects of performance. The interaction in model 2 accounted for significantly more variance than just regulation and performance by themselves, R^2 change = .003, p = .455, indicating that there was potentially no significant moderation between them.

In this case, the hypothesis that the moderating effects of the competition regulation on relationship between Best product, Total Customer Solution, Systems Lock-in and their performance is rejected and its significance supported. The regression coefficient of product term (Best product, Total Customer Solution, Systems Lock-in with competition regulation) on Performance is negative, which indicates that the moderating variable (competition regulation) weakens the causal effects of Best product, Total Customer Solution, Systems Lock-in on performance. In other words, the increase in regulations from competition regulation would give negative effects on the mobile firm's performance. The study thus concludes that competition regulation does not moderate the relationship between strategic positioning and performance.

4.3. Overall Significance of the ANOVA

Kothari (2014), described ANOVA as a procedure for testing the difference among different groups of data for homogeneity. The essence of ANOVA is that the total amount of variation in a set of data is broken down into two types, that amount which can be attributed to chance and that amount which can be attributed to specified causes while F- test was also used in the context of the analysis of variance (ANOVA)

Table4.3. *Analysis of Variance (ANOVA)*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.936	3	3.645	15.252	.000[b]
	Residual	27.964	117	.239		
	Total	38.901	120			
2	Regression	11.071	4	2.768	11.536	.000[c]
	Residual	27.830	116	.240		
	Total	38.901	120			

a. Dependent Variable: Performance

b. Predictors: (Constant), Systems Lock-in, Best product, Total Customer Solution

c. Predictors: (Constant), Systems Lock-in, Best product, Total Customer Solution, Moderating Effect Score

Table 4.3shows the overall significance of the predictors in explaining Performance. The model predictors are significant in explaining changes in positioning strategies with a 0.000 level of significance. The researcher was interested in establishing the amount of variance accounted for in model 1(without interaction) and model 2 (with interaction) and which of the two was more significant. The results indicate that best product strategy, total customer solution systems lock-in and competition regulation were significant predictor variables of performance of the of mobile telecommunication companies in Kenya. This shows that model 1 was significant without the

interaction term, F (3, 117) 15.252, p<.001. Model 2 was also significant with the interaction term F (4, 116) 11.536, p <.001indicating that the model used to link the independent variables and dependent variable was statistically significant. The researcher consequently rejected the null hypothesis and concluded that strategic positioning have a positive influence on performance in the mobile telecommunication industry.

4.4. Multiple Linear Regression Results

The moderating effects of competition regulation on the joint relationship between strategic position and performance were also tested in the overall model. Unstandardized coefficient of Beta was used to explain what changes in dependent variable when independent variable is changed.

Table4.4. *Moderated Multiple Linear Regression Results*

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.433	.044		99.707	.000
	Best product	.652	.151	.372	4.323	.000
	Total Customer Solution	.268	.127	.229	2.119	.036
	Systems Lock-in	.043	.121	.036	.351	.726
2	(Constant)	4.797	.489		9.815	.000
	Best product	.646	.151	.369	4.268	.000
	Total Customer Solution	.278	.128	.238	2.181	.031
	Systems Lock-in	.041	.122	.034	.335	.738
	Competition regulation	-.108	.144	-.059	-.749	.455

a. Dependent Variable: Performance

Table 4.4 shows the coefficient variation of model 1(without interaction) that allowed the researcher to know the direction which the dependent variable took. Based on regression coefficients results in Table 4.4 the regression equation can be written as follows:

Performance = 4.433 + 0.652 (*Best Product strategy*) + 0.268 (*Total Customer Solution*) + 0.043 (*Systems Lock-in*)

The coefficient of Best Product strategy was at (β=0.652, p=0.000, <0.05) showing a statistically significant relationship between Best Product strategy and performance in the mobile telecommunication industry. Hence the study findings in table 4.23 concluded that Best Product strategy significantly affected performance of the mobile telecommunication industry. The regression coefficient of 0.652 obtained in this case implies that a unit increase of the best product strategy would lead to 0.652 unit increase in performance of mobile telecommunication firms

β_2 = .268, shows that one unit increase in adoption of Total Customer Solution results in .268 increase in Performance (financial& non-financial), holding other factors constant. β_3 = .043, shows that one unit increase in Systems Lock-In Strategic options result in .043 increase in Performance (financial& non-financial), holding other factor constant. The standard error (.044), being a random variable with a mean of zero captured the variables that could not be quantified. The *p* value that pertains to strategic positioning on performance score is less than 0.05 and thus achieved significance.

