

GOVERNMENT LAWS AND REGULATIONS INFLUENCE ON COMPETITIVE ADVANTAGE

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Abstract

Government laws and regulations are a key component to the technological changes taking place and the competitiveness and innovation experienced by Kenya's telecommunications industry. The high competition in the sector has meant that there is a need for stricter government laws and regulations that every player must observe to remain in the market. Open democratic space allows entry and exit of market players as long as the current laws are followed to the letter. This study's main objective was to explore the effect of government laws and regulations on the competitive advantage of telecommunication companies in Kenya. Using a positivist philosophy, the study adopted a descriptive research design in testing the hypothesis to establish the relationship between government laws and regulations and the competitive advantage in telecommunications companies in Kenya. The main instrument for data collection was a structured questionnaire targeting 26 licensed telecommunications companies in Kenya. Data from the field was sampled using the proportionate methodology, with a sample of 247 managers responding. Both descriptive and inferential statistics were applied for this study and processed through the Statistical Package for Social Sciences (SPSS). The null hypothesis was tested using multiple regression analysis with two linear regression models through factor analysis and ANOVA. Presentation of results through percentages, standard deviation, mean, and frequencies provided a background for discussion, conclusions, and recommendations. The study results observed that government laws and regulations statistically influence the competitive advantage of telecommunications companies in Kenya ($\beta = .273$, $t = 4.740$, $p < .05$). This led to the study concluding that government laws and regulations influence the competitive advantage of telecommunications companies in Kenya. The study recommends further research to compare local laws and regulations against regional or global ones influencing competitive advantage in the telecommunications industry.

Keywords: *Telecommunications, Government, Competitive advantage, Kenya, Innovative Technology*

1.0 Introduction

Ever since Porter (1985) introduced the concept of competitive advantage more than three decades ago, researchers have tirelessly investigated not just the consequences of the lack of competitive advantage to a firm but how to increase its benefits. While studies like Anning-Dorson (2018), Carver (2018), and Ceglinski (2020) have primarily been conducted in the

developed nations, there have been recent calls for similar studies focusing on the developing world. The calls have particularly been raised in the telecommunications industry, where there is disruption due to the ever-changing nature of technology and user preferences. This study investigates the effect government laws and regulations have on telecommunication companies' competitive advantage in Kenya.

1.1 Competitive Advantage

Competitive advantage in any industry occurs when a competitor stays ahead by utilizing a specific benefit that is not yet achievable or matched by the competition in the market of operation. Famously introduced by Porter (1985), competitive advantage has remained the key driver in many markets, including the telecommunications sector where innovation plays an important role. According to Anning-Dorson (2018), competitive advantage is achieved either through the creation of superior products, that is, differentiation advantage, or through lower cost of production, that is, cost advantage. However, in a democratic, open space, there is freedom of entry and exit, which could mean a lack of stability for the market or the customer, necessitating a need for laws and regulations (Akram *et al.*, 2017). Thus, the focus of this study is on government laws and regulations and their effect on the competitive advantage of telecommunications companies in Kenya.

Liberalization of the telecommunication sector, the extension of services by international conglomerates, and the active competition experienced in the industry have all led to the telecoms revolution (Adeolu, 2017). Since discussions on privatization and liberalization processes by various African countries, including Tanzania, Kenya, Uganda, Nigeria, South Africa, and Sudan, telecommunication structures have drastically improved. Many African governments have industrialized their telecommunication set-ups by privatizing enterprises formerly owned by the state (Tyagi, 2019). This has led to the infiltration of services by multinational companies, thus requiring country laws to guide telecommunications businesses' operations currently experiencing exponential growth. Such liberalization across the world and in Africa means the connection between regional partners, global rules, and local adaptation in the telecommunications industry's running is laden with innovations (Adeolu, 2017). Initially a preserve of the central government, the telecommunications industry has moved towards joint ownership with governments and private ownership across Africa and the world (Tyagi, 2019).

