

EVALUATING TOTAL QUALITY MANAGEMENT AS A COMPETITIVE ADVANTAGE TOOL IN MOBILE TELECOMMUNICATION SERVICES IN GHANA

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ABSTRACT

The purpose of the study was to find out TQM as a competitive advantage tool in mobile telecommunication services in Ghana. The descriptive research method is employed since much of the data collection is based on questionnaires. The study uses quantitative method, designed to get some reviews from customers or consumers, telecommunication companies and other organizations on total quality management as competitive tool in the mobile telecommunication services in Ghana. One hundred and fifty (150) mobile phones users from mobile telecommunication firms in and from Ghana are sampled for the study given the time constraints and limited resources available. Data was collected using questionnaires. Data was analyzed using SPSS and summarized in the form of frequency tables and bar charts. The study revealed that subscribers who decided to subscribe to MTN network considered “long time usage” as their most important attribute. Secondly, the subscribers also consider “wider coverage” as their next most important attribute when it comes to subscription of a network. Furthermore, majority of the subscribers considered “lower tariffs” as their third most important attribute that lure them in choosing MTN and Vodafone network. The least important (or influential) attribute is “games of chance”. Additionally, respondents consider “customer care” as the most important and “reception benefit” of the network operator as the least important factor when choosing a network. The study concludes that total quality management is regarded as a competitive advantage tool among in the mobile telecommunication service industry in Ghana. It was recommended that mobile telecommunication network operators should increase their coverage area to increase catchment area to attract more potential subscribers, considering the study findings that wider coverage is one of the most vital attributes. Therefore, the operators should reduce the cost of services and packages, where necessary, to draw attention or attract more potential subscribers.

Keywords: Total Quality Management, Competitive Advantage, Mobile Telecommunication Service.

INTRODUCTION

The introduction of technology to this modern world has resulted in the establishments of Telecommunication companies. For a telecommunication company to attain or achieve competitive advantage, it has to differentiate itself from others by giving out quality services and products. It is noted recent ages that, telecommunication companies tend to create intensive competition by attracting the highest number of users or customers. The situation at hand rises from the competition created in telecommunication companies. Total quality management as a competitive tool have been implemented to create competitive advantage among these companies. According to Sims and Sims (1995), “Customers would examine

products to see if they met their standards prior to purchasing them” which thus includes services provided.

TQM aims to manage the quality of product and services provided by the companies to make customers satisfied. The intensity of global competition has led to significant changes in the way companies conduct their businesses (Al-Rfou et al., 2012). Providing a higher quality service as a strategy for achieving competitive advantage has become a strategic imperative for organizations and senior managements around the world. Quality therefore has become a strategic tool for measuring business performance in today's dynamic environment (Hassan et al., 2012). According to Mansour (2007), several quality tools and techniques have been employed to achieve this management objective and Total Quality Management (TQM) has proved to be among the most effective quality techniques that have been applied in companies and so as telecommunication companies as well to create competitive advantage.

To make sure that products and services have the quality they have been designed for, a commitment to quality throughout the organization is required. This approach to the management of quality throughout the entire organization has evolved into what is referred to as total quality management or TQM (Evans and Lindsay, 2009). TQM embodies the same basic principles as quality assurance, total quality control, and company-wide quality control. TQM emphasizes top management's role in leading a total quality effort on which all employees at all levels must focus. All employees are responsible for continuous quality improvement, and quality is the focal point of all organizational functions (Garvin, 2008). TQM also emphasizes that quality is a strategic issue. The organization must decide what the customer wants in terms of quality and then use strategic planning encompassing all functional areas to achieve goals for quality. From this perspective, quality is the most important company issue (Montgomery, 1991).

Although companies use different terms to refer to their approach to quality, they mean essentially the same thing and embody many of the same concepts: strategic goals, total commitment, continuous improvement, comprehensive focus, employee responsibility, job training, and so forth. Total quality management represents a set of management principles that focus on quality improvement as the driving force in all functional areas and at all levels in a company (Feigenbaum, 2010). These principles are: the customer defines quality, and the customer's needs are the top priority; top management must provide the leadership for quality; quality is a strategic issue; quality is the responsibility of all employees at all levels of the organization; all functions of the company must focus on continuous quality improvement to achieve strategic goals; quality problems are solved through cooperation among employees and management; problem solving and continuous quality improvement use statistical quality control methods and training and education of all employees are the basis for continuous quality improvement (Juran, and Gryna, 1980). In summary, Total Quality Management provides an umbrella under which everyone in the organization can strive and create customer satisfaction at continually lower real costs.