The coefficient variation of model 2(with interaction) allowed the researcher to know the direction which the dependent variable took when the moderating effect was introduced. With the beta coefficient being negative the unit increase in predictor, the outcome variable decreased by the beta coefficient value specially where there was a moderating effect.

Performance = 4.797 + 0.646 (*Best Product strategy*) + 0.278 (*Total Customer Solution*) + 0.041 (*Systems Lock-in*) + -.108 (*Competition regulation*)

β_1 = .646, shows that one unit increase in adoption of Best Product Strategy results in .646 increase in Performance (financial & non-financial), holding other factors constant. β_2 = .278, shows that one unit increase in adoption of Total Customer Solution results in .278 increase in Performance (financial& non-financial), holding other factors constant. β_3 = .041, shows that one unit increase in Systems Lock-In Strategic options result in .106 increase in Performance (financial & non-financial), holding other factor constant. The moderation by competition regulation β_4 = -.108 shows that as the regression coefficient was negative for every unit increase in predictor the research showed that the

$-\beta$ value unit decrease in performance holding all other variables constant. This was an inverse relationship.

The standard error (.489), being a random variable with a mean of zero captured the variables that could not be quantified. The p value that pertains to moderating effects score is greater than 0.05 and thus achieved no significance. Hence, competition regulation did not moderate the effect of Performance of the mobile telecommunication companies.

The interactive association of the independent variables values were too high as compared to other independent variables and as such the negative coefficient occurred. Where the regression coefficient are such that one or more is pushed too high and the negative value was countering it and subsequently when the independent variable increased the dependents variable decreased.

4.5. Summary of the Hypotheses Results

Hypotheses were tested to determine whether influence by the independent variable would be significant or not.Null hypothesis was tested as the default position that there is no significant relationship between two variables being studied under the assumption that if P≤0.05, then it would be rejected or otherwise fail to be rejected and vice-versa (Hair *et al.*, 2006).Four hypotheses are presented, which affirm that Strategic Positioning combinations are key determinants of Performance. A summary of findings from the hypothesis test of this research study are provided in Table 4.5.

Table4.5. *Results of Hypotheses Test*

Null	Hypothesis Statement	Hypothesis Testing	Remark/Conclusion
$H_0$1	There is no significant influence of Best Product Strategies on Performance in the mobile telecommunication industry.	Regression analysis (0.000)	**$H_0$1**was rejected
$H_0$2	There is no significant influence of Total Customer Solution Strategies adopted on Performance in the mobile telecommunication industry.	Regression analysis (0.031)	**$H_0$2**was rejected
$H_0$3	There is no significant influence of System Lock-In strategies on Performance in the mobile telecommunication industry.	Regression analysis (0.738)	**$H_0$3** failed to be rejected
$H_0$4	There is no significant influence of moderating effect of competition regulation on Performance in the mobile telecommunication industry.	Moderated Regression analysis (P< 0.455)	**$H_0$4**failed to be rejected

Source: Research data, 2017

From the results in Table 4.5, there is evidence to suggest that the direct influence of regulation by competition Authority on the strategic position is consequently not moderated by the actions of Quality of Service, Universal access and service and interconnection and interoperability implying that its influence led to a decrease in performance in the mobile telecommunication companies. Such factors could trigger a review of the mobile industry distinctive competences and key strengths and initiate changes to its strategic positioning. The results presented in this study appear to validate this theoretical proposition and the hypothesized questions and moderates the increase or decrease of their relationships. This underlines the importance of a comprehensive measurement of the construct use of measures as suggested in literature (Ferreira &Otley, 2009).

4.5.1. The Relationship between Best Product Strategy and Performance

The study established a positive and significant relationship between best product strategy and performance of the mobile telecommunication firms surveyed in Kenya. This suggested that for the mobile firms need to fully define their product and service identity and create a distinction with a perception for superior brand. Thus to sustain performance, they need to focus on products inherent characteristics, intrinsic superiority of product and service with distinguishing features and functionalities which are deemed valuable.

