



Marketing Management

Elixir Marketing Mgmt. 63 (2013) 18474-18494

Elixir
ISSN: 2229-712X

Barriers to entry of Kenya's telecommunication industry: Is there a market slice for new entrants?

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ARTICLE INFO

Article history:

Received: 23 August 2013;

Received in revised form:

29 September 2013;

Accepted: 15 October 2013;

Keywords

Barriers,
Telecommunications,
Mobile,
Industry.

ABSTRACT

This paper focuses on the extent to which the market regulatory environment in the mobile telecommunication industry in Kenya has posed great challenges to new entrants and small operators and frustrated their efforts to counter the continued market leadership and dominance by Safaricom. Debates on ICT regulation in Sub Saharan Africa and the rest of the developing countries were confined to technology and tele-density issues without looking at the social, political, institutional, legal and economic factors that shape industry specific issues. Globally, the telecommunications industry has been viewed as a public utility and public ownership or strong government controls went with that. The argument this paper is premised on is that post liberalization of the telecommunications sector in Kenya, state monopoly of the Kenya Posts and Telecommunication Corporation shifted from government to the private sector oligopoly (Kerretts, 2005:50, Mureithi, 2008, Manica and Vescovi: 2011:23). There was a shift from structuralism (active role of the state in driving economic development) to neo-liberalism (freeing market forces from government control, reducing taxes, divesting state-owned enterprises, deregulation of telecommunication, weakening of the state's redistributive functions) (Nwankwo, 2000:147). Despite privatization and introduction of competition, most incumbents are still able to continue dominating the markets and enjoying significant advantages. The market share amongst the four operators in the telecommunications industry in Kenya is skewed in favour of one operator. The paper present an argument on macro-economic, political, legal, social, cultural, economic, institutional and policy issues (Isik, Arditi, Dilem and Birgonul, 2010:119) at the end of the seven year old oligopoly, market liberalisation, market distortions and competitive environment that favour established market players compared to new entrants. The paper is also highlighting the relevance of a classical theory such as Porter's Five Forces competitive theory and macro environmental forces in explaining regulatory challenges faced by new market entrants in the telecommunications industry in Kenya and other emerging markets.

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Introduction

A regulatory environment is defined as the laws, rules, and regulations put into place by federal, state, or other government entities and civilian organizations to control the behaviour and actions of business activities. In Kenya the market is regulated by The Communications Commission of Kenya (CCK) and falls under the Ministry of Information and Communications of the government of Kenya. There are also international bodies that regulate the telecommunications industry at a regional or global level and that set standards to be adhered to by both the regulators and the industries that they govern. The International bodies that CCK is affiliated with include International Telecommunication Union (ITU), African Telecommunications Union (ATU) which is a branch of ITU that specifically deals with Africa, The GSMA, an association of mobile operators and related companies devoted to supporting the standardizing, deployment and promotion of the GSM mobile telephone system and the Commonwealth Telecommunications Organization (CTO), are among others that are responsible for setting the rules and regulations that govern the

telecommunications industry (Mureithi, 2011:1, Kerrets, 2005:49).

Regulatory authorities endeavour to foster competitive markets (e.g. frequencies, rights of way), public and consumer protection in all related respects and try to create a climate favourable for investments in the telecommunications sector (Middleton, 2009:1; Jerome, 2002:2).

Telecommunications services in Kenya were first introduced in 1888. Up to 1977 telecommunications services in Kenya were managed as part of the East African Community (EAC) regional network with neighbouring Tanzania and Uganda. In 1977 the Community collapsed, and the Kenya Government established the Kenya Posts and Telecommunications Corporation (KPTC) which run for twenty-two years on a monopoly basis until 1999 when the Government launched telecommunications sector reform, introducing competition in certain market segments and disbanding KPTC.

In 1998 Parliament enacted the Kenya Communications Act (KCA 98) which set out a new framework for the development of telecommunications in a liberalized environment, and at the same time repealed the Kenya Posts and Telecommunications

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Act of 1977. The basis of these actions was a policy statement of 1997 setting out the Government vision of telecommunications development up to 2015. Mureithi (2008) argues that the state monopoly of the Kenya Posts and Telecommunication Corporation shifted from government to the private sector oligopoly (Kerretts, 2005:50, Mureithi, 2008, Manica and Vescovi, 2011:23).

The Government of Kenya, (2009:5) in the Kenya Information and Communications Amendment Act of 2009 at section 5 vests CCK with adjudicative powers in the discharge of its statutory mandate of licensing and regulating telecommunications, broadcasting and postal services within the country. According to Section 23, of the Act, CCK exercises its mandate to ensure provision of quality communication services to consumers and promoting effective competition in the provision of such services (GOK, 2009:23).

Globally the telecommunications industry has been viewed as a public utility and public ownership of telecommunications companies or strong controls by the government went with that. Today, there has been privatization and introduction of competition in the telecommunications markets in many countries. The specific challenges for public intervention stem from the fact that most incumbents are still able to continue to dominate their markets and enjoy significant advantages even though competition has been officially introduced.

These problems of market imperfections cannot easily be handled by general competition law, and consequently the transitory process to competition has in many ways had to rely on regulatory interventions. Safaricom Ltd is a leading mobile network operator in Kenya. It was formed in 1997 as a fully owned subsidiary of Telkom Kenya. In 2000, Kencell was launched in Kenya and rebranded to Celtel in 2004, to Zain in 2008 and finally Airtel in 2010 (Nyabiage, 2010:1). The year 2008 saw an end to the oligopoly that existed in the market for over seven years when Telkom Kenya Limited which is a joint venture with France Telecom SA and the Kenya Government entered the market with its Orange brand. Telkom Kenya Limited had been providing fixed line and wireless telecommunication services using Code Division Multiple Access (CDMA) technology and now offers consolidated services using the GSM technology. Essar Telecom Kenya Limited (formerly Econet Wireless Kenya Limited) followed suite when it rolled out its services in November of the same year. Essar Telecom Kenya Limited is owned by the Essar group of India (Mureithi, 2008:20).

The entry of Essar Telecom into the industry was rocked by regulatory issues and challenges right from the beginning in 2004 when it first made the attempt to enter the market. The license was awarded and thereafter revoked under circumstances which challenged the autonomy of the regulator namely government interference. When the license was finally re-issued in 2007, Essar Telecom faced lots of challenges in penetrating the market most of which bordered on and were associated with the then prevailing regulatory environment. The biggest challenge according to Essar was that the regulator had failed to curb anticompetitive practices by the dominant operator making it difficult for Essar to successfully acquire a much needed market share. Ndung'u, (2012:1) observes that industry dynamics, especially competition and regulations are now operators' biggest nightmares and nothing illustrates this better than Yu's operations since its launch in 2009. Initially, it planned to use a low cost model hinged on several pillars

(Kerretts, 2005:51, Ndung'u, 2012:1, Mureithi, 2008). The dilemmas above confirmed the view by Isik et al (2000:123) that legal and regulatory conditions govern bureaucracy and the amount of paper work that varies according to legal requirements.

Okuttah, (2011:1) reported that in 2011, Safaricom and Telkom Kenya had been singled out as bearing the power of dominance in the mobile and fixed voice services respectively, implying that they have market power that in the view of the Communications Commission of Kenya, could be used to the detriment of the consumer. CCK, said that the move was aimed at facilitating effective competition in the interest of consumers. The dominance and power of Safaricom and Telkom Kenya is derived from their client power, financial stability, connections from the "state house" and "political clout" of being closer to the "August and honourable House" (Isik et al, 2000:123).

Okuttah, (2011:2) went on to explain that CCK said the 69.9% market share that Safaricom holds in the voice segment of telecoms market based on its subscriber base and 81% by revenue is above the threshold for presumption of dominance. The regulator argues that in established competition case law, sustained market shares of over 50% give rise to a rebuttable presumption of dominance while market shares of over 40% are suggestive of the possibility of dominance. Based on the above evidence, the regulator concluded that Safaricom's market share by far exceeds the thresholds where firms are typically presumed to be dominant. On the balance therefore, Safaricom has an enduring Significant Market Power in mobile voice and SMS services that enables it to behave, to an appreciable extent, independently of its competitors, customers and ultimately consumers. Can the hegemony of Safaricom associated with competitiveness, superior tangible and intangible assets and managerial competencies (Isik, et al, 2000:123, Sheehan and Foss, 2009:243, Allio and Fahey, 2012:7) or bargaining power of suppliers, first mover advantage and provision of cross-network effect for commercial users (Anderson, 2010:21, Sheehan, 2005:54) ?

Herbling, (2012:1) observes that CCK has accused Safaricom of seeking to profit from the current mobile interconnection termination rates (MTR) and weaken the smaller operators. He quotes the director in charge of competition and tariffs at CCK, Matano Ndaro as having said that Safaricom intends to use a higher interconnection termination rate as a revenue stream rather than a cost recovery tool. It is viewed as access fees by the regulator and thus where unreasonably high, it makes it difficult for small operators to competitively price their product. For instance Safaricom has an 80 per cent consumer market share and a new entrant Zain Kenya's Zap platform has approximately 18 per cent market share and is less attractive to potential users on both side of the two-sided market (Anderson, 2010:22). This paper aims to establish if new entrants have a chance to gain a large market share, despite the barriers and dominance of other telecommunications companies.

Safaricom on the other hand argues that artificially low termination rates do not allow operators to fully recover the cost of receiving and terminating calls received from other networks and this significantly impacts the network receiving the largest number of cross-network calls such as Safaricom. The CCK is planning to cut the rate to Sh1.44 a minute in July from the current Sh2.21. But Safaricom has opposed the move arguing that it may not fully recover the cost of receiving and terminating calls from other networks with the new rate.

Herbling, (2012:1) further observes that CCK's position echoes that of Airtel, which has also blamed the high termination rate for delaying its return to profitability. The CCK said that Safaricom earned Sh868.9 million from the rate in the three months to December 2011 while its main rival Airtel paid out Sh544.2 million, Essar (Sh192.5 million) and Telkom Kenya (Sh21.3 million) (Herbling, (2012:1). Okuttah, (2012:1), observes that Airtel pays about 40% of its revenues to rivals for connecting calls to their networks and that its return to profitability could delay, should the rates not be reviewed downwards from July 2012.

Okuttah, (2012:1) reports that the interconnection charges have fallen from Sh4.42 in June 2009 to Sh2.21 in July 2010 and were to drop to Sh1.40 last year June (2009) but President Mwai Kibaki froze the rates for one year following intense lobbying from Safaricom and Orange. Okuttah, (2012:1) observes that the telecommunications industry regulator has signalled its intention to declare two operators dominant in key segments of the telephony market, setting them up for stringent oversight and exposing them to heavy penalties for breach of set rules.

Okuttah, (2011:3) observes that when the regulator released the Kenya Information Communication (Tariffs and Fair Competition and Equality of Treatment Regulations) in 2010, Safaricom contested it, as unfairly targeting its business. This forced the then Information and Communications Minister Samuel Poghiso to seek a second opinion from UK consultants Frontier Economics, who found key aspects of the gazetted rules to have been out of tune with international best practices and recommended that they be revised. Frontier Economics said that to declare a player dominant, the CCK must demonstrate that effective competition cannot develop among existing players and that there exists strong and permanent barriers to entry in the identified market segment (Fratto, Jones and Cassill, 2006:389, Sheehan, 2005:53). It also placed on the doorsteps of the CCK the burden of proving that the existing competition law is not sufficient to deal with potential abuse and that proper management of wholesale prices cannot stop the abuse. Safaricom had expressed concern that the rules as earlier constituted, did not provide for a mandatory process that the regulator must follow before declaring a player dominant in a specific market segment, leaving room for arbitrary action.

Okuttah, (2011:3) further reports that CCK also lost the power to set tariffs in cases where they are not satisfied with a dominant player's application to adjust tariffs. However, he points out that legal experts said it was nearly impossible for the CCK to meet the requirements within the time set making the possibility of such action remote. This paper is divided into 5 sections, introduction, research methodology, conceptual framework, findings, conclusions and recommendations.