LITERATURE REVIEW

The Concept of Total Quality Management

Rouse Margaret (2005) argued that, Total Quality Management (TQM) is a comprehensive and structured approach to organizational management that seeks to improve the quality of products and services through ongoing refinements in response to continuous feedback. TQM requirements may be defined separately for a particular organization or may be in adherence to established standards, such as the International Organization for Standardization's ISO

9000. TQM can be applied in any organization and it originated from the manufacturing sector and has since been adopted for use in almost every type of organization imaginable including schools, hospitals, banks, telecommunications etc. Agyapong G.K.Q (2011) made a study which adapted servqual model to analyze service quality in mobile telecommunication (Vodafone Ghana) of which he made emphasis that, the concept of quality, efficiency, productivity, growth and survival pose a great challenge for the survival and growth of all corporate bodies. These growth and survival demands are further deepened by the need to attract and retain customers, as customers are the main focus of any successful business. Business success depends on a firm's understanding and meeting customers' needs and demands. In Ghana, utility provision has always suffered a setback as utility firms have always been criticized for poor quality of services.

TQM is a set of beliefs and principles that portrays the basis of a consistently growing organization. It is the application of quantitative methods and human resources to improve all the processes within an organization and exceed the customer needs now and in the future. Other definitions of TQM are that it is a management style based on producing quality products and services as defined by the customer. Godfrey (1999), also thus defines it as a quality-centered, customer-focused, fact-based, team-driven, senior-management-led process to achieve an organization's strategy imperative through continuous process improvement. Business Dictionary (2016) again emphasized that, A holistic approach to long-term success that views continuous improvement in all aspects of an organization as a process and not as a short-term goal. It aims to radically transform the organization through progressive changes in the attitudes, practices, structures, and systems. Total quality management transcends the product quality approach, involves everyone in the organization, and encompasses its every function: administration, communications, distribution, manufacturing, marketing, planning, training, etc.

Total Quality Management (TQM) is a method that attempts to improve performance and quality to satisfy customer expectations. This can be attained by combining and linking all quality-related functions and processes throughout the organization. TQM takes a holistic view of all quality measures employed by an organization including managing quality design and development, quality control and maintenance, quality improvement, and quality assurance. It considers all quality measures taken at all stages and involving all workers of the company. TQM is the management of initiatives and procedures that are aimed at achieving the delivery of quality products and services. TQM has also been defined as a management philosophy embracing all activities through which the needs of the customer and the community, and the objectives of the organization are satisfied in the most efficient and cost effective way by maximizing the potential of all employees in a continuing drive for improvement (Cornish, 1998). According to the proposed study, the researcher would define or explain TQM as the use of production tools to aid in quality of services and products to consumers. From the researcher, total quality management seeks to satisfy consumers or customer by fostering quality in the products and services rendered thus creating a competitive advantage in the market front. Business tends to grow for companies when these are drawn as part of the companies polices. Meeting the needs required in terms of competition also thus helps companies such as the telecommunication sectors where competition tends to grow day in day out with innovative services and products which therefore creates competition. In a recent attempt to define the concept of TQM, Mosadeghrad (2014) states that TQM aims to enhance customer satisfaction and organizational performance by providing high quality products and services through participation and collaboration of all stakeholders, teamwork, a customer orientation,

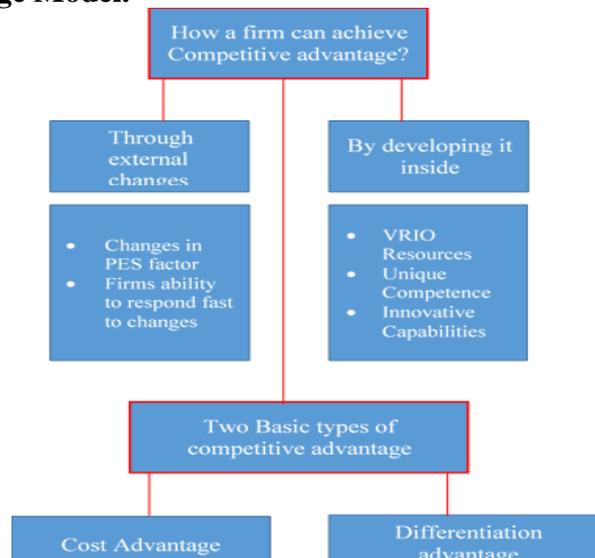
continuous improvement and process performance by applying the techniques and tools of quality management. The literature mentions that TQM implementation is a complex, difficult, lengthy, involving huge efforts from organizations. While the TQM has been suggested, in principle, to improve the performance of the practical application involves several difficulties. The same author (Mosadeghrad, 2014) states that several studies have reported an improvement in productivity of only 20-30% due to the implementation of TQM programs.

The Concept and Models of Competitive Advantage

Various models have been said about the models of competitive advantage from various authors. Ovidijus Jurevicius (2013) pointed that, Competitive advantage means superior performance relative to other competitors in the same industry or superior performance relative to the industry average. There is no one answer about what is competitive advantage or one way to measure it, and for the right reason. Nearly everything can be considered as competitive edge, e.g. higher profit margin, greater return on assets, valuable resource such as brand reputation or unique competence in producing jet engines. Every company must have at least one advantage to successfully compete in the market. If a company can't identify one or just doesn't possess it, competitors soon outperform it and force the business to leave the market.