1.2 Telecommunications in Kenya

Kenya's telecommunications market has a great growth potential due to its previous low diffusion in the mobile and fixed markets (CAK, 2017). Market penetration in terms of mobile telecommunications indicates regional figures of 160% in South Africa, followed by Ghana with 120% while Kenya leads in East Africa by 80%, followed by Rwanda at 70 %, Uganda at 59%, and with the lowest penetration found in Burundi at slightly under 50% (CAK, 2017). The state-owned telecommunications company, Telkom, was the monopoly in Kenya (CAK, 2017). Initially, fixed lines were dominant, making Telkom and corresponding rivals in regional countries the most competitive in the telecommunications market. However, Telkom Kenya and similar operators across the continent lost their dominance in the fixed-line and international bandwidth sectors, as licenses were delivered to a regional carrier involving a third mobile operator and numerous new data carriers. This marked a very important change in the competitive scenery for telecommunications services across the country (CAK, 2017). The regulation authority for Kenya telecommunications is the Communications Authority of Kenya (CAK). It licensed and accredited three major firms to roll out key mobile network operations,

including the three initial firms Safaricom Ltd, with 70% of the market share in terms of subscribers, minutes, and revenue, followed by Airtel Kenya and Telkom (CAK, 2019). Competition has been very stiff with the entry of more firms being licensed by the CAK and with the high level of innovations demanding all players to adhere to the market rules and regulations as overseen by the regulatory authority. The increasing competitive situation has led to price conflicts, which has resulted in the lowest prices in Africa (Osano & Koine, 2016). Telecommunications firms have had to employ various innovative and competitive strategies to attract consumers and survive in the industry (Adede *et al.*, 2017).

1.3 Government Laws and Regulations

The Kenya telecommunications industry is governed by the Kenya Information and Communications Act CAP 411A (KICA) through Kenya's Communications Authority (CAK, 2019). The authority issues guidelines to the industry for the regulation of the telecommunication market in an effort to sustain fair competition with increasing telecommunication players. Telecommunications firms thus operate under various laws and regulations, including information and communications tariffs; compliance, monitoring, inspections and enforcements regulations; fair competition and equality treatment; interconnection and provision of lines, access and facilities; consumer protection; and importation, type approval, and distribution of telecommunications equipment. Other key government regulations overseen by CAK include universal access and service; licensing and quality service; electronic certification and domain name administration; registration of sim cards; postal couriers; broadcasting and radio communications; and frequency spectrum regulations (CAK, 2019). Complying with all the regulations in Kenya requires high fees that market players have termed as exorbitant. Thus, to survive, they must seek to establish a competitive advantage over industry players (David, 2019). However, competitive advantage sustainability is still in the early stage of research. In times of strong competition and dynamic development of science, there is a need to look for tighter controls and regulations. To some extent, some players view the controls as favoring competitors of a specific nature. The question thus becomes, to what extent do government laws and regulations influence competitive advantage.

1.4 Product, Market, Process, Technology Innovation, and Competitive Advantage

Competitive advantage has arisen from the main strategies of cost leadership and differentiation considering various market players. Product differentiation, in particular, has played a role in the Kenyan telecommunications market, with competitors like Safaricom having their Mpesa product as a long-time leading product in the Kenyan and regional environment. In contrast, Airtel and rival companies have tried, to some extent, the cost leadership strategy to sustain competitive advantage in the Kenyan and regional markets (David, 2019). The telecommunication market in Kenya is heavily regulated, and its spread has proved expensive as the licensing fees by CAK make it very costly. Specifically, competing firms in Kenya have resorted to court cases, which have delayed either the launch of new technology innovations or processes, which require CAK approval. For example, the Kenya Shillings 5B required for broadband is prohibitive, giving richer competitors a head start in competitive advantage (Gituma, & Gachunga, 2016). Other tough requirements by the regulatory authority in Kenya include licensing fees for product approval, importation and distribution of telecommunication equipment, and domain name fees for Internet connections,

all of which make operations in the Kenyan market dominated by a few large companies (Kingiri & Fu, 2020).