Research objectives, questions, methodology

Objectives

The following objectives have been generated for this study:

- To evaluate the regulatory environment and identify the specific policies, laws and regulations that govern the telecommunications industry in Kenya,
- To determine how the regulatory environment in telecommunications industry and competitive forces affects new market entrants in Kenya, and
- To identify policy and strategic interventions to level the playing ground for new and old players in the industry.

Research Questions

- What are the existing laws, regulations and policies that govern the telecommunications industry in Kenya?
- What are the political, social, technological and economic factors that affect competition in the mobile sector in Kenya?
- What is the role of Porter's Five Forces Model in explaining the regulatory environment that new entrants face in the telecommunications industry in Kenya?
- What policy and strategic interventions should be put in place to level the playing field for all players?

Research methods

The study was conducted based on post positivist, phenomenological and critical theory paradigms. The questionnaire was administered to the sample of employees employed by various telecommunication companies in Kenya and interviews were conducted to other participants. Policies were analysed and focused group discussions were conducted with key stakeholders in the Ministry of Communication, Regulatory Authorities, and key industry actors. The population of the study and the sample that participated in the study is outlined below.

The target population comprised of the managers at the three levels namely: top, middle and lower management of the four companies that are Safaricom, Orange, Airtel and Essar, as far as possible those who had been in the employment of their respective companies since inception. This is because they had a first-hand experience of the issues that have affected their companies since they rolled out their services and they were thus able to better appreciate and evaluate the challenges that the company had faced.

Table 1: Target Population

Company	Top level Management	Middle level management	Lower level management
Safaricom	15	15	15
Essar	15	15	15
Airtel	15	15	15
Orange	15	15	15
Total population	60	60	60

The study used probability sampling as this technique gave every homogeneous group of the target population a chance to be presented in proportion to their number in the population. The study obtained a sample size of at least 36 respondents out of a target population of 180 respondents. According to Mugenda and Mugenda (1999:23), a sample size of at least 10% of the population is considered representative. However, for this study, a sample ratio of 0.2 was applied. Simple random sampling was used to pick the respondents from the various strata to complete the questionnaire.

A pilot group of 10 individuals from the target population at Airtel to test the reliability of the research instrument were selected. Interviews and focus group discussions were further conducted with government officials drawn from The Ministry of Communication and other regulatory bodies. Content analysis and descriptive analysis was employed in this study

Conceptual Framework

Macro Economic Factors

This section comprises of the theoretical framework, begins with setting out the laws, regulations and policies that govern the telecommunications industry in Kenya and the institutional framework that is in place as a result of trade liberalization. The section also identifies and discusses several barriers and inhibitors existing in the regulatory environment.

Table 2: Sample Population

	Top level management	Middle level management	Lower level management	Population	Percentage	Sample size
Safaricom	15	15	15	45	0.2	9
Essar	15	15	15	45	0.2	9
Airtel	15	15	15	45	0.2	9
Orange	15	15	15	45	0.2	9
Total population	60	60	60	180	0.2	36

This section focuses on the regulatory environment, sector policy, licensing, license fees, permits authorizations, interconnection, infrastructure sharing, competition laws and regulations, taxes and levies. As businesses strive to remain competitive, they need to take cognizance of the various external factors beyond their boundaries that influence their ability to survive in their environment. At the macro level these factors are political, economic, socio-cultural, technological and legal factors (Isik, et al, 2010:119). Thompson et al. (2008:50) observes that strategically relevant influences coming from the outer ring of the macro environment can sometimes have a high impact on a company's business situation and have a very significant impact on the company's direction and strategy. The political factors that affect the telecom industry in Kenya are the degree of the government's intervention in the industry. The Ministry of Information and Communications is the policy maker and the law maker for the industry (Waema, 2007). In that capacity, a government may introduce laws and policies that influence the conduct of businesses either negatively or positively.

The political environmental challenges facing Kenya can be found in other Sub-Saharan African countries. Nwankwo (2000:145) highlighted the following key features which best describe Africa's business environment:

- Highly unstable politically and economically;
- High risk investment climate;
- Low level of management education;
- Too insecure an environment to allow returns on investment;
- Under-developed infrastructure support systems;
- Inefficient public administration systems;
- Absence of reliable, depository information sources;
- Lack of transparency and stultifying features of some major apparatus of the state; and
- Poor institutional mechanisms for systematically collecting data for environmental monitoring.

Economic growth, factors such as inflation, spending power, disposable income and interest rates will all impact business. The current situation in Kenya is that the big operators Safaricom and Orange are against price cuts while the late entrants and small operators like Airtel and Essar are lobbying for lower prices in order to sustain and service their low cost model. Alleman et al. (2012:6) asserts that the growth of telecommunications investment or penetration is a statistically significant predictor of economic growth, and vice-versa. Telecommunications is thus considered to be both a cause and a consequence of economic growth. He however cautions that even with a strong positive correlation between telecommunications investment, it alone is not sufficient to ensure economic growth. However, lack of telecommunication investment can prohibit or significantly constrain economic development. Over 80% of the telephones in the lesser developed countries are connected to businesses or to government agencies (Alleman et al., 2012:6, Waema, 2007:10).

Thompson et al. (2008:79) notes that emerging social issues and changing attitudes and lifestyles can be powerful instigators

of industry change. Social-cultural factors affecting the telecommunications industry in Kenya are related to career attitude, safety, age distribution, income levels, and consumerism among others (Smith-Hillman, 2007:124). There is also an increase in on the go business careers that have influenced the uptake for mobile phones which allow email, calls and messaging, video conferencing and conference calling. Safety regarding mobile phones is also a factor that raises global concerns. Phones with hands-free features are a common feature in the current environment to cut down on accidents. Radiation emitted by the handsets is also a concern for the customer of today. The Communications Commission of Kenya runs a Consumer Affairs department that, among other consumer concerns, fully acknowledges that public interest has arisen over possible health issues associated with exposure to electromagnetic fields emanating from mobile phones and their base stations. They have therefore posted vital information on electromagnetic energy and human health on their website for consumers to address the effects of electromagnetic radiation on human health (CCK: 2009:1).

The rate of technological change is very important in the telecommunications industry as it is fast paced and the more advanced the technology, the more competitive the entity. This study drew on the diverse approaches to a study of the regulatory environment in the mobile telecommunications industry in Kenya and its impact on new entrants in the industry. According to Middleton (2009:1), the two basic means by which public institutions directly influence the structure of the telecommunications industry are general competition law and sector specific regulation. The latter is a prescriptive approach in the sense that the regulator imposes certain behaviour and standards on firms prospectively. In contrast to regulatory activity general competition law is a prescriptive approach which prohibits certain courses of conduct. Competition law is therefore considered to be a less interventionist (structuralism) approach than regulation and neo-liberalism (Nwankwo, 2000: 147, Middleton, 2009:1).

The regulatory environment

The goals of regulatory activity in the telecommunications industry can on a very aggregate level be described as to promote competition and to supply a country with sufficient and adequate services, but there are much more specific widely accepted regulatory objectives in the public interest, laid down in economic literature and telecommunication legislation.

The regulatory environment in Kenya is governed by the following legislation which is enacted by the government of Kenya and obtained from the National Council for Law Reporting's Kenya Law Reports website.

1. The Kenya Information and Communication Amendment Act of 2009
2. The regulations which are:-
 - I. Kenya Information and Communications (Dispute Resolution) Regulations, 2010
 - II. Kenya Information and Communications (Tariff) Regulations, 2010

- III. Kenya Information and Communications (Compliance, Monitoring, Inspection and Enforcement) Regulations, 2010
- IV. Kenya Information and Communications (Fair Competition and Equality of Treatment) Regulations, 2010
- V. Kenya Information and Communications (Interconnection and Provision of Fixed Links, Access and Facilities) Regulations, 2010
- VI. Kenya Information and Communications (Consumer Protection) Regulations, 2010
- VII. Kenya Information and Communications (Numbering) Regulations, 2010
- VIII. Kenya Information and Communications (Importation, Type Approval & Distribution of Equipment) Regulations, 2010
- IX. Kenya Information and Communications (Radio Communications and Frequency Spectrum) Regulations, 2010
- X. Kenya Information and Communications (Universal Access) Regulations, 2010
- XI. Kenya Information and Communications (Licensing and Quality of Service) Regulations, 2010

There are also policies formulated by the government that govern the telecommunications industry for example the percentage of local and foreign shareholding for investors in the industry. The government also issues directives from time to time for the industry. A good example is the directive issued by the President in July 2009 that mandated all subscribers to be registered with their service providers at the point of purchasing a SIM card. The industry is also subject to legislation from other regulatory bodies and government agencies where certain business activities fall under the mandate of those bodies. These are the Physical Planning Act GOK, (1996:1), that gives building permission for telecommunication masts and the National Environmental Management Authority's Environmental Management and Coordination Act (GOK,1999:1) that governs environmental issues. International bodies such as the ITU set quality standards that must be adhered to by regulators and service providers and brokers agreement on technologies, services, and allocation of global resources like radio-frequency spectrum and satellite orbital positions, to create a seamless global communications system that is robust, reliable, and constantly evolving International Telecommunications Union, (2012:1). The GSMA conducts studies on various topical issues such as taxation, spectrum availability and costing as well as roaming among other areas based on best practice and disseminate them to member countries' governments and regulators to act as guiding principles in governance of the industries. The GSMA also intervenes where they think regulators are not adhering to best practice in governance (GSM Association, 1995:1).

The Kenya Information and Communications Amendment Act 2009 established the commissions and sets out its mandate. Section 5B of the Kenya Information and Communications Amendment Act of 2009 guarantees independence of the Commission in the exercise of its functions but its independence is questionable. Kerretts, (2004:56) states that studies in the area of regulatory independence have found regulatory independence and the competitive nature of the market to be directly related. Thus, if liberalization and competition are introduced in an environment of inherited monopoly and weak regulation, competitive market forces are likely to play an extremely modest role. Section 23 of the Kenya Information and Communications Amendment Act of 2009 provide the following;

(1) The Commission shall, so far as is reasonably practicable, ensure that there are provided throughout Kenya, such telecommunication services and in particular, emergency, public payphone and directory information services, as are reasonably necessary to satisfy the public demand thereof.

(2) Without prejudice to the generality of subsection (1), the Commission shall -

(a) Protect the interests of all users of telecommunication services in Kenya with respect to the prices charged for and the quality and variety of such services;

(b) Maintain and promote effective competition between persons engaged in commercial activities connected with telecommunication services in Kenya in order to ensure efficiency and economy in the provision of such services and to promote research and development in relation thereto;

(c) Encourage private investment in the telecommunication sector; (d) Promote the provision of international transit services by persons providing telecommunication services in Kenya;

(e) Enable persons providing telecommunication services or producing telecommunication apparatus in Kenya to compete effectively in the provision of such services or apparatus outside Kenya;

The introduction of liberalization in the telecommunication in Kenya meant that the priority shifted from state provision of public payphones to mobile phones mainly provided by dominant operators without the protection of the users when high prices are charged.

Sector Policy

Sector policy is usually set by the government to determine the participation of foreigners in local investments. The policies may be uniform across sectors or may vary from sector to sector. Governments should set policies that promote investment and that contribute to the overall growth of the economy. Sector policy in the telecommunications industry in Kenya is determined by the Ministry of Information and Communications and reviewed from time to time. Operators are permitted to apply for exemptions with justification to best fit their business models and requirements. At the time of entry of Essar Telecom Kenya Limited and Orange in 2008, the sector policy guidelines in the industry issued through a Kenya Gazette notice number 2431 of 2006 by the Ministry of Information and Communications required a ratio of 70:30 foreign to local ownership. On the 7th of November 2008, The Ministry issued a revised sector policy guideline through Kenya Gazette notice number 10335 requiring 80:20 foreign to local shareholding within three years of bringing the services into operation (Ong'olo, 2010:23).

The sector policy essentially allows 100% foreign ownership at the onset. Any prospective licensee thus requires at least 20% local ownership from the third year of operation. This posed a great challenge for new entrants who are invariably foreign companies in their course to find local shareholders in order to comply with the requirement. New entrants therefore find themselves in a position where they have to seek local equity within three years of coming into operation. Local shareholders who are not able to sustain funding of the businesses are reported to be seeking to cede their local equity to foreigners who stand in a better position to fund and support the businesses. Such conditions slow down investment and access to new technologies as well as increase the cost of capital to domestic firms (Ong'olo, 2010:23).