4.5.2. The Relationship between Total Customer Solution Strategy and Performance

The study established a positive and significant relationship between Total Customer Solution Strategy and performance of the mobile telecommunication firms surveyed in Kenya. The operating principles of this value discipline included having a full range of services available to serve customers upon demand. This also suggested that by redefining the customer experience, integration and

horizontal breadth, the mobile telecommunication firms increased chances of keeping customers. Value addition strategies increased customer's perceived benefits and reduced perceived sacrifices which stimulated repeat customer in the same provider. It adds value either by increasing the number of related products and services (solutions) offered to each customer at a single point of delivery, or bundling/combining its products and services with support and follow-up (Management Sciences for Health, 2003).

4.5.3. The Relationship between Systems Lock-In Strategy and Performance

The study established a statistically non-significant relationship between Systems Lock-In Strategy and performance of the mobile telecommunication firms surveyed in Kenya. This is suggested that some service providers profited from the customers becoming dependent on them for products and services making them unable to use another provider without substantial switching cost. This is suggested by the driving force of system economics which not every firm had the capacity to attain. Only Safaricom PLC has been successful in reaching this de facto dominance in the market by lock-in customers through their differentiated offerings but also enabled a competitor lock-out.

4.5.4. The Moderating Effect of Competition regulation on Best Product Strategy, Total Customer Solution and Systems Lock-In on Performance

The competition regulation influence of Quality of Service, Universal access and service and interconnection and interoperability did not statistical influence the relationship between Best Product Strategy, Total Customer Solution and Systems Lock-In on performance. The moderating strength and direction was reduced when the interaction term of Best Product Strategy, Total Customer Solution, Systems Lock-In and competition regulation factors was introduced. The study thus concludes that increased competition regulations would give negative effects on the mobile firm's Performance.

5. CONCLUSIONS FROM THE STUDY

Based on the research findings and theoretical discovery of other researchers, it can be concluded that the all the mobile phone telecommunication firms in Kenya have adopted alternative strategic positioning strategies which increased unobserved heterogeneity, through economies of scale and scope, consequently enhancing their performance. Competition Authority of Kenya should also ensure that the mobile telecom operators are responsive to customers and community needs and that customers interest are protected by focusing more attention and resources on customer care services, effectiveness of the network, making the services more economical and other quality related issues. Furthermore, Competition Authority of Kenya should lay down the standards of quality of service to be provided by the mobile telecom service providers thereby creating conditions for customer satisfaction and the user right to expect the quality services. The study conclude that mobile telecommunication regulators in Kenya need to become advocates of development, and balance effectively, the private sector driven growth agenda with the national socio-economic agenda(Okonjo, 2013).Finally, Competition Authority of Kenya should adopt a pro-active regulatory model that will keep it at the frontline of policy and regulation of technology and innovations. By adopting these measures, the Kenya mobile telecommunications industry is bound to be one of the most liberal sectors in Africa.

5.1. Suggestions for Further Research

The study was undertaken on role Hax delta strategic positioning model on performance of mobile telecommunication companies in Kenya. This study was confined to the strategic positioning of the main stream mobile telecommunication firms in Kenya with the competition regulation being the moderator to their performance.

Conducting a comparative study would be useful to test the relevance and significance of the conclusions in this study and its theoretical model of influencing factors on strategic positioning in order to validate whether the findings can be generalized to the telecommunication industry in Kenya and thus offer collaborative and coordinated solutions. It would thus be practical to research more on the extent to which this study findings and the model are capable of wide application. Such a comparative study would provide a more comprehensive picture of the extent to which the

telecommunication industry undertake strategic positioning and their effects in different economic contexts.

As cross sectional research, this study employed a survey strategy over a short period of time. The current research can be duplicated but should use a longitudinal approach to measure the framework in varying conditions of the internal and external environments of the telecommunication firm in plenty of time, since performance is a process that occurs over time, implying that a longitudinal approach would have been appropriate. Further quantitative research on mobile telecommunication regulation would provide the most reliable information on the subject. By reviewing the experienced advantages and hindrances, the Competition Authority of Kenya may be provided with guidelines and recommendations that may lead to an effective collaboration and regulation

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