2.0. Problem Statement

The telecommunications market is highly competitive and driven by high product, market, and process innovations like mobile money and better data speeds (CAK, 2019). However, the competitive advantage remains linearly moderated by government laws and regulations, which seek to have a level playing field in the highly technology-based industry. Studies on the global front indicate that government regulatory authorities contribute to the low penetration by specific competitors, such as the European Union zones, in which entry requires demonstration of high standards and membership compliance rules (Berne *et al.*, 2019). The Asian nations, too, have had government interventions on introducing innovative products in the telecommunications market. Korea and China, for example, have high penetration rates where local firms have government priority as opposed to new market entrants (Carver, 2018; Deng *et al.*, 2013; Hassan *et al.*, 2013; Kim *et al.*, 2016). The same situation is replicated regionally across the African continent. Government laws and regulations have played a key role in moderating between the key competitive indicators in the telecommunication industry and competitive advantage. For instance, the Nigeria entry regulations (Lepoutre & Oguntoye, 2018) are more restrictive compared to those in Uganda (Alemu, 2018), while tighter regulations affecting competitive advantage are found in South Africa than in Nigeria (Moshi & Mwakatumbula, 2017). The Kenyan situation is in many ways similar to the global and regional state. Apart from the Communication Authority of Kenya, which is the regulatory body, there is also the Competition Authority of Kenya, which regulates entry into the market for any player across the economy to maintain fair competition. Cases of rival firms in the telecommunication industry can be referred to the two regulators on different levels. A good example is the Safaricom and Airtel rivalries in issuing of operational licenses where one rival attributed their delayed chance of competing competitively to the high fees placed by the Communications Authority and the slow resolution of their case by the Competition Authority of Kenya (Kingiri & Fu, 2020). From the foregoing studies, government regulations have inspired this further review of how they moderate companies' competitive advantage in the telecommunications industry in Kenya. Therefore, the main objective of the study was to establish the effect of government laws and regulations on the competitive advantage of telecommunications companies in Kenya.

3.0 Literature Review

3.1 Theoretical Foundation of Competitive Advantage

Competitive advantage occurs when firms design an attribute or asset that enables them to perform far much higher than the competition within the same environmental market (Anning-Dorson, 2018). Competitive advantage translates into market leadership if sustained by the firm as long as they can maintain the rarity of the assets and attributes that provide that competitive advantage. The origins of strategy management combined with competitive advantage can be traced back to Porter (1985), who writes on the value chain, market five forces, and generic strategies that govern a firm. This implies that whenever a firm gains a competitive advantage, there is the obvious negativity of competition from rivals in that same market. Such market competition compels the leader and their competitors to seek the key source of cost leadership or differentiation that fosters that competitive advantage, thus raising the stakes for innovation to achieve that advantage point (Asimakopoulos & Whalley, 2017).

Specifically, competitive advantage is derived from the key point of technology and innovation, especially in terms of market position as opposed to the traditional scientific innovativeness (Aghion, Bergeaud, Boppart, Klenow & Li, 2019). Due to the heavy investment required for technological innovations, firms strictly have limited research and development budgets to maintain both present and future innovations (Wang *et al.*, 2011). To sustain a high level of technological innovativeness for competitive advantage requires an economy full of entrepreneurship and supported by good patenting and property ownership rules (Bloch & Metcalfe, 2018). Examples of high entrepreneurial skills include the USA, Japan, and Germany, making their businesses global through sustainable competitive advantage with strict licensing and patent rules in place (Carver, 2018).

Competitive advantage normally zeroes in on two strategies: cost leadership and differentiation (Anning-Dorson, 2018). Accordingly, high-level creativity, quality services, segmentation, customization, and efficient distribution channels meet the customers' different needs and characterize both strategies. There are three main sources of competitive advantage for both cost leadership and differentiation strategies. These include technological innovations, skillful human resources, and the firm's organizational structure (Kramer & Porter, 2011). Technology and innovations combine several aspects, including processes, products, and markets, to improve competitive advantage chances. However, this is only possible if the firm has a strong internal system of training and development of staff while providing motivation at the same time. This is achievable through easy learning systems, open appraisals, human resource best practices, employment security, and employee participation that empowers taking action (Aghion *et al.*, 2019).

An emerging trend globally is the focus on new forms of competitive advantage that has seen a deviation from cost leadership and differentiation. Specifically, firms identify knowledge management as key in achieving competitive advantage (Kramer & Porter, 2011). To add to this, firms also harmonize their core competencies to increase value addition, which is central in achieving a customer base. It, therefore, means that the firm has to develop a robust learning system from within to sustain a knowledge base that drives its core competence to the optimum best. Governments worldwide will set rules and regulations to protect such innovations and give a fair playing ground for the competition (Diaz, 2017).