Guislain and Quiang (2006:31) in an analysis of the impact of foreign direct investment restrictions in Canada and India

concluded that restrictions led to an increase in the cost of capital in the telecommunications sector, slowing down investment and artificially prolonging the dominance of the incumbents. They however caution that for most telecommunications operators and potential investors, regulatory risk is the principal factor in their investment strategies. Foreign investors respond positively to a stable and predictable regulatory framework. They are willing to pay more for a telecommunications company if it operates in a well-established regulatory framework, as this stability reduces uncertainty and thereby risk.

Essar telecom was dogged by political challenges emanating from wrangles with the prospective local shareholders' consortium. As a result, the license issued by the government was revoked in 2004 and after protracted legal battles it was later reinstated in 2007, three years later. Kerretts, (2004:53) explains the controversy that Econet Consortium suffered that led to an acrimonious parting from its key local partner, the Kenya National Federation of Cooperatives, which was experiencing problems funding the deal (to begin operations, Econet needed to pay the licensing fees of Ksh 2.16 billion, (US\$ 27 million), to the Government). Kenya Telecommunications Investments Group, one of the consortia that had participated in the second leg of the tendering process, moved to court, suing Econet for improper conduct and citing lack of transparency and fairness in the tendering process on the part of the CCK.

Government restrictions on levels of foreign ownership in the mobile sector have been a major hindrance to growth and expansion of the sector in some countries. Ellis, Singh and Ong'olo (2010:23), in their July 2010 study assessing the economic impact of competition in Kenya observe that this requirement had created some problems for new entrants and may have served to prevent or slow down market entry. Mureithi, (2002:15) however holds a different view and cautions that like any other investment, the strategic investor is in the market for business and will stay as long as it makes business sense. Vodafone sold off its shareholding in Celtel in Uganda in 1999 and quit the market to concentrate on Kenya. Celtel has not recovered and is now the smallest network in Uganda despite being the oldest operator in the country. Orascom, the largest shareholder in Ucom that controls Uganda Telecom Limited has given notice to sell its shareholding to focus on the larger markets in North Africa. He recommends a need for more players and reduced foreign shareholding for long-term stability of services and to balance the negative consequences of international investors. It is doubtful that regulatory tools by themselves would be flexible enough to respond as needed in this area.

Licensing

Licenses are authorizations issued by the government to permit carrying out of business activities. Licensing regimes and costs vary from jurisdiction to jurisdiction which largely depends on the economic and political environment. Licensing is the mandate of CCK and is governed by the Kenya Information and Communications (Licensing and Quality of Service) Regulations, 2010. A market based approach is currently in place and it is hindering the entry of new operators. As part of a post exclusivity regulatory strategy, CCK, the telecommunications regulator in Kenya issued a statement in September 2004 containing a new licensing framework. One notable aspect of the new licensing framework is that the CCK was abandoning licensing based on a bidding process in favour

of open, market-based licensing. The CCK argued that licensing through a bidding process, especially in a liberalized market, was "not only unnecessary but undesirable and inconsistent with market dynamics". The problem of using the bidding process were evident in the licensing of rural telecommunications operators (RTOs), commercial trunked radio operators (CTROs) and the third GSM operator, which were generally a failure.

Kerretts (2004:51) points out that the implementation of the bidding process proved quite a challenge for both applicants and the regulator though clear on paper. This adversely affected fulfillment of its intended objective. It is thought that the application for the license was based on speculative bidding on the part of the bidders, bidding that was not necessarily supported by a commercial evaluation of the market. That explains failure to take off of operations of the winning bids four years on. She cautions that an applicant's capacity to deliver services should be considered. Paramount and licensing allocation should, therefore, be made on the basis of consideration of such pertinent issues. In effect, CCK abolished the "beauty contest" in preference to simple issuance of a license if a potential operator met the requirements, on a first come first served basis (Waema, 2007:15). Kencell bid for its license in 1999 during the beauty contest regime and thus this cost it USD 55 Million as indicated in the Mobile Cellullar license awarded to Kencell Communications Kenya Limited dated 28th January 2000 at condition 24.

Licensing policies that do not embrace best practice can prove to be an impediment and challenge for prospective and new entrants. This study demonstrated that the bidding process for licensing in favour of the open market-based licensing can act as barriers to entry for new entrants especially cost-related. The failures of such a process were recognized and reforms introduced (Waema, 2007:15). Esselaar, Gillwald, Moyo and Naidoo (2010:12) in their review of sector performance in South Africa noted that the Electronic Communications Act introduces a horizontal licensing framework, which includes class licenses and exemptions, with the intention of making the licensing process less onerous for entrants in certain categories and for the regulator to administer.

Licensing Fees

With the market based license award system, the licensing fees have considerably come down over the years (Waema, 2007:15). Airtel in the year 2000 then trading as Kencell paid USD 55 Million as licence award fees to enter the Kenyan market. Eight years later, late entrants Orange and Essar Telecom (then trading as Econet Wireless Kenya Limited) paid USD 27 Million towards the license for the construction and installation of GSM systems and the provision of GSM services granted to Essar (Then Econet Wireless Kenya Limited) dated 1st July 2007. In a review carried out by Organization for Economic Co-operation and Development (OECD), (2002:12) on regulatory reforms in the telecommunications industry in Turkey, findings were that the third GSM license was tendered in 2000 by a joint venture called Is-Tim that bid successfully with USD 2.25 billion. This unexpectedly high bid was criticized by many in the industry on the grounds that Is-Tim's offer was aimed at preventing a fourth GSM operator from entering the market; the tender for the fourth license had been planned after the third with a condition that the minimum bid had to be the same as the amount paid by the third operator. In fact, no bid was made for the fourth GSM license (GSM-1800). The last entrant, according to the above mentioned review, was Aycell (a subsidiary of Turk Telekom), which was granted the

fourth license at the same price with Is-Tim. There are some concerns over Is-Tim's large financial burden largely linked to its huge payment to obtain the license and the continuing devaluation of Turkish lira. The review observes that late entrants usually can enjoy the advantage of the latest technologies whereas earlier entrants need to incur costs of upgrading the infrastructure. On the other hand, the two new entrants namely Is-Tim's and Aycell have to rely on roaming arrangements with the incumbent operators namely Turkcell and Telsim, but reaching agreement has been difficult (Waema, 2007:15).

The bidding process can be used by incumbents to frustrate entry of new comers into the market. For jurisdictions that still follow the bidding process, new entrants continue to face challenges of corruption and lack of transparency and end up incurring a very high cost of capital. The Communications Commission of Kenya is currently applying the market based approach on first come first served basis. This study demonstrated that high costs of licensing cause new entrants to struggle to gain ground in the market, especially where the new entrants have to rely on incumbents for resources and take off for example roaming. The study showed that this puts a strain on the new entrants' financials thus adversely affecting their ability to survive in the market (Waema, 2007:15).

Permits/ Authorizations

According to provisions of the license issued to Essar Telecom Kenya Limited, The Network Facilities Provider Tier 1 license, in order to roll out telecommunication masts, mobile operators need to obtain additional authorization from local government authorities for building permission, National Environmental Management Authority for environmental compliance and the Kenya Civil Aviation Act for the heights and colours of telecommunication masts. This is part of the license requirement for the operators specifically the Network Facility Provider-Tier 1 license, issued to Essar Telecom and obtained from their offices, at condition 3, where operators are required to comply with physical planning, environmental and civil aviation requirements. These are separate regulatory bodies independent from the industry regulator (Njoroge, 2009:7).

The procedures for issuance of the permits and authorizations are lengthy and onerous and do not favour a new entrant's objective of expeditious and speedy roll out. The costs of the permits are also very high for a new entrant who seeks to optimize their capital expenditure. The current status of the authorizations being issued by separate government entities and regulatory bodies also poses a challenge for new entrant as each issuer has different rules and regulations of issuance. A new entrant will most often find themselves in a position where they have to review their roll out plans severally due to delays from these organizations. It is concluded that permits issuance and authorization involves multiple lengthy and costly processes that are not in the best interest of the speedy roll out desired by new entrants. This should be simplified through a 'one-stop shop' procedure and/or consolidation of the permits developed by government. This would ensure that authorization issues do not become an obstacle to new market entry (Sheehan, 2005:56, Nwankwo, 2000:147).

Interconnection

Interconnection is governed by Kenya Information and Communications (Interconnection and Provision of Fixed Links, Access and Facilities) Regulations, 2010. Prior to March 2010, a legal notice number 68 issued by the then Minister for

Information, Transport and Communications, Honourable Musalia Mudavadi on 4th May 2001 and containing the Kenya Communications Regulations 2001, Interconnection and Provision of fixed links at section 43 (3), provided incumbents with up to 3 months to negotiate interconnection agreements with new entrants, establish points of interconnection and have the agreements filed with the regulator. In the Kenya Information and Communications (Interconnection and Provision of Fixed links, Access and Facilities) Regulations, 2010 introduced through legal notice number 30 issued by the Minister for Information, and Communications, Honorable Samuel Poghio on 12th March 2010 at section 14 (3) the period provided for is thirty days. Interconnection charges between operators are also set by the regulator. Operators can negotiate downwards as long as they are within the set ceiling.

The terms for the provision of interconnection, the physical linking of (fixed and mobile) networks and services to enable users of one network to communicate with those of another are of crucial importance to the success of a new entrant in the market. The regulation of interconnection tariffs affects the extent to which new entrants can gain market share. The main problem facing new entrants in obtaining interconnection is reluctance on the part of the incumbents leading to delays in negotiating terms (Waema, 2007:15).

According to a report from the European Union entitled Fifth Report on the Implementation of the Telecommunications Regulatory Package, the regulation of interconnection tariffs affects the extent to which new entrants can gain market share. High level of interconnection tariffs combined with low prices for users form a barrier to the entry of new operators on the market (EU, 2007:2). Interconnection charges are regulated in Kenya. The regulator introduced a three year glide path in 2007 vide Interconnection Determination Number 1 of 2007 for both fixed and mobile termination services as shown in table 2.1 below:

Interconnection Determination No.1 OF 2007

**Table 3.1: INTERCONNECTION RATES GLIDE PATH
2007-2009**

<i>Real 2006 KES</i>	<i>1 March 2007</i>	<i>1 January 2008</i>	<i>1 January 2009</i>
Mobile Termination	6.28	5.27	4.42

SOURCE: Waweru (2007:7)

Ellis et al. (2010:24) in their July 2010 study found that the regulator was considering a new proposal that would see new entrants to the market given preferentially low rates to enable them to gain a foothold in the sector. This was expected to signal a more proactive stance against dominant players. New entrants claimed dominant players were eroding their profits margins and pigeon holing subscribers on one network. New entrants were lobbying for asymmetric interconnection which favours a new entrant by giving them lower interconnection rates than incumbents for a period of time until they gain ground. Currently a symmetrical Determination has already been issued on the next glide path and is known as Interconnection Determination Number 2 and its addendum of 2010 dated 16th August 2010 and 31st December 2010 as shown in table 2.2 and 2.3.

Although new entrants were expecting asymmetry, the model is favourable for new entrants with a low cost pricing model. Essar Telecom Kenya Limited, a late entrant in the Kenyan market is a low cost service provider.

Interconnection Determination No.2 OF 2010**Table 3.2: INTERCONNECTION RATES GLIDE PATH 2010-2013**

Call Mobile Termination Prices				
Nominal KES.	1st July 2010	1st July 2011	1st July 2012	1st July 2013
Mobile Termination	2.21	1.44	1.15	0.99

SOURCE: Njoroge (2010:11)

Short message service (SMS) interconnection rates: addendum to interconnection determination no.2 OF 2010**Table 3.3: SMS INTERCONNECTION RATES GLIDE PATH 2011-2013**

SMS Termination rates				
Nominal Kshs per SMS	Effective 1 st January 2011	Effective 1 st July 2011	Effective 1 st July 2012	Effective 1 st July 2013
	0.60	0.20	0.10	0.05

SOURCE: Njoroge (2010:7)

To support its business model, Essar entered the Kenyan market with the lowest voice call charges of Kshs 7.50 per minute flat rate across all networks. Kemibaro (2011:1) in his article, 'the yu mobile network launches in Kenya', saw this as an impressive move considering that they were just getting off the ground and needed to tap into existing mobile networks' users. The high interconnection charges therefore provided for very little profit margin for the new entrant. The new rates issued which were the culmination of very intense lobbying from Essar are favourable for its business model. In the OECD review, mentioned earlier, in Turkey, in relation to interconnection between mobile operators, national roaming has been an issue of dispute that necessitated the regulator's intervention (OECD, 2002:13).