There are many ways to achieve the advantage but only two basic types of it: cost or differentiation advantage. A company that is able to achieve superiority in cost or differentiation is able to offer consumers the products at lower costs or with higher degree of differentiation and most importantly, is able to compete with its rivals. From the researcher, competitive advantage is thus when an organization outperform its competitors from a wide range time to gain it productivity. The following diagram illustrates the basic competitive advantage model, which would be explained below in the research.

Competitive Advantage Model.



Alamri A.M, Alharthi A.M et al (2014) conducted a study about organization performance improvement using TQM and the indicated that, in order to study the relation between the operational performance and the TQM practices within the telecommunication company, a theoretical TQM model is developed to focus how this relation correlated and the direction



between the pairs. The figure below shows the six TQM practice in the top and operational performance in the bottom and the relation between them:

Looking at the diagram above, the researcher also further explained that, for an organization or mobile telecommunication firm to attest its performance, there should be the existence of operational practices. It will also help mobile telecommunication firms to know how they are competing with other mobile telecommunications firms.

According to Conner (1991) and, (Porter, 1980; Porter, 1985) and cited by Reed et al. (2000) there are two models of competitive advantage, both of which are grounded in economic theory. The first model - the market-based model and the second, the Resource-based model are complementary. The market-based model focuses on cost and differentiation and asserts that inefficient firms including those that do not offer products for which consumers are prepared to pay a premium price are uncovered by the market (Reed et al., 2000). The market-based model of competitive advantage is mainly driven by determinants like opportunities, threats, and industry competition which are external to the firm, and as Porter (1985) points out, sustaining an advantage means presenting competitors with "a moving target." The resource-based model (the second model) of competitive advantage on the other hand centers on the firm's resources (Reed et al., 2000). "Porters five forces for competitor's analysis and advantage", (2012, September) stated out the forces from Porters which also aids in competitive advantage. It was read that, theses force also looked at five keys main areas. Michael Porter's Five Forces is a model used to explore the environment in which a product or company operates to generate competitive advantage.

Porter's Five Forces analysis looks at five key areas mainly:

1. The threat of entry
2. The power of buyers
3. The power of suppliers
4. The threat of substitutes, and
5. Competitive rivalry (advantage).

Michael Porter's Five Forces

	New Entrants	
Suppliers	Industry competitors and extend of rivalry advantage	Buyers
	Substitutes	

As opposed to the market-based model which is externally driven, the resource-based theory is driven by factors internal to the firm. According to Barney (1997) and cited by (Reed et al., 2000), resources consist of assets, capabilities, organizational processes, firm attributes, information, and knowledge," and can be classified in terms of physical, human, or organizational capital. It is argued that because human and organizational capital are not easily acquired in the factor markets they are the main drivers of competitive advantage, unlike physical capital which are easily acquired in factor markets.

Types of Competitive Advantage

When a firm sustains profits that exceeds the average for its industry, the firm is said to possess a competitive advantage over its rivals. The goal of much business strategy is to achieve a sustainable Competitive advantage. Michael Porter identified two basic types of competitive advantage which includes Cost advantage and Differentiation advantage. A competitive advantage exists when the firm is to deliver the same benefits as competitors but at a lower cost (cost advantage). thus a competitive advantage enables the firm to create superior value for its customers and superior profits for itself. Cost and differentiation advantages are known as positional advantages since they describe the firms position in the industry as a leader in either cost or differentiation.

A Model of Competitive Advantage



Evolution of TQM

The evolution of TQM as a new management philosophy is attributed to changing business environment, demanding customers and the resource constraints. The evolution of TQM has taken decades in many organizations all over the world. The evolution of quality has moved from control driven to culturally driven quality. Feigenbaum (1954) advanced the concept of total quality control integrating quality into all functional areas with minimum cost ensuring customer satisfaction. The evolution of quality has passed through four distinct stages; inspection, statistical quality control, quality assurance, and strategic quality management. The inspection stage emphasized performance to established standards. During the inspection stage, the main focus was uniform product quality. In this stage, the quality control stressed on inspection to avoid defects. In statistical quality control stage, the processes were evaluated using statistical techniques to assess quality and to minimize non-conformance. During the quality assurance stage the focus changed to controlling quality at all stages of the processes throughout the organization. The quality became an integrated approach and the responsibility of all functional areas of the organization. Bound et al (1994 p.55) concluded that "while quality remained focused on defect prevention, the quality assurance has brought a more proactive approach and some new tools." The strategic quality management stage envisaged quality as a competitive advantage. The stage aimed at continuous quality improvement at all levels and at all times; aligning organization to customers' needs (both internal and external) and pursuing customer focused strategy. As cited in Costin (1999, p 47), Garvin (1988) stated the following about this stage: It embodies a dramatic shift in