3.2 Empirical Review

Globally, it is observed that governments, through their administrative approaches, dictate the directions, rules, standards, specialized benchmarks, or the level of open competitiveness, especially in market economies. Aside from forcing the directions, the administrations also advance and energize specific shopper conduct by creating regulations that bring sanity to the market (Anning-Dorson, 2018). Therefore, clients need to restrain their decisions to those in accordance with government rules, and some of the time, they need to buy the choices offered by the administration (Srinivas *et al.*, 2019). Specifically, these kinds of government directions influence clients' social goals to consume certain products and services. So, it very well may be presumed that administration mediation and directions influence clients taking part in specific conduct (Kim & Oh, 2018).

3.2.1 Licensing

Licensing has played a crucial role in the telecommunications industry. Studies by Mantu (2019) in the Nigerian economy point towards the legal framework. The Nigerian study's key emphasis was recognition of global licensing regimes in which there is a need for collaboration

with several countries to contain cybercrime while enabling connectivity across many borders. In Nigeria, Mantu (2019) notes the differentiation between class and individual licensing and how such licensing has influenced the populous West African country's competitive environment. Mantu (2019) goes ahead to support more liberalization of the Nigerian market, arguing that too much licensing can be both good and bad in protecting the young telecommunications industry. However, there is a need to streamline this licensing and increase punishment for those who default to protect Nigeria's growing telecommunications industry.

Baker (2016) has brought out the importance of licensing due to the need to have streamlined frequencies citing regional connectivity in countries like Sudan for security and public communications purposes. Matching uses to what each frequency can do in telecommunications is also an area that Baker (2016) supports as requiring strict licensing regimes to avoid any mix-ups or collisions of such communications between various parties within a country or across borders. This, according to Baker (2016), is not just a security issue, but one that would always ensure fair competition in the telecommunications industry and avoid exploitation of growing economies like Sudan and other African nations.

Steimling (2019), while studying 36 countries across the globe for the comparison of traditional ways of doing things and new age licensing, points out that the impact of licensing is enormous both in developing and industrialized nations. The World Bank and International Telecommunications Union have played a big role in supporting the licensing regimes to protect telecommunications inventions of growing industry players at the center of any economy. However, Steimling (2019) faults the inconsistent licensing prices and conditions because it makes it difficult for some countries business upstarts and favors other companies, thus distorting the competition field. With well-controlled and fair competition authorities, it is possible to have licenses generate revenue for a country and still allow for the telecommunications industry's growth in a competitive environment with high-quality markets.

3.2.2 Laws and Regulations

Asongu and Odhiambo (2019), in their study, assessed 49 African countries for social media and government in telecommunications over the year 2012, applying quantile regression. The social media assessment used Facebook to measure the governance of social media. The effect of the direction on business execution relied upon how entrepreneurs and different partners react to controls. The results revealed that operators' adjustments to direction, and subsequently the business execution results, rely upon firms' interior assets and capacities and on the external product, work, and capital economic situations. Strict regulations were found to enable such social media platforms to survive, without which there would be several litigations stopping their operations.

Locally, Kiveu, Namusonge, and Iravo (2019) focused on infrastructure sharing, which is a complex issue in Kenya. The study applied a descriptive design targeting three major mobile telecommunications companies with their headquarters in Nairobi's capital city. Specifically, the study sought to establish the link between three variables: competition quality, technological innovations, and the regulatory framework. From the study analysis, Kiveu *et al.* (2019) established that competition, technology, and regulatory regimes strongly influence infrastructure sharing in Kenya's telecommunications industry. This has led to low network infrastructure sharing in Kenya, resulting in the conclusion that technological diffusion is primarily affected by government regulatory structures. Another conclusion by Kiveu *et al.* (2019) was that competition is hugely skewed in favor of telecommunications firms due to the

stringent government regulatory policies that govern network operations in the telecommunications industry.