Is-Tim (Aria) and Aycell, the two recent entrants to the Turkish GSM market, have not yet been able to conclude roaming agreements with Turkcell and Telsim. This has been a major reason for a limited expansion of the coverage of the new entrants' networks. The major obstacle in reaching an agreement is the level of roaming charges. Having been unable to resolve the disputes among themselves, the regulator was requested to intervene, and following the procedure provided in the law, the regulator ended up determining the terms, conditions and tariffs for roaming in November 2001. However, the decision of the regulator has been subject to a judicial procedure by both sides by being brought before the International Chamber of Commerce for arbitration (Waema, 2007:15).

Meanwhile the Telecommunications Authority published the Ordinance on Principles and Procedures for Making National Roaming Agreements on 8 March 2002 and gave the parties 30 days for reaching an agreement on roaming. If an agreement cannot be reached between the parties, the Authority makes a decision in accordance with the Ordinance. This case underlines the importance of establishing standard interconnection tariffs based on LRIC as a regulation and as the objective method of accounting. It also brings into the forefront the need to ensure that the regulator's decision remains in force even if court proceedings are undertaken (Waema, 2007:15). This finding of this study demonstrated that interconnection policy as a whole is a lifeline for any new entrant and thus regulators should focus on policies that are friendly and that allow new entrants to carry on business favourably from inception and should also enforce strict rules on incumbents that are uncooperative in taking on board the new entrants.

Infrastructure Sharing

According to Essar's operational licence, under clause 4 of the terms and conditions of the Network Facility Provider-Tier 1 licence issued to mobile telecommunications service providers, licensees are required to establish their licensed systems taking into account the need for equipment co-location and infrastructure sharing with other licensees. Where feasible, they are required to allow co location and sharing on fair, just and non- discriminatory terms. In 2009, the regulator, through a multi stakeholder process developed a Code of Practice for the deployment of communication infrastructure in Kenya which at clause 4.5.1 pre supposes sharing as a first option failure to which an operator can then construct a mast (Njoroge, 2009:7). The interconnection regulations previously mentioned have introduced a new provision on co-location at clause 19 which provides that the commission shall encourage the sharing of facilities with licensees who do not have access to viable alternatives. The regulations also provide that the Commission shall intervene to resolve disputes arising from such agreements. The Ministry of Information and Communications is also currently working on a national infrastructure sharing policy for the industry to promote sharing.

The laws as they exist are not set in mandatory terms and the discretion is largely left to a particular operator to demonstrate whether or not they are in a position to share for technical reasons. The agreement is also left to commercial agreement of both parties. This privilege is often abused by incumbents who come up with excuses for not accepting sharing requests or setting exorbitant pricing for the requesting party. The advantage of infrastructure sharing is that it decreases duplication of investments and reduces capital and operational expenditure especially for new entrants. Ndung'u, (2012:1) acknowledged that Essar Telecom's attempts of persuading its rivals to share infrastructure has proved difficult. Initially, it expected to save up to 50% on capital expenditure and 30% in operating expenditure. Other operators have however been less than enthusiastic about the value of sharing their networks, often a competitive edge. Sharing infrastructure reduces operators' costs and conserves the environment. This is not in line with the views shared by many scholars (Karagioannopoulos, Georgopoulos, and Nikolopoulos, 2005:70, Wang and Chang, 2008:56) that Porter's Five Forces Model is irrelevant in cost reduction and economies of scale associated with modern technology.

In April 2009, a deal was signed between Zain Kenya and Essar Telecom Kenya by striking an agreement to share 300 base stations over 15 years in Kenya. For new entrants the installation of cell sites is an expensive, complicated and labour-intensive process as there are a number of municipal clearances and government approvals required. For operators, partnerships in the form of joint ventures and sharing agreements with incumbent operators and tower companies are particularly attractive as they help reduce time to market significantly. The telecommunications industry in Kenya comprises of both roof top and green field masts. Operators will usually undertake the construction or contract a third party. Site sharing for green fields sites is most appropriate as the masts have a higher technical capacity than roof tops. For a mobile operator, more than 60 per cent of the total network rollout cost is accounted for by towers and accompanying infrastructure. For a new entrant, this translates into a significant financial burden which tower sharing and outsourcing helps to alleviate. According to analysts' estimates, tower sharing can reduce the overall cost of

ownership by 16 to 23 per cent after accounting for the tower lease costs (Middleton, 2009:1).

Modern telecommunications network regulation in the United States, United Kingdom, Australia, and Canada is based on the importance of economies of scale (Hausman and Sidak, 2007:15). The idea is that a new entrant cannot duplicate the telecommunications network, so that the incumbent provider is required to sell the use of its network to the new entrant at a regulated cost (Smith-Hillman, 2007:122). Again economies of scope are one of the reasons that are stated for required resale of network functions by incumbent telephone companies to their competitors. The U.S. Federal Communication Commission (FCC)'s explanation of sunk costs provides some insight as to the regulator's decision-making: Sunk costs increase a new entrant's cost of failure. Potential new entrants may also fear that an incumbent that has incurred substantial sunk costs will drop prices to protect its investment in the face of new entry (Hausman et al., 2007:15). This study explored site sharing policy as a challenge faced by late entrants. A policy that mandates incumbents to share their existing sites with new entrants will alleviate the run around and resistance and frustration that new entrants face from incumbents as they attempt to enter into commercial agreements. This study recommended policies that ensure that the incumbents are not engaging in practices that are aimed at frustrating the new entrants' chances of survival (Isik et al, 2010:123).

High taxes/licence levies

In Kenya, GSM operators and users are subject to additional taxes (in addition to general corporate and income taxes). According to a paper (Taxation Issues Adversely Impacting Kenya's Communications Sector), prepared and compiled by Essar Telecom on behalf of the industry and submitted to the Ministry of Finance and the Ministry of Information and Communication ahead of the June 2011 budget, the tax burden affecting the industry is as follows: End user VAT is estimated to consume 16% of consumption whilst the Excise Duty is estimated to consume 10% of consumption. The proposed VAT Bill was rejected by phone manufacturers including Huawei, Intel, Microsoft, Nokia, Samsung and iHub (Ventures Africa, 2013). GSM operator's 0.5% of Annual Gross Revenue is payable to the regulator annually as license operating fee and a further 0.5% of Annual Gross Revenue payable to the regulator annually as universal service fund contribution. For an end user, on average, as much as 26% of the invoice is tax. The licence fee imposed on the GSM operators does not seem to have a sound rationale (Wangu, 2010: 7).

A more important and urgent problem with the mobile sector is the issue of heavy taxation. While competition in the mobile sector has brought benefits to consumers in terms of services and decreasing prices, prices could be lower if it were not for the heavy taxation on mobile operators and users. This is also a setback on new entrants that want to price their products favorably in their acquisition process. In the specific case of Kenya, the latest entrant in the market, Essar Telecom Kenya Limited is a low cost service provider. But with the high taxes that are applicable, this puts a huge dent on profit margins expected on the low cost services. This study demonstrated that tax regimes will influence the ability for a new entrant to roll out their services. Unfavorable regimes will be a challenge to effective entry. In the Kenyan context where Essar is a low cost operator, high taxes from the regulator and the government adversely affect their ability to price products favourably for effective market entry (Sheehan, 2005:56).

Competition/Price Control

Competition and price control is governed by the Kenya Information and Communications (Fair Competition and Equality of Treatment) Regulations, 2010 and Kenya Information and Communications (Tariff) Regulations, 2010. In July 2010 Act no. 10 of 2010 Competition Act came into force which is a multi sectoral competition law that replaced the now repealed Restrictive Trade Practices and Monopolies Act Chapter 504. Its mandate is run by the Competition Authority established by the Act. Under the Competition Act, at section 5 (2), it is stated that where there is a conflict between the provisions of this Act and the provisions of any other written law with regard to matters concerning competition, consumer welfare and the powers or functions of the Authority under this Act, the provisions of this Act shall prevail.

The environment in which organizations operate is constantly changing with different factors influencing the organizations. The general business environment has become more volatile, unpredictable and very competitive. A company's industry and competitive environment is a key factor that influences its success. Michael porter identifies five forces of competitive pressures that operate in five areas of the overall market (Sheehan and Foss, 2010:252). A firm's competitive environment comprises of the following set of factors; threat of new entrants, supplier bargaining power, buyer bargaining power, substitute products and the intensity of rivalry among competitors that directly influences a firm and its competitive actions and responses (Wang and Chang, 2008:56). In total, the interactions among these five factors determine an industry's profit potential (Pearce and Robinson, 2005:57). The companies in the telecommunication industry are recently facing stiff competition from one another with the competition between Safaricom and Airtel being the fiercest whereas Essar and Orange are establishing their market niche.

The set of factors; threat of new entrants, suppliers, buyers, product substitutes and the intensity of rivalry among competitors determine the attractiveness of an industry (Sheehan, 2005:55). Their analysis provides insights on profitability thus supporting decisions about entry to or exit from an industry or a market segment. Competitors may have different options to react to changes in competitive forces from their different resources and competences. This may influence the structure of the whole industry (Isik et al, 2010:122). Thompson et al. (2008:55) singles out rival sellers as the strongest of the five competitive forces. This involves maneuvering and jockeying for buyer patronage. He cautions that rival sellers will employ whatever weapons in their business arsenal to improve their market positions. The researcher observed the practice by Safaricom to lock in subscribers into their network thus discouraging their customers from calling other networks the effect of which is to pigeon hole their subscriber base and pay less interconnection termination charges to other networks. This is a profitable strategy for Safaricom as they are net receivers of interconnection charges from other networks. The researcher also observed that new entrants tend to adopt a low cost low pricing strategy upon entry in order to speed up acquisition (Wang and Chang, 2008:56). This was the strategy adopted by Essar Telecom which was received with a lot of rivalry by existing operators who were high cost operators and this thus threatened their survival. The study also observed that other operators are finding it difficult to survive in the industry as a result of anti- competitive practices by Safaricom

and which the regulator has not addressed (Smith-Hillman, 2007:125).

There are several factors that determine whether the threat of new companies entering the market place pose significant competitive pressure (Wang and Chang, 2005:57). Thompson et al. (2008:60) points out that frequently, the strongest competitive pressures associated with potential entry come not from outsiders but from current industry participants looking for growth opportunities. He sets out the factors that affect the threat of entry. Entry threats are weaker when entry barriers are high, when industry members will strongly contest the efforts of new entrants to gain a market foot hold and when the industry outlook is risky among others. Entry threats are stronger when entry barriers are low, or can be readily hurdled by the candidates, when industry members are looking to expand their market reach and when buyer demand is growing rapidly (Sheehan, 2005:53). The telecommunications industry is growing at a fast pace and so is the demand for their products. A new entrant that adopts a low cost model will be seen as a threat by existing players as they are bound to attract customers. Incumbents such as Safaricom who have been in the market for over ten years enjoy cost advantages associated with large scale operation and a large subscriber base and thus new entrants such as Essar must cope with a cost disadvantage and consequently lower profitability threatening their long term sustainability (Sheehan and Foss, 2009:245). The newest players in Kenya are Orange and Essar who are also very well established global companies who sought to expand their market presence to Kenya. They were thus perceived to be strong candidates who would overcome the existing barriers to entry (Thompson et al. 2008:60).