3.2.3 Competitive Advantage

Few organizations experience the ill effects of state rule when big firms introduce innovations and are impeded by the automatic outcomes of acquired competitive advantage (Ole Kulet, Wanyoike & Koima, 2019). The intervention of governments in African economies is a normal occurrence. Moshi and Mwakatumbula's (2017) study explored the political effect in regulating the mobile telecommunications market across Africa. Their study used investment dynamics during the period 2001 and 2011. The target of the investigation spread across individual firms, industry partners, and countrywide investments. Specifically, the study sought to establish the market size, demand level, market structure, and investment cost. A framework for assessing the factors and the government intervention was developed to capture the linkages between all the variables. The framework analysis results indicate that the telecommunications firms are dependent on government regulation and liberalization exercises in maintaining fair competition. However, the study results by Moshi and Mwakatumbula (2017), suggest that market structure factors, which encompass competition, market size, and cost as contributing to the investment in the African telecommunications market.

Generally, administration controls uncover what administration directions assume and the role of mediator in many research corners. For instance, Obaji *et al.* (2015) have contemplated the directing part of government controls between money-related assets and hatchery execution. The outcomes recommended that administration directions assume the role of a mediator. Likewise, different studies like Ramanathan, *et al.* (2014) on coordination; Kim, *et al.* (2016) on benefit advancement; Kimani, *et al.* (2015) on water utilities, have contemplated the directing part of government controls and discovered it as a considerable arbitrator in these assorted areas. In Kenya, the Competition Authority acts as a mediator in many cases for competition matters, thus complementing the industry's regulation authority.

3.3 Conceptual Framework

This study focused on the influence of government laws and regulations on telecommunications companies' competitive advantage in Kenya, with competitive advantage forming the dependent variable while licensing and adherence to laws and regulations forming the independent variables.

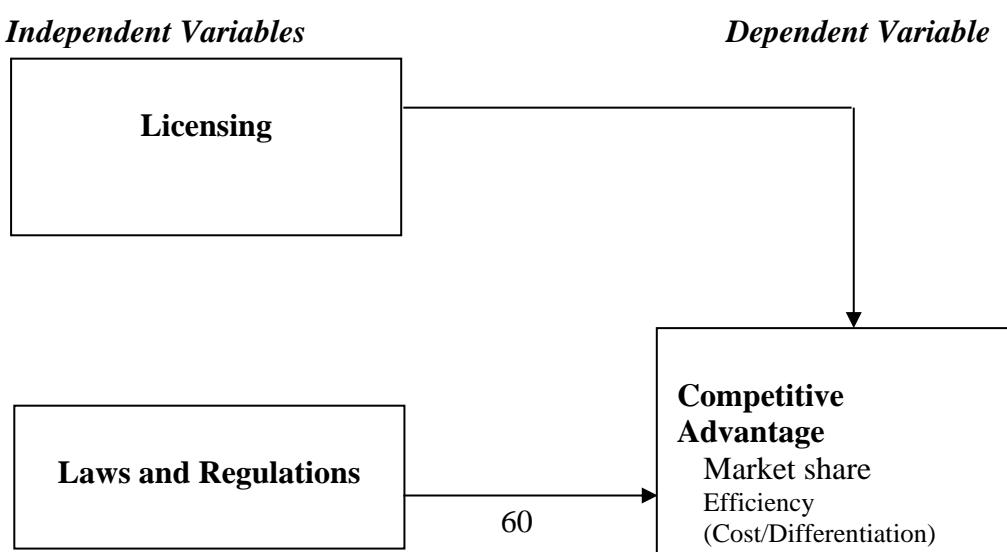


Figure 1: Conceptual Framework (Researcher, 2020)

3.4 Study Hypothesis

The study applied a null hypothesis as follows:

H_0 : *There is no relationship between government laws and regulations and the competitive advantage in Kenya's telecommunications companies.*

4.0 Research Methodology

4.1 Empirical Research and Goal of the Study

This study adopted the positivism research philosophy, which deals with a single, concrete reality. Positivism could be described in terms of a philosophical stance for the scientist whereby data collection about a phenomenon is done to identify associations and generalizations (Livingston, 2019). Subjective and quantitative information was utilized to accomplish triangulation for the study (Creswell & Poth, 2018). The research design used was descriptive design configuration utilizing both quantitative and qualitative methodologies (Cooper & Schindler, 2014).