A threat of substitutes exists when a product's demand is affected by the price change of a product. The researcher observed that despite the low cost model adopted by Essar Telecom on entry, it remains a challenge for them to acquire customers from Safaricom (Ndung'u, 2012:1). This is because Safaricom as the dominant operator is able to charge high costs for its customer and lock them in within their network. Due to its large customer base and large net traffic, the switching costs are high and deterrent for its subscriber base. Thus price elasticity remains a mirage in the telecommunications industry in Kenya. Suppliers have a great deal of influence over an industry. Thompson et al. (2008:66) observes that the strength or weakness of suppliers as a competitive force depends on whether the major suppliers can exercise sufficient bargaining power to influence the terms and conditions of supply in their favour and the nature and extent of supplier seller collaboration in the industry. The agreements that mobile operators enter into with their distributors and retailers are exclusive and thus a distributor cannot sell competing products. Dominant operators who have been in the industry for many years have an advantage over new entrants who seek to establish sales channels but are unable to tie up with the suppliers of existing operators. This slows down the ability of a new entrant to establish the desired presence in the market (Karagiannopoulos et al, 2005:72).

The power of buyers impacts on an industry. Thompson et al. (2008:70) observes that buyers can have a weak or strong bargaining power. Where buyers' cost of switching to competing brands or substitutes is relatively low, their negotiating leverage is high as compared to those with high switching costs who have a low bargaining power. The latter is the case with Safaricom subscribers who incur high switching costs and thus have a low bargaining power. Competition is

important for the growth of every industry and as a result unfair business practices are likely to emanate. In the case of telecommunication industry, The Fair Competition and Equality of Treatment regulations, part of the Kenya Communications Regulations of 2010, are aimed at protecting new and small entrants from abuse of dominance and market power by the larger incumbents. The Tariff Regulations (Government of Kenya, 2010) further provides for regulated services which are services that are provided by an operator declared as dominant. The regulated services have stringent requirements on pricing and revision of pricing. Dominant players in the industry are required to report to the regulator before revising pricing. This, Communications Commission of Kenya (CCK) said, was to weed out anti-competitive behaviour and abuse of market power, which has made it difficult for new entrants to join the market. Kwama, (2010:1) observes that currently Safaricom commands close to 80% of the country's mobile market share.

This means that other operators; Airtel, Orange and Yu share the remaining 20%. Operators like Yu were at launch charging as low as one shilling per minute for intra-network charges and six shillings for cross network calls, the lowest prevailing rates at that time in December 2008. Incidentally, this did not translate into better fortunes for the country's youngest mobile company as the numbers remain stuck with Safaricom. The situation has led to accusations that Safaricom has been employing unfair means, including imposition of harsh cross-network charges to prevent or limit its over 14 million subscribers from calling other networks, thus depriving its competitors' new customers. Okoth, (2012:1) in his article, 'The mobile Subscriber rip off', admits that the dominant operator Safaricom with controlling market share in the mobile telephone business, has been using high interconnection rates to lock out competition from their networks as well as prevent the entry of new players into the telecommunications market. It is curious to note that players such as Celtel Kenya offer a flat tariff for its prepaid subscribers when calling on other networks while Safaricom gives its customers a differentiated one, with calls within its network being the cheapest. In Safaricom VS Essar Yu Mobile case in the High Court of Kenya (July 2013) Justice Jonathan Havelock ruled in favour of the former and this judicial precedent " will discourage its competitors from defaulting on interconnection fees by attaching hefty penalties (Ventures Africa, 2013).

This high cross network charges as compared to network charges by Safaricom have led to a situation where the call traffic from other operations to Safaricom is far higher than from Safaricom to other networks as it is affordable for other networks to call across networks. This has led to Safaricom being a net receiver of interconnection charges at the end of every month. Safaricom's High Court victory will prevent small operators from paying interconnection fees late (Ventures Africa, 2013). This means that smaller operators including the latest entrant Essar Telecom are literally financing Safaricom's business. Wahome, (2012:1) agrees that this phenomenon is common practice in telecommunications markets where operators with larger subscriber base price their off-net services onerously to discourage calling to other networks. This pricing mindset is offensive to competition as it entrenches traffic imbalances in their favour and makes other networks net payers to large networks. Okutta, (2012:1) seconds this view by stating that the dominance of Safaricom has also hurt its rivals including Airtel and Yu since the bulk of calls in Kenya's voice market head to its network, which has seen smaller players pay

Safaricom a huge share of their revenues in interconnection charges. This study demonstrated that ineffective competition policies that do not protect new entrants from anti-competitive practices and abuse of market power and dominance by the large incumbents affect the ability of new entrants to penetrate the market. Such policies give an opportunity for larger incumbents to shut out new entrants from market acquisition.

Key findings

Demographic Data

This section presents the findings from the field, the interpretation and analysis. The findings are based on the responses given by the employees of the four mobile telecommunications companies in Kenya. The data was analyzed based on the content in the questionnaire. The respondents were requested to state their work positions. This was aimed at assessing their competency, level of knowledge and conversance with the subject of study. The highest number of respondents was from lower management at 42% while the least was from upper management at 22%. The low response from upper management is attributed to busy work schedules and other commitments. The study however found the target reached from upper management was sufficient enough to present a clear perspective from the top level. It is noted that there is a thin line between lower and middle management as each organization has got a different unique structure of its own where the corporate rankings differ.

At least 58% of the respondents had been in their organizations between one to three years. It is noted that two of the companies, Essar and Orange had launched their mobile phone services in 2008. None of the respondents had worked for less than one year. With an additional 25% having worked between four to six years, this gave more credibility to the responses as it indicated that the respondents had worked in their respective companies for a considerable period of time to be able to embrace the experiences and thus provide more informed and well considered responses.

The respondents were requested to indicate whether they had previously worked for another company in the telecommunications sector. The findings were neck and neck as 44% had previously worked in another company. It is noted that the advantage of this outcome was that respondents who had previously worked in other companies would be in a position to keep a balanced, objective and comparative approach based on their experiences in each of the companies. The respondents were requested to rate their company's growth and success in penetrating the mobile phone industry in Kenya. At least 36% considered their company's success rate as successful. While 22% considered the success rate very successful. In the study, it was established that the respondents who considered their company successful and very successful were from Safaricom the dominant operator while respondents from all the other 3 smaller operators considered their companies' successes a mirage. This is a general indication of the challenges that the small operators have had to endure in their efforts to penetrate the market. Kwama, (2010:1) agreed with this view in his observation that the competitive landscape in Kenya is still very skewed amongst the operators with Safaricom controlling more than 70% of the market share while the remaining operators share the remaining portion despite having entered the market over three years ago.

The Role of the Regulator

Results shows that at least 63% respondents were in agreement that the regulator has not taken any effective action to

curb abuse of dominance on the dominant operator Safaricom and that the regulator has not embraced best practice is regulating the industry. At least 37% of the 63% were in strong agreement while the remaining participants were in agreement. Only 18% disagreed, 9% strongly disagreed and 10% remained neutral. A small population therefore believed that the regulator had done their best to curb abuse of dominance. Kwama, (2010:1) observed that fair competition and equality of treatment and tariff regulations were introduced by the regulator in 2010 with an aim of protecting industry players from abuse of dominance by large operators. However, despite the existence of enforceable regulations, the dominant operator, as demonstrated by Okoth, (2012:1) continues to lock in subscribers by creating the club effect where the majority of its subscribers make calls within the networks due to the high cost of calling across networks. This has caused other operators to pay interconnection charges to Safaricom every month after net off thus negatively affecting their profitability. The findings therefore reveal that the regulator has not enforced the regulations to curb abuse of dominance. Kwama, (2010:1) showed that the competitive landscape in Kenya is still very skewed amongst the operators with Safaricom controlling more than 70% of the market share while the remaining operators share the remaining portion despite having entered the market over three years ago. The findings therefore suggest that little or no efforts have been made by the regulator in addressing this anomaly.

On the regulator's independence, results show that the majority of the respondents, at least 42%, strongly disagree that the regulator is independent. There are 5% of the respondents that disagreed with the statement. Those in agreement were 17% while 19% strongly agreed. Another 17% kept it neutral. As mentioned in the previous section, the Kenya Information and Communications Act at section 5B guarantee the independence of the regulator. However, the experience of the industry and the findings prove otherwise. Kerrets, (2004:56) agrees with this view by stating that in the case of Kenya, the lack of institutional independence in the licensing process attests to the political nature of the regulator and its undemocratic past. During the implementation of the reform process, the regulator work force was carved out of the former Kenya Post and Telecommunications Corporation (KP&TC). Thus, in effect, KP&TC created the CCK, Telkom Kenya and Postal Services. The implications of this are significant, if policy is analyzed from an implementation point of view. If we accept that implementation is a process that involves a "network" or multiplicity of organizations, the question arises as to how organizations interact with one another. Two views of interaction have informed this debate: in the power and resource dependency view, it is argued that the degree of interaction between organizations and individuals is a product of power relationships, in which one organization/ individual can induce the less powerful to follow its lead.

Another view goes that the degree of organizational interchange is only of mutual benefit when the degree of shared objectives or shared preference is the same. This can be seen to be true of both the CCK and Telkom Kenya, where collegiality is strong, which negatively impacts on the degree to which the CCK can regulate Telkom Kenya. There were complaints received regarding preferential treatment of Telkom Kenya. Political rhetoric on the sector is therefore common from both the opposition and Government, each accusing the other of influencing the licensing process. This translates to a lack of trust on the part of members of the public, who see the CCK as

yielding to political forces and politicians as making policy choices based on self-interest (Smith-Hillman, 2007:127, Isik et al, 2009:122).

According to Communications Commission of Kenya, (2010:1), the regulator in July 2010 introduced a three year glide path on interconnection rates as shown in Table 2.1. The glide path was to run for one year at a time and the rates would drop in July of every year until July 2013. Wabomba, (2011:1) in his article written in July 2011 entitled "Government suspends reducing termination charges" reported that the government had suspended the process of reducing termination charges among mobile phone operators to study its impact on the economy. He went on to observe that a research by the regulator and international practice agreed that the reduction is good for the country. He went on to state that the freeze on termination charges was victory for Safaricom and Telkom Kenya who had opposed a further reduction in termination charges citing its negative impact on the sector's profitability, risk of job losses and overall economic growth (Ventures Africa, 2013). This sparked protests from the smaller operators who were opposed to the freeze and more so the principle behind the freeze as the regulator had followed due process. The glide path remains suspended to date. This experience left the industry questioning the independence and autonomy of the regulator in the discharge of its duties. The findings of the study therefore are in support of the prevailing climate in the industry among the small operators.

Sector Policy

More than 80% of the respondents concurred that the existing sector policy, that an operator must acquire 20% local equity, is a challenge for new entrants who are usually foreign investors as they struggle to find local shareholders to meet the requirement and that the government should allow 100% foreign ownership for new entrants to enable them to raise the much needed startup capital as shown in figure 4.3. At least 6% and 7% strongly disagreed and disagreed respectively. A small percentage of 6% was neutral. Kerretts, (2004:53) has shown that the setback suffered by Essar Telecom in 2004 when they first bid for the license as a foreign investor from Zimbabwe was due to their efforts at trying to acquire the then required 30% local shareholding. Their downfall was as a result of wrangling and infighting among the prospective local shareholders which lead to Essar's loss of license and delayed entry four years later. In summary, the findings therefore present sector policy as one of the challenges facing new entrants in the mobile telecommunications industry in Kenya.

Other results shows that 74% of the respondents agreed that the sector policy slows down investment, access to new technologies and increases the cost of capital to domestic firms. None of the respondents strongly disagreed while 13% disagreed and 13% remained neutral. This confirms the views of Ong'olo, (2010:23) who observed that sector policy posed a great challenge for new entrants who are invariably foreign companies in their course to find local shareholders in order to comply with the requirements. New entrants therefore find themselves in a position where they have to seek local equity within three years of coming into operation. Ong'olo (2010:23) further observed that local shareholders who are not able to sustain funding of the businesses are reported to be seeking to cede their local equity to foreigners who stand in a better position to fund and support their businesses. He cautions that such conditions slow down investment and access to new technologies as well as increase the cost of capital to domestic firms. The observable trend in other sectors where the rules are

not as stringent as telecoms is that most local shareholders are ceding their equity to the foreign firms or to other locals that have a relatively higher liquidity. Ellis et al. (2010:23) observed that, government restrictions on levels of foreign ownership in the mobile sector have been a major hindrance to growth and expansion of the sector in some countries. This requirement has created problems for new entrants and may have served to prevent or slow down market entry. This requirement has the likely effect of discouraging foreign investors when they have to forge alliances with locals in order to qualify. The liquidity of most locals is relatively low in comparison to their foreign counterparts and most firms are finding themselves stuck with local shareholders as a matter of course and who are unable to adequately finance the equity of the firm and its operations.

On the operator dominance of the industry there are at least 68% of the respondents that concurred that dominance of one operator is a big challenge to new entrants in the industry. There are also 50% of those that were in strong agreement. At least 17% strongly disagreed while 12% disagreed. Only 3% remained neutral. Kwama, (2010:1) observed that Safaricom currently holds over 70% of the market share. Various studies (Wahome, 2012:1, Okutta, 2012:1) showed that smaller players are net payers to Safaricom on interconnection charges. The large pool of subscribers gives Safaricom an advantage over other players in terms of cost efficiencies. However, these efficiencies are not transferred to the customer through pricing. A new entrant attempting to penetrate the market is forced to adopt a low pricing strategy in a bid to attract customers from Safaricom.

Licensing and Pricing Mechanisms in Liberalised Markets

Kwama, (2010:1) showed how despite Essar Telecom launching into the market with very low prices to fast track acquisition of new customers, this still did not translate into better fortunes as the numbers are still locked with the dominant operator. The study therefore found that dominance of one operator remains a very big challenge for new entrants. Another contested issue is licensing within liberalized markets. Results show that at least 87 % of the respondents do agree that the licensing regime through a bidding process in a liberalized market was undesirable and inconsistent with market dynamics, that licensing policies that do not embrace best practice can prove to be an impediment and challenge for new entrants and that the bidding process for licensing is in favour of the open market based licensing that can act as barriers to entry for new entrants cost wise. Of the remaining, only 5% strongly disagreed while 4% disagreed and another 4% remained neutral.

The study showed, as pointed out by Waema, (2007:15) that the regulator saw a need to change the regime in 2004 by way of introduction of an open market based approach. The regulator expressly acknowledged that the telecommunications market was liberalized and thus bidding was unnecessary (Focus Group Discussion, Nairobi, June 2013). The study showed that the regulator had experienced problems in the bidding process for rural telecom operators and the third mobile operator then. Waema, (2007:15) noted that the failures of the bidding process were recognized and reforms were introduced. The study found that the bidding process can be used by incumbents to frustrate entry of new comers into the market. New entrants continue to face challenges of corruption and lack of transparency and end up incurring a very high cost of capital. This puts a strain on new entrants' financials thus affecting their ability to survive in the market (Focus Group Discussion, May 2012, Waema, 2007:15). Kerretts, (2004:57) agrees that the licensing process

often leads to very high financial bids, which if paid, gives rise to very high service tariffs than are deemed necessary to recoup the heavy investments including payment of licence fees. This is evidenced by the case of the incumbent mobile operators Safaricom and Celtel who defended their service charges on the basis of trying to recoup the licensing fees paid to the Government.

The liberalisation of markets is further manifested in the bidding process. Results show that 36% of the respondents strongly agree while 39% agree that the open market approach is an appropriate one as opposed to the bidding process. Only 3% and 5% strongly disagreed and disagreed respectively while 17% remained neutral. The study showed as pointed out by Waema, (2007:15) that the regulator saw a need to change the regime in 2004 by way of the introduction of an open market based approach. The regulator expressly acknowledged that the telecommunications market was liberalized and thus bidding was unnecessary (Focus Group Discussion, June 2012).

Permits and authorization procedures

The other source of conflict regarding trade liberalization is how permits and authorization procedures are done. Results shows that 70% of the respondents strongly agreed that the process that mobile operators are taken through in order to obtain permits for roll out of their services is lengthy and costly and not in the best interest of speedy roll out for new entrants, that the government should consolidate the permits through a one stop shop process in order to support the speedy roll out much needed by new entrants and that the government should ensure that the permits authorization process should not be an obstacle for new entrants. There are 28% participants that agreed with the statement while 1% of respondents strongly disagreed and further 1% disagreed. None of the respondents remained neutral. Njoroge, (2009:7) observed that operators require at least three permits to put up a mast. The permits are obtained from different government entities each with their own rules and procedures. The shortest time an environmental permit can be obtained is 45 days from the date of application. Under the Environmental (Impact Assessment and Audit) Regulations 2003, operators must file an Environmental Impact Assessment project report for each and every mast and submit to the environmental authority. Section 10 provides that for every report submitted, the decision of the authority shall be communicated within 45 days. From the experience in the industry, the process takes longer than the 45 days. The Environmental (Impact Assessment and Audit) (Amendment) Regulations, 2009 Legal Notice No. 30 dated 27th February 2009 provides at Section 2 for the cost of an Environmental Impact Assessment License as 0.05% of the total cost of the project to a minimum of Kshs 10,000 and maximum of Kshs 1,000,000/-. This was reduced from the previous 1%. This cost of the license is high for a new entrant who seeks to optimize their costs.

The process is also lengthy and more often than not new entrants have to keep revising their roll out plans due to the delays experienced. The fact that every mast requires an Environmental Impact Assessment is also undesirable. The government should divide the country into zones where only one report is submitted for all the masts to be constructed in that area and only one license issued. A code of practice for the deployment of communications infrastructure in Kenya, at clause 4.2 annex 1 recognizes that the environmental impact of one site is largely similar to the impact of another site in the same environment. There is therefore no need to conduct an environmental impact assessment for each site. The code

acknowledges that the benefit of the strategic environmental assessment would be cost reduction and a saving on time (CCK, 2009:6). Kerretts, (2004:54) agrees that such lengthy and costly processes delay the entire sector's progress and have wider implications for development prospects in other sectors of the country. In addition, from a market perspective, competition is negated, as the public's envisaged savings through purchase of cheaper calls is lost. Kerretts, (2004:59) acknowledges that convergence of authorizations issuance is also fast becoming the case in Organization for Economic Cooperation and Development countries where convergence directives have been issued suggesting that a single regulatory framework be formed in place of the separate agencies.

The overall responses indicate that the industry has unanimously seen a need for a review of the permits and authorization process as it is perceived as an obstacle to progress for the operators. Kerretts, (2004:59) cautions that in the Kenyan context, the issue is not first and foremost that of convergence but of whether the regulatory system itself hinders convergence. She points out that it can be seen that the legal system in which regulation is implemented is itself in need of re-evaluation. Of major concern therefore is that the regulatory barriers constrict the materialization of the potential economic and social benefits of competition and information and communications technology.

Interconnection Regulations

The other equally contested terrain is interconnection regulations. The results will indicate the divergent views on this matter. For instance results shows that 44% of the respondents strongly agreed that regulation of interconnection tariffs affects the extent to which new entrants can gain market share. This view is supported by 28% who also agreed. None of the respondents remained neutral. The rest strongly disagreed at 22% and disagreed at 6%. Interconnection tariffs are set by the regulator. When new entrants enter the market, their biggest objective is customer acquisition. Their desire is to have a pricing model that is affordable for new customers and at the same time they seek to achieve profitability. The study showed from Kemibaro, (2011:1), and Kwama, (2010:1), that at the time Essar Telecom entered the market, the charges were one shilling within its network while across network calls were seven shillings and fifty cents. Despite these being the lowest charges ever seen in the market, Essar had very narrow profit margins as the interconnection rates then were set at Kenya Shillings 4.42. Coupled with VAT at 16% and excise duty at 10%, at the end of the day Essar pocketed very little to run its operations. This affected its profitability and ability to penetrate the market effectively (EU, 2007:1). A report from the European Union entitled the Fifth Report on the Implementation of the Telecommunications Regulatory Package was in agreement that the regulation of interconnection tariffs affects the extent to which new entrants can gain market share.

There are a number of interconnection problems that operators come across. For instance results shows that a total of 52%, with 44% in strong agreement, of the respondents, agree that the main problem facing new entrants in obtaining interconnection access is reluctance on the part of incumbents leading to delays in negotiating terms. Those who disagreed strongly stood at 31% and were supported by an additional 3% who disagreed while the rest remained neutral. The study found that due to this problem facing new entrants, the regulator revised the interconnection regulations and reduced the period within which the interconnection must be complete to thirty

days (GOK, 2010:14). This was seen as a move that will help new entrants as they enter the market to close interconnection agreements with incumbents in a most expeditious manner. The regulations allow escalation to the regulator where a new entrant feels that the incumbent is employing delaying tactics.

Even the interconnection tariffs charged do not favour those who are new entrants. It became clear when one established that over 70% of the respondents agreed that the high level of interconnection tariffs combined with low prices for users form a barrier to the entry of new operators. Only 25% were in disagreement with this view while 3% remained neutral. As observed in the determinations issued by CCK, the regulator sets only one interconnection cost that applies to both new operators and incumbents alike. The operators are free to negotiate lower tariffs as long as they stay within the ceiling. The trend in the industry is that incumbents are not willing to negotiate lower interconnection tariffs with new entrants. A new entrant with a low cost model and low pricing will thus end up incurring very high interconnection costs while making very little or no profit from their pricing of products. This is an element that forms a barrier to entry for new operators.

The move for the reduction of interconnection costs by government is enjoying a lot of support. Results confirmed that above 60% of the respondents believed that the recent reduction of interconnection rates by the regulator would have a positive impact on new entrants. Less than half of that disagreed at 31%. Two independent studies confirmed this finding. Wahome, (2012:1) and Okutta, (2012:1) observed that small operators are net payers to the dominant operator on interconnection charges. This is because the dominant operator has locked in subscribers from calling other networks. The smaller operators thus have more traffic flowing to the dominant operator. Thus at the end of every month they have to pay huge sums in interconnection to the other operators. Reduced interconnection rates were thus expected to reduce this net off burden for the small operators. As seen in this study, currently the government has suspended indefinitely the glide path for the reduced rates due to protests from the large operators.

The interconnection charges are also not in favour of new operators. There are above 50% of the respondents that agreed that due to challenges that small operators face on interconnection, the regulator should apply interconnection charging policies that enable a new entrant to gain ground on entry for example asymmetric charging with incumbents. At least 33% of those were in strong agreement. Of the remaining, 28% strongly disagreed, 8% disagreed and 6% remained neutral. The regulator currently employs symmetric charging. Ellis et al. (2010:24) found that smaller operators had lobbied for the introduction of asymmetric charges where new entrants pay less to incumbents and incumbents pay more to the small operators. This however fell through and a symmetric model was sustained.

High Taxes/Licence Fees

Liberalised telecommunication markets depend on imposing licence fees and product pricing. Even the results shows that 98% of the respondents agreed that heavy taxation on mobile-operators leads to unnecessary high cost of service for consumers and that high-taxes, from the regulator and the government adversely affect their ability to price products favourably for effective market entry. At least 1% remained neutral and there were no disagreements. As shown in the study, Wangu, (2010:7) observed that the tax burden affecting the industry is heavy. The only way operators can recoup this cost is

by passing it on to consumers. With 16% VAT and 10% of excise duty on airtime, consumers end up paying at least 26% in taxes to the operators for services rendered. Kwama, (2010:1) agrees that a low cost new entrant is at cross roads between low pricing and wanting to remain profitable. The taxes applicable on the services make it difficult for a low cost provider to price their products as favourably as possible in order to maintain affordable services while remaining profitable. The bargaining power of customers that Porter (Sheehan, 2005:56) propagated, remains to be seen in the telecommunication industry in Kenya since a low cost strategy is not attractive for knowledge-intensive firms and the bargaining power of customers is reduced (Sheehan, 2005:55), and beyond the control of each firm (Wang and Chang, 2008:56, Karagiannopoulos, et al, 2005:70).