4.2 Sample and Data Collection

The target population for the study comprised all the 26 telecommunications companies enlisted by the Communication Authority of Kenya (2019). The total number of managers in these companies was 8,689, and using Cochran's two-step sampling formula, the total sample size obtained was 311. The top ten companies on the index enjoy a market share of more than 97.5%; hence proportionate sampling was used to get the sample size for each company, settling at 247 managers from all the 26 telecommunications companies. The questionnaire was distributed to employees by hand, and they were requested to fill out the forms during the day. Further, empty envelopes were given to the participants to enclose the questionnaire to trust in their anonymity. After data cleaning, collected data were analyzed using factor analysis to test the validity and suitability for this scale's Kenyan telecommunication firms.

4.3 Analyses and Interpretation of Data

The factor structure was established by using exploratory factor analysis, which is widely used in development studies (Creswell and Poth, 2018) and for the verification of the factor structure of the scale (Sekaran & Bougie, 2016). The principal component matrix obtained after the exploratory factor analysis was subjected to varimax rotation (Saunders, Lewis & Thornhill, 2016). All the data crunching processes were run on the computer program SPSS version 26.

4.4 Reliability and Validity

The study ran a pilot study to establish the study instrument's reliability and validity using a few fringe companies in the telecommunications industry. The piloted companies were excluded from the main study. The first test involved Cronbach's alpha statistic for testing the reliability of the scale. In this context, Cronbach's alpha values were calculated for each factor separately. Also, the questions' contribution in the scale both on their elements and on the whole scale was analyzed by the "Cronbach's alpha if item deleted" statistic. After analysis,

the positive contribution of all items to the reliability of the scale and alpha values of 0.70 and above (Saunders et al., 2016) were determined as minimum criteria to verify the reliability of the scale.

Similarly, another key test to establish the validity of the instrument was done on the data obtained through exploratory and confirmatory factor analysis (Saunders et al., 2016), and reliability values of factors in the scale were used in the assessment of the discriminant validity of the scale. The assessment of the structural validity of the scale was based on the conformity of the data to the normal distribution.

5.0 Results and Findings

Government laws and regulations were measured with two sets of constructs: licensing and laws and regulations. Competitive advantage as the dependent variable was also measured with three sets of constructs: market share, profitability, and efficiency. The descriptive statistics indicated demographic information for the field respondents, including the gender and profession of the participants, among other key demographics. There were more male respondents at 56% than female ones at 44%, which is a reflection of the telecommunications industry. In terms of age, majority respondents at 47% were in the seemingly young age of below 35 years while, as it would be expected, the least age group was that of over 55 years at only 2%. Professionally, ICT at 32% was the majority, with finance at 19% as the least profession. In terms of the education level of the respondents, the majority, at 47%, have the first degree while the minority, 4%, have attained a doctorate, generally indicating that the respondents had a high level of education on average.

5.2. Reliability and Validity of the Government Laws and Regulations Constructs

Reliability tests were performed to determine internal consistency and estimate the equivalence of the sets of constructs on each government regulation variable. With Cronbach's alpha (α) as $>.7$, this showed that all the three constructs were reliable.

The validity of the constructs was determined by content validity and construct validity. Construct validity was tested using the composite value. The value of the composite test was $>.7$, indicating that all the variables in the study attained construct validity. The study also tested content validity applying Average Variance Extracted (AVE), obtaining a measurement of $=>.5$. This was an indication that the measurement scales revealed a satisfactory measurement of content validity.

5.3 Factor Analysis of Government Regulations

The factor loadings for the questions representing the two components on government regulations were greater than 0.5, as shown in Table 1. Further, the components' average was calculated, and the transformed data had a stronger component of 0.78. This value was greater than the least factor loading value of .624. This shows that the component loadings that informed the pattern matrix were stronger.