Results further shows an overwhelming majority of the respondents at 95% agreeing that heavy taxation is a major setback for new entrants and that heavy taxation puts a huge dent on profit margins thus influencing the ability of new entrants to roll out their services. No respondents strongly disagreed on this. Only 1% disagreed and 4% remained neutral. The Network Facilities provider license at clause 27 requires operators to pay 0.5% of annual gross revenue as operating fees or Kshs 5,000,000 whichever is higher. Operators also have to pay 0.5% of gross revenues as universal service fund. For a new entrant who is seeking to optimize on costs, this poses as a major setback as the regulatory fees are very high. The cost of resources such as spectrum is also very high. New entrants thus have to use much of their funds paying taxes and fees other than using the available funds to roll out their services. The proposed amendment to the VAT Bill runs the risk of crippling the economic momentum and the 1.2% GDP growth may not be realized in Kenya if this controversial Bill is amended and VAT is increased beyond the current rate of 16% (Ventures Africa, 2013)

New entrants were to price their products favorably in order to acquire customers. A good example is Essar Telecom as shown by Kwama, (2010:1) who observed that they entered the market with very low pricing which eventually did not translate to better fortunes which can be attributed to low profit margins due to low rates and a corresponding high cost of business. It is clear that tax burden and roll out incentives are a hindrance to new telecommunication operators. Even results shows that the respondents concurred that the government should make efforts to reduce the tax burden on the telecommunications industry and in fact further incentivize mobile operators to roll out their services. Only 1% remained neutral while there were no disagreements. A comparative study on tariffs for voice telephone in East African countries, carried out by the Tanzania Communications Regulatory Authority on Kenya, Uganda and Tanzania, TCRA, (2009:4) observed that tax rates for voice telephone in all the three countries had been increasing while tariffs had been decreasing. The study cautioned that taxes have a negative effect/ burden on consumers. The study further recommended that the governments should lower taxes especially on excise duty noting that lowering excise duty will be revenue positive for governments.

According to the frequency spectrum fee schedule issued by the regulator (CCK, 2000:6), the costing methodology for spectrum is such that a fee is paid for every mast that is rolled out. This means that the more an operator rolls out the more fees they pay. There are also no discounts offered for spectrum costs for rolling out in areas that are not commercially viable. Wangu,

(2010:7) points out that the cost of diesel that is used by generators that service the telecommunication masts is also high and costs the same as what motorists pay to fuel their cars. The respondents agree therefore that the government should explore areas where the tax burden on the industry can be eased and where they can incentivize operators in the roll out of their services.

Competition/ Price Control

There are concerns regarding the anti-competitive behaviour that is displayed by the regulator. The results confirmed that at least 31% of the respondents strongly disagree that the regulator is effective in weeding out anti-competitive practices and abuse of market power. A further 22% of the participants disagree. Those who agreed were 44% while 3% remained neutral. Okoth, (2012:1) agrees that the dominant operator is still employing anti- competitive practices in the industry that affect the ability of the other operators to compete effectively. The industry is therefore suffering as a result of abuse of market power by the dominant operator. The respondents therefore affirm that the regulator needs to step up their efforts at taking action against an operator that is employing anti-competitive behaviour.

There is a general feeling that tariff control by the regulator is essential but it should not be excessive. Results shows that 64% of the respondents were in agreement that excessive tariff controls reduce tariff flexibility for new entrants. At least 17% strongly disagreed while 19% disagreed. A consultation paper on concepts, principles and methodologies of telecom pricing notes that an increasing trend in certain countries has been to exclude services from price regulation if there is adequate competition in their markets. The paper goes on to note that with increasing complexity of emerging telecom products, difficulty of monitoring and ascertaining costs of production, and the market providing price discipline as the level of competition increases, telecom regulators are increasingly relying on flexible pricing methodologies. This is done either by providing a range through price caps, floor and ceilings within which prices can be fixed by the operators, or by not extending price regulation to certain products (normally products with competitive markets or those that are not considered essential) (Mehta, 2012:1). The paper further observes that Price floors and ceilings have also been used for providing flexibility, and to limit an operator from abusing its dominant market position. The paper concludes by asserting that to begin with, a regulator needs to determine which services should be subject to price control and which should be left outside the purview of such control (Mehta, 2012:2).

There is equally a view that price controls reduce negative impacts of competition on new operators. Results confirmed that 52% of the respondents were in agreement that price controls reduce the impact of competition in pushing down prices respectively. Those on neutral were as low as 14%, 17% strongly disagreed while another 17% disagreed. As shown in the study by Kwama, (2010:1), new entrants will always have a low price acquisition strategy. The only way to achieve this is to price their products lower than the existing operators. Where the regulator is imposing price controls, new entrants will find challenges with their price points as they would have to maintain the floors set by the regulator. This negatively affects their acquisition strategy as pricing is not left to market forces. As much as there is oligopolistic competition it has been proved to be an ineffective competition. Results confirmed that over 30% of the respondents strongly agreed that ineffective

competition policies that do not protect new entrants from anti-competitive practices and abuse of market power and dominance by the large incumbents affect the ability of new entrants to penetrate the market. A further 44% agree with this position and a dismal 17% were in disagreement. Thompson et al. (2008:55) singled out rival sellers as the strongest of the five competitive forces. He cautions that rivals sellers will employ whatever weapons in their business arsenal to improve their market positions. Governments and regulators therefore ought to put in place policies that ensure incumbents are not employing anti-competitive practices that are directly aimed at locking out new entrants.

One of the contributory factors that promote the anti-competitive behavior is the nature of the competition law. There are inadequacies that need to be addressed in the country's competition laws. For instance 30% of the respondents strongly agreed that existing competition law is inadequate to address challenges for new entrants. A further 28% agreed and only 31% were in disagreement while the rest remained neutral. There is in existence the Fair Competition and Equality of Treatment Regulations whose mandate is to curb against anti- competitive practices in the telecommunications sector. There is also a multi sectoral Competition Act that came into Force on 1st July 2010. The competition regulations in their substance provide for very stringent criteria for determination of dominance (GOK, 2010:8).

The other weakness of trade liberalisation of telecommunication is the poor law enforcement. Results show that 33% of the respondents strongly agreed that the regulator has failed in enforcing the competition law and policy. A further 25% agreed. Only 17% strongly disagreed, 14% disagreed and 11% were neutral. There exists the Fair Competition and Equality of treatment Regulations that were enacted in 2010. According to the preamble of the regulations, they were aimed at protecting new and small entrants from abuse of dominance and market power by the larger incumbents (GOK, 2010:1). According to the regulations at section 7 and 8, the regulator is mandated to determine whether a licensee is in a dominant market position using the criteria set out in the regulations. The regulator is then required to prescribe remedies to the affected operator to correct the position. It is notable that to date the regulator has not exercised its mandate as per the regulations. This would be a good test as to whether the law is adequate or not in protecting new entrants and in weeding out anticompetitive practices. The industry deems it inadequate as the dominant operator continues to get away with vices that affect the ability of new entrants to compete effectively.

Infrastructure Sharing

There are also concerns regarding information sharing among various operators. Results in this study shows that over 70% of the respondents strongly agreed and agreed that infrastructure sharing decreases duplication of investments. They also further believe that it reduces capital and operating expenditure for new entrants. At least 25% were in disagreement while none remained neutral. Ndung'u, (2012:1) agrees with this view as he states that the advantage of infrastructure sharing is that it decreases duplication of investments and reduces capital and operational expenditure especially for new entrants.

Regarding total network roll-out it has been established that above 60% of the respondents were in agreement that more than 60% of the total network roll out cost is accounted for by towers and accompanying infrastructure. Results further showed that 28% disagreed while 8% remained neutral. Middleton, (2009:1)

agrees that for a mobile operator, more than 60% of the total network rollout cost is accounted for by towers and accompanying infrastructure. For a new entrant, this translates into a significant financial burden which tower sharing and outsourcing helps to alleviate. According to analyst estimates, tower sharing can reduce overall cost of ownership after accounting for the tower lease costs, by 16 to 23 per cent. The network roll-out is a financial burden to new operators. It has been established that above 60% of the respondents agreed that total network roll out cost is a significant financial burden which tower sharing helps to alleviate. Only 25% disagreed while none maintained neutrality. A code of practice for the deployment of communications infrastructure has been developed that presupposes sharing as a first option failure to which an operator can then construct a mast (Njoroge, 2009:7). The interconnection regulations have also introduced clause 19 which mandates the regulator to encourage sharing of facilities with licensees who do not have access to viable alternatives (GOK, 2010:19).

The other burden to new entrants to the telecommunication markets is tower sharing. Results confirmed that above 60% of the respondents agreed that tower sharing can reduce overall cost of ownership for new entrants. Only 25% disagreed while 20% remained neutral. Middleton, (2009:1) found that for green field new entrants, infrastructure sharing is attractive as it helps reduce time to market significantly. For new operators, total network roll out cost translate to a significant financial burden when they have to construct the telecommunication masts from scratch. Leasing from other operators is thus a viable option for new entrants as it helps cut down roll out costs significantly. The other challenge is that the regulator leaves the commercial agreement entirely to the operators to agree. This poses a danger of incumbents pricing their leasing services very high making it impossible for the new entrant to service the leasing costs.

Ndung'u, (2012:1) acknowledges that Essar Telecom experienced difficulties in persuading its rivals to share infrastructure. Essar had estimated savings on capex and opex based on the anticipation to share infrastructure which were not achieved fully. Most of the new mobile operators in Kenya are expected to deal with the sharing of existing sites. There is a feeling that new operators are resisting this regulatory requirement. Results confirmed that 72% of the respondents agreed that a policy that mandates incumbents to share their existing sites with new entrants alleviates the run around, resistance and frustrations that new entrants face from incumbents as they attempt to enter into commercial agreements. Only 25% disagreed with 3% remaining neutral. The study found that, as set out in section 19 of the interconnection regulations, the laws as they exist are not set in mandatory terms and that the discretion is largely left to an incumbent to demonstrate whether or not they are in a position to share for technical or other reasons (GOK, 2010:19). This is a grey area that is often abused by incumbents as they frustrate new entrants by rejecting their requests for infrastructure sharing.

According to Njoroge, (2009:1), in 2009, the regulator developed a code of practice for the deployment of communications infrastructure which presupposes sharing as a first option failure to which as operator can then construct a mast. The code is yet to be implemented as it is still under review. The code should make it mandatory for all incumbents to allow new operators to share their telecommunications masts. There are equal views in favour of a strong regulatory

framework and those that are in favour of deregulation. Results show that regulator intervention can assist the new operators to gain protection. Results further show that 72% of the respondents were in agreement that the regulator ought to intervene in favour of a new entrant where incumbents attempt to delay the process or to set unreasonable pricing. At least 28% disagreed. This lack of regulatory intervention has led to frustration of small operators by incumbents who deliberately delay the process to delay roll out and in effect competition from new entrants. From the above findings, the respondents are generally in agreement with the questions posed as shown in the presented findings above and are generally of the view that new entrants in the telecommunications industry in Kenya face some challenges as they attempt to penetrate the market and conduct business and require regulatory intervention. The next section will summarize the findings both from the literature review and from the study and provide recommendations on the way forward.

Conclusions and Recommendations

This section presents a summary of the findings and conclusions drawn from the study. The section will also provide recommendations drawn from the findings of the primary research. The conclusions and recommendations are aimed at addressing the research questions in order to achieve the research objectives.

The Regulator

The study found that there are external factors that influence the ability of organizations to survive in their environment. These factors are political, economic, socio-cultural, technological and legal factors. Strategically relevant influences coming from the outer ring of the macro environment can sometimes have a high impact on a company's business situation and have a very significant impact on the company's direction and strategy and managers ought to be alert as they scan the external environment for potentially important outer ring developments. Argyres and McGahan, (2002B: 44) agree that these are supposed to be the most relevant and most significant indicators for any business seeking to penetrate and make profitable the industry which suits it best. However, Aktouf, (2005:77) holds a different view and one wonders what logic and which criteria underlie Porter's identification of the number and nature of competitive forces. He ponders why the analysis of competitive forces is more relevant in strategy and, why the strategist's interest is focused on the environment and only on the environment. He points out that there are other competitive forces that are much more determinant than those identified by Porter. Aktouf sees a problem in that Porter imposes the number and nature of competitive forces and the result of the ensuing analysis of industries as scientific and therefore non-debatable truths and therefore dismisses the model as a formidable instrument of domination. There are no possible grounds of legitimacy for questioning the model's components and results within a given business.