Table 1: Pattern Matrix on Government Laws and Regulations

	Component			
	Licensing 1	Licensing 2	Laws and Regulations 1	Laws and Regulations 2
GOL1	.675			
GOL2	.850			
GOL3	.853			
GOL5		.624		
GOR1		.868		
GOR2		.794		
GOR4				.834
GOR5				.823
GOR7			.648	
GOR8			.855	
GOR9			.754	

Extraction Method: Principal Component Analysis.
 Rotation Method: Promax with Kaiser Normalization.
 a. Rotation converged in 5 iterations.

The study utilized exploratory factor analysis (EFA), focusing on the principal component analysis method. This was specifically done to extract the pattern matrix that informed the viability of constructs included in the study, identify the questions on each matrix, and determine the strength of the sampling adequacy. The questions that did not fit the matrix were dropped. The Kaiser-Meyer-Olkin of sampling adequacy was 0.649. Bartlett's test of Sphericity was significant at $\chi^2 (66, N=247) = 997.509, p<.05$. This output shows that the moderating variable factors were adequate for extraction since the Kaiser-Meyer-Olkin measure was greater than 0.6 and Bartlett's test was significant ($p<.05$).

Table 2 shows the total variance explained, representing the number of components extracted and the percentage of sum squared loading of each component with the Eigenvalue of >1 . Four components were extracted with a cumulative variance of 65.6%. The first component had the highest square loading variance of 29.7%, while the last component had the lowest square loading variance of 9.3%. Further, the rotation sums of squared loadings were >1 , similar to the Eigenvalue.

Table 2: Total Variance Explained on Government Laws and Regulations

Component	Initial Signs			Extraction Loadings			Rotation Loading
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	3.558	29.651	29.651	3.558	29.651	29.651	2.778
2	1.827	15.228	44.879	1.827	15.228	44.879	2.121
3	1.373	11.439	56.318	1.373	11.439	56.318	2.460
4	1.115	9.289	65.606	1.115	9.289	65.606	2.035
5	.983	8.189	73.795				
6	.786	6.554	80.349				
7	.706	5.881	86.230				
8	.518	4.319	90.549				
9	.377	3.141	93.690				
10	.346	2.887	96.577				
11	.235	1.955	98.533				
12	.176	1.467	100.000				

Extraction Method: Principal Component Analysis

Correlated components, sums of squared loadings cannot be added to obtain a total variance.

5.4 Model Summary of Government Laws and Regulations on Competitive Advantage

The output in Table 3 indicates that the influence of government regulations on telecommunication companies' competitive advantage is statistically significant, $R^2 = 0.237$, $F(1, 244) = 19.522$, $p\text{-value} < .05$. This shows that 23.7% of the competitive advantage of telecommunication companies in Kenya is attributed to government regulations, while the remaining 76.3% can be attributed to other factors not included in the study and the error term. The model predicts the degree to which government regulations influence the competitive advantage of telecommunication companies in Kenya.

Table 3: Model Summary of Government Laws and Regulations and Competitive Advantage

Model	R Square	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.419 ^a	.176	.173	.38845	.176	52.320	1	245	.000
2	.487 ^b	.237	.231	.37455	.061	19.522	1	244	.000

a. Predictors: (Constant), Licensing

b. Predictors: (Constant), Licensing, Government Laws and Regulations

c. Dependent Variable: Competitive Advantage

Model: Effect of government regulations on the competitive advantage of telecommunication companies in Kenya ($2, 244) = 37.899, p < .05$).

Table 4: ANOVA on Government Laws and Regulations and Competitive Advantage

Model	Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	7.895	1	7.895	.000 ^b
	Residual	36.969	245	.151	
	Total	44.864	246		
2	Regression	10.634	2	5.317	.000 ^c
	Residual	34.230	244	.140	
	Total	44.864	246		
a. Dependent Variable: Competitive Advantage					
b. Predictors: (Constant), Licensing					
c. Predictors: (Constant), Licensing, Government Laws and Regulations					

The regression coefficients were calculated from the study data, and the findings show that competitive advantage reduced the beta unit of the two independent variables. This means that licensing and government laws and regulations statistically influence telecommunications companies' competitive advantage in Kenya ($\beta = .248$ $t = 4.332$, $p < .05$) though with a lower beta of .201 as indicated in the linear model. **Model Y** = $0.201 + .376X_1 + .251X_2 + .046$

6.0 Discussion on Government Laws and Regulations and Competitive Advantage

6.1 Licensing

The findings for this study were in line with several scholars (Diaz, 2017; Monsreal-Barrera *et al.*, 2019). whose study findings also indicated the significance of government licensing on the telecommunication companies market. Monsreal-Barrera *et al.*, (2019) pointed out in their conclusions that the government acts as a great control to firms in the telecommunications companies market by ensuring that there is fairness on the competitiveness of the firms. Diaz (2017) cites demand risk, the scale of projects, source of financing, and technology licensing level as one responsibility that a government has to maintain fair market play by competitors fully. This is the same view by Mantu (2019), Baker (2016), and Steimling (2019), who observed the need to have proper licensing to encourage the protection of patents and cross-border interconnectivity in modern-day economies.

6.2 Government Laws and Regulations

The immediate implication is that government regulation plays a significant role in influencing telecommunications' competitive advantage in Kenya. Monsreal-Barrera *et al.*, (2019) contend that benefits advancement could be the key advantage of government regulators since customers face the risk of being exploited by rival firms if not checked by the government regulator.

On the contrary, Moshi and Mwakatumbula (2017) have stressed that there is always a negative effect of government laws and regulations, which affect any firm's fair competitiveness. This has the implication that the government regulations favour some firms that take advantage of the situation to gain an unfair advantage. Accordingly, the scholars believe that there is a political angle in the licensing of new entrants as well as the allocation of wavebands or channels to the competing firms. This, therefore, means that the competition in the telecommunication sector is skewed in favour of specific players. Kiveu *et al.*, (2019) have observed that the government can be a detriment to the fair competition when they place very high entry fees on the telecommunication companies sector. The scholars also add that

governments are most likely to be influenced politically in times of electioneering to the extent that firms that had a clear competitive advantage through market forces end up losing that advantage.

6.3 Competitive Advantage

Ole Gulet *et al.*, (2019) pointed out that government laws and regulations are, therefore, thought to be both a weapon for competitive advantage and a depressor of the same competition. There are cases where telecommunication companies have been linked to the government in which they appear not to follow common market rules. Such firms always seem to have all the government contracts and win all their court cases leading to unfair competitive advantage. However, there is also a case for the government to consider stricter controls for firms that try to circumvent government regulations either solely or jointly to avoid unfair competitive advantage. In the final analysis, the government as a regulator must always play its part in the control of any market, not just for telecommunication companies, in order to create a field of fair competition for all players.

7.0 Conclusion and Recommendations

7.1 Licensing

The study findings show that licensing has a significant influence on telecommunication companies' competitive advantage in Kenya. Competing firms have indicated that government licensing is necessary to protect the interests of its citizens and retain tax collection. This means that the telecommunications companies cannot neglect government licensing, for if they did, then they could face legal consequences. The study also concludes that some of the cases witnessed between the government and the telecommunication companies in the past have been because of some companies not complying with the government licensing requirements. Examples include Safaricom and Airtel, which have on various occasions faced court cases due to failure to comply with government licensing. This study, therefore, concludes that government licensing plays a significant role in influencing the competitive advantage in telecommunication companies in Kenya.

7.2 Government Laws and Regulations

The study findings have proved that there is a significant influence of government laws and regulations on telecommunication companies' competitive advantage in Kenya. This is a pointer perhaps that the government of Kenya policymakers on ICT should review the regulations to have a fair playing field in the industry. There is also a need to consult widely while reviewing some of the legislation that had governed the industry since the turn of the century when mobile telephony began to gain a stronghold. Since there is a tendency, especially in the telecommunication companies, to influence the government in their quest for market control, stakeholders need to participate in policy formulation for broad regulations that can stimulate the telecommunications industry.

7.3 Competitive Advantage

The fact that laws and regulations have been created for the telecommunications sector means that some individuals are bound to take advantage of the lax in enforcing some rules to their benefit. To this end, the study recommends measures that are more stringent by the government in order to curb any forms of cheating or contravention that give a firm an unwanted

competitive advantage. In addition, the telecommunications industry players could use this study's findings to lobby for policies that improve market fairness in terms of profitability and market efficiency.

8.0 References

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