The study found that the dominant operator continues to lock in subscribers by creating the club effect where majority of its subscribers make calls within the networks due to the high cost of calling across networks (Okoth, 2012:1). The competitive landscape is still very skewed amongst the operators with Safaricom controlling more than 70% of the market share while the remaining operators share the remaining portion despite having entered the market over three years ago (Kwama, 2010:1). Smaller players are net payers to Safaricom on interconnection charges. The large pool of subscribers gives

Safaricom an advantage over other players in terms of cost efficiencies. However, these efficiencies are not transferred to the customer through pricing (Wahome, 2012:1, Okutta, 2012:1). The regulator has not taken any effective action to curb abuse of dominance on the dominant operator. The regulator has not embraced best practice in regulating the industry. Dominance of one operator is a big challenge to new entrants in the industry. The regulator is not independent and autonomous. The Kenya Information and Communications Act at section 5B guarantees the independence of the regulator. However, the experience of the industry showed otherwise with the governments' suspension of the interconnection glide path.

Sector Policy

The study found that the setback suffered by Essar Telecom in 2004 when they first bid for the license, as a foreign investor from Zimbabwe named Econet Wireless, was due to their efforts at trying to acquire the then required 30% local shareholding. Their downfall was as a result of wrangling and infighting among the prospective local shareholders which lead to Essar's loss of license and delayed entry four years later (Kerrets, 2004:53). Government restrictions on levels of foreign ownership in the mobile sector have been a major hindrance to growth and expansion of the sector in some countries. This requirement has created problems for new entrants and may have served to prevent or slow down market entry (Ellis et al., 2010:23). This requirement has the likely effect of discouraging foreign investors when they have to forge alliances with locals in order to qualify. The liquidity of most locals is relatively low in comparison to their foreign counterparts and most firms are finding themselves stuck with local shareholders as a matter of course and who are unable to adequately finance the equity of the firm and its operations. The observable trend in other sectors where the rules are not as stringent as telecoms is that most local shareholders are ceding their equity to the foreign firms or to other locals that have a relatively higher liquidity. The sector policy slows down investment opportunities, slows down access to technology and increases the cost of capital to domestic firms. The government should allow 100% foreign ownership for new entrants to enable them to raise the much needed startup capital.

Licensing

The study found that the regulator saw a need to change the regime in 2004 by way of introduction of an open market based approach (Waema, 2007:15). The bidding process can be used by incumbents to frustrate entry of new comers into the market. The study found that new entrants continue to face challenges of corruption and lack of transparency and end up incurring a very high cost of capital. This puts a strain on new entrant's financials thus affecting their ability to survive in the market (Waema, 2007:15). According to the existing sector policy, an operator must acquire 20% local equity. This is a challenge for new entrants who are usually foreign investors as they struggle to find local shareholders to meet the requirement. The licensing regime through a bidding process in a liberalized market was undesirable and inconsistent with market dynamics. Licensing policies that do not embrace best practice can prove to be an impediment and challenge for new entrants. The open market approach is preferred to the bidding process as the bidding process acts as a barrier to new entrants cost wise. New entrants continue to face challenges of corruption and lack of transparency and end up incurring a very high cost of capital. This puts a strain on new entrant's financials thus affecting their ability to survive in the market.

Permits And Authorization Procedures

The study found that operators require at least three permits to put up a mast obtained from different government entities (Njoroge, 2009:7). The study found that the shortest time an environmental permit can be obtained is 45 days from the date of application. Under the Environmental (Impact Assessment and Audit) Regulations 2003, operators must file a project report for each and every mast and submit to the environmental authority (GOK, 2003:10). The study found that the cost of an Environmental Impact Assessment License is 0.05% of the total cost of the project to the minimum of Kshs 10,000 and maximum of Kshs 1,000,000/-. This was reduced from the previous 1%. (GOK, 2009:2). The cost of the license is very high for a new entrant who seeks to optimize their costs. The study found that the fact that every mast requires an Environmental Impact assessment is undesirable. The government should divide the country into zones where only one report is submitted for all the masts to be constructed in that area and only one license issued. The study found that the process that mobile operators are taken through in order to obtain permits for roll out of their services is lengthy and costly and not in the best interest of speedy roll out for new entrants. The government should consolidate the permits through a one stop shop process in order to support the speed of roll out much needed by new entrants. The government should further ensure that the permits authorization process is not an obstacle for new entrants.

Interconnection Regulations

The study found that when new entrants enter the market, their biggest objective is customer acquisition. Their desire is to have a pricing model that is affordable for new customers and at the same time they seek to achieve profitability (Kwama, 2010:1). High interconnection rates translate into very narrow profit margins for low cost new entrants thus affecting profitability and ability to penetrate the market effectively (Kemibaro, 2011:1). Due to the issue of delays in negotiations by incumbents facing new entrants, the regulator revised the interconnection regulations and reduced the period within which the interconnection must be complete by thirty days (GOK, 2010:14). This was seen as a move that will help new entrants as they enter the market to close interconnection agreements with incumbents in a most expeditious manner. Incumbents are not willing to negotiate lower interconnection tariffs with new entrants. A new entrant with a low cost model and low pricing will thus end up incurring very high interconnection costs while making very little or no profit from their pricing of products. This is an element that forms a barrier to entry for new operators. Due to high interconnection fees paid to the dominant operator, reduced interconnection rates were expected to reduce this net off burden for the small operators (Wahome, 2012:1, Okuttah, 2012:1).

High Taxes/ Fees

The tax burden affecting the industry is heavy. The only way operators can recoup this cost is by passing it on to consumers. With 16% VAT and 10% of excise duty on airtime, consumers end up paying at least 26% in taxes to the operator for services rendered (Wangu, 2010:7). The study found that for a new entrant who is seeking to optimize on costs, high taxation presents a major setback as the regulatory fees are very high. A low cost new entrant is at the cross roads between low pricing and wanting to remain profitable. The taxes applicable on the services make it difficult for a low cost provider to price their products as favorably as possible in order to maintain affordable

services while remaining profitable (Kwama, 2010:1). The costing methodology for spectrum is such that a fee is paid for every mast that is rolled out. This means that the more an operator rolls out the more fees they pay (CCK, 2000:6). There are also no discounts offered for spectrum costs for rolling out in areas that are not commercially viable. The cost of diesel that is used by generators that service the telecommunication masts is also high and the same cost as that motorists pay (Wangu, 2010:7). The respondents agree therefore that the government should explore areas where the tax burden on the industry can be eased and where they can incentivize operators in the roll out of their services. The study found that regulation of interconnection tariffs affects the extent to which new entrants can gain market share. The main problem facing new entrants in obtaining interconnection is reluctance on the part of incumbents leading to delays in negotiating terms. The high level of interconnection tariffs combined with low prices for users form a barrier to the entry of new operators. The recent reduction of interconnection rates by the regulator would have a positive impact on new entrants. Due to challenges that small operators face on interconnection, the regulator should apply interconnection charging policies that enable a new entrant to gain ground on entry for example asymmetric charging with incumbents.

Competition/Price Control

The study found that there exists a set of factors;- threat of new entrants, suppliers, buyers, product substitutes and the intensity of rivalry among competitors that determine the attractiveness of an industry according to Porter's Five Forces Model (Thompson et al., 2008:55). The dominant operator is still employing anti-competitive practices in the industry that affects the ability of the other operators to compete effectively (Okoth, 2012:1). New entrants will always have an acquisition strategy and the only way to achieve this is to price their products lower than the existing operators. Where the regulator is imposing price controls, new entrants will find challenges with their price points as they would have to maintain the floors set by the regulator (Kwama, 2010:1). There exists the Fair Competition and Equality of Treatment Regulations that were passed in 2010 and the study found that the regulator has not exercised its mandate to promote fair competition and equality of treatment as per the regulations. The study found that heavy taxation on mobile operators leads to unnecessary high cost of services for consumers. Heavy taxation is a major setback for new entrants as it puts a huge dent on profit margin thus influencing the ability of a new entrant to roll out their services. High taxes from the regulator and the government adversely affect their ability to price products favorably for effective market entry. The government should make efforts to reduce the tax burden on the telecommunications industry and should in fact incentivize them for the services rendered. The study found that the regulator is not effective in weeding out anti-competitive practices and abuse of market power. Excessive tariff controls reduce tariff flexibility for new entrants and price controls reduce the impact of competition in pushing down prices. Ineffective competition policies that do not protect new entrants from anticompetitive practices and abuse of market power and dominance by the large incumbents affect the ability of new entrants to penetrate the market.

Infrastructure Sharing

The study found that for green field new entrants, infrastructure sharing is attractive as it helps reduce time to market significantly. Leasing from other operators is a viable option for new entrants as it helps cut down roll out costs

significantly. The laws as they exist are not set in mandatory terms and the discretion is largely left to an incumbent to demonstrate whether or not they are in a position to share for technical or other reasons (GOK, 2010:19). This is a grey area that is often abused by incumbents as they frustrate new entrants by rejecting their requests for infrastructure sharing. In 2009, the regulator developed a code of practice for the deployment of communications infrastructure which presupposes sharing as a first option failure to which an operator can then construct a mast. The code is yet to be implemented as it is still under review (Njoroge, 2009:7). The code should make it mandatory for all incumbents to allow new operators to share their telecommunications masts. The study found that this lack of regulator intervention has led to frustration of small operators by incumbents who deliberately delay the process to delay roll out and competition from new entrants. The existing competition law is inadequate to address challenges for new entrants and the regulator has failed in enforcing the competition law and policy. The study found that infrastructure sharing decreases duplication of investments and reduces capital and operating expenditure for new entrants, that more than 60% of the total network roll out cost is accounted for by towers and accompanying infrastructure, further, that for a new entrant, total network roll out cost is a significant financial burden which tower sharing helps to alleviate and that tower sharing can reduce overall cost of ownership for new entrants. A policy that mandates incumbents to share their existing sites with new entrants alleviates the run around, resistance and frustration that new entrants face from incumbents as they attempt to enter into commercial agreements. The regulator ought to intervene in favour of a new entrant where incumbents attempt to delay the process or to set unreasonable pricing.

What needs to be done

The regulatory environment in the telecommunications industry in Kenya is not favourable for new entrants. There are policies, laws and regulations that pose challenges for new entrants as they try to penetrate the market thus threatening new entrants' survival in the industry. The areas of challenge are:

The independence of the regulator where the study found that there is government interference, anti-competitive practices by the dominant operator and failure by the regulator to take effective action to curb abuse of dominance on the dominant operator. The dominant operator thus makes it difficult for new entrants to compete effectively in the market. The sector policy that requires new entrants to have local ownership from three years of operation is a challenge for new entrants as it slows down investment, access to new technologies and increases the cost of capital. Issuance of authorizations and permits to construct telecommunication masts is a lengthy and costly procedure that does not favour a new entrant's objective for speedy roll out. New entrants face delays and frustrations from incumbents as they negotiate for interconnection. The regulator's regulation of interconnection tariffs adversely affects the extent to which new entrants can gain market share and forms a barrier to entry.

The tax burden in the industry is very high, which is a major setback cost wise on new entrants. The high taxes and fees also increase the cost of services for consumers. Price controls reduce tariff flexibility for new entrants. The regulator has failed in enforcing the competition law and policy to weed out anticompetitive behavior by the dominant operator. Infrastructure sharing consumes a very huge portion of a new entrant's capital as they have to construct telecommunication

towers. This poses a significant financial burden for new entrants. Currently infrastructure sharing is not set in mandatory terms in the law and decisions are left to the parties to agree on technical viability and commercial terms. This gives an opportunity for abuse by incumbents.

Recommendations

- The regulator should take action to curb abuse of dominance and anti- competitive practices by exercising its mandate as set out in the existing competition law,
- The regulator should safeguard their independence from government interference as the same is guaranteed by law,
- The government should allow new entrants to have 100% foreign ownership and leave it to their discretion to attain local ownership at will,
- The government should simplify the permits issuance process through a one stop shop by consolidating the permits to facilitate speedy roll out by new entrants,
- The regulator should introduce interconnection policies that enable a new entrant to gain ground on entry such as asymmetric charging,
- The government should reduce the tax burden on the industry and incentivize mobile operators to roll out their services, and
- The regulator should fast track implementation of a policy that mandates infrastructure sharing and should actively intervene where new entrants are facing delays and exorbitant commercial terms from incumbents.

Further Research

The telecommunications industry in Kenya is growing and the collective work force is large. This presents a good basis for data collection on any related topic. The study would recommend an in depth analysis of non- regulatory factors that influence the ability of new entrants to survive in the telecommunications industry in Kenya and strategic interventions that organizations can adopt to deal with the challenges.

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