perspective. For the first time, top managers at the levels of the presidents and chief executive officers have expressed an interest in quality. They have linked it with profitability, defined it from the customer's point of view, and required its inclusion in the strategic planning process. Mehra et al., (2001, p. 870) predicted that "TQM systems will shift towards a philosophy of quality based strategic management system". The evolution of TQM has primarily been guided by the emerging realities and organizational needs for a new paradigm to align the organization with environmental realities to achieve development, growth, competitiveness and sustainability.

Competitive Advantaged and Total Quality Management

Ullah, Akhtar and Malik (2016) explained TQM in their study that, Total quality management (TQM) is a set of values and actions that are committed to customer focus. TQM theories consist of leadership, strategic planning, customer focus, information and analysis, people management and management process has significant effect on product quality performance. TQM is not only based on philosophy of providing customer satisfaction and quality goods and services but it is concentrating on future requirements. The best TQM results can be achieved when an open, shared and cooperative culture is created by management and supported by organizational learning teamwork, and customer focus. TQM proponents have strongly argued that improving quality will result in several byproducts, including improved delivery and reduced cost. TQM aims to continuously improve the various processes and practices in the organization; we often assume that it provides a means for assuring that innovation and self-renewal occur.

Economou V.K and Chatzikonstantinou P.G (2009) cited (Ruhli,1997) and (Grant,1998) that, considering present volatile and turbulent business environment, questions emerge about the applicability and the value of traditional and rather static theories of strategy. More recent approaches of strategic management point out the importance of seeking and establishing a unique sustainable competitive advantage or even sequential transient competitive advantages (Ruhli, 1997). In a case of two enterprises competing each other in the same market and supply the same purchasers, competitive advantage is acquired by the firm that achieves or has the possibility of achieving higher efficiency (Grant, 1998). Recent economic and strategic management literature exposes three distinct schools of thought, concerning the sustained competitive advantage paradigm, i.e. the neoclassical, the structural and the dynamic school of thought.

An integrated approach, without functional biases, is essential. This calls for a shared vision and Investopedia (n.d.) explained that, Competitive advantages are conditions that allow a company or country to produce a good or service at a lower price or in a more desirable fashion for customers. These conditions allow the productive entity to generate more sales or superior margins than its competition. Competitive advantages are attributed to a variety of factors, including cost structure, brand, quality of product offerings, distribution network, intellectual property and customer support. Also, Al-Rfou et al. (2012) defines competitive advantage as the ability of an organization to produce goods or services more effectively than competitors do, thereby outperforming them.

According to Porter (1980), and cited by Pace et al. (1995) organizations achieve competitive advantage through one or a combination of three approaches: differentiation, cost leadership, or focus. They moved on further to explain that firms employing a differentiation strategy attempt to achieve a competitive advantage by distinguishing their firm's products or services from those of its competitors (ie making their products unique). Firms employing a cost

leadership strategy effectively compete on the basis of price. Cost advantages can be achieved through such means as efficiency, cost reductions, tight cost controls or volume. Firm's employing a focus strategy attempt to achieve a competitive advantage by concentrating their efforts on a specific regional market or buyer group. In Porter's research, businesses that did not consciously adopt one of these three strategies had no strategic advantage (Daft, 1991). Firms employing a Total Quality Management approach can simultaneously achieve all three of Porter's competitive strategies. TQM is a long term success through customer satisfaction so as competitive advantage are also conditions to lower cost of products and services from firms. Looking from the angle of mobile telecommunication, it is indeed a tool working out well in Ghana. Mobile telecommunication firms are dropping prices of services in order to attain high efficiency in the market. Previously, consumers tend to accept that the higher the price of a service, the quality it is but implementation of TQM has given out different perceptions about these. Currently, users or consumers are considering the firms coming out less cost since consumers have developed the habit of trust in quality services from telecommunication firms and not how it was initially from the researcher.

The focus on improving the quality of products and services to the organization's current customers (thereby increasing customer value), leads both to lower costs of production (cost leadership) which produce both greater profits and lower prices, and differentiation (the firm's products and services are seen as providing higher levels of reliability, quality, and value). According to Romero (2005) many leaders find it difficult creating a competitive advantage because they are not sufficiently aware of the threats and opportunities in the external environment or their firm's strength, weaknesses and unique competencies. Again when some managers or firms or organizations are successful in business they think they have a competitive advantage. This is not entirely true, because it is not based on any scientific proof. Such managers, firms or organizations are temporarily successful despite having a weak, or no competitive advantage. It is just a matter of time before other firms, with a strong competitive advantage, will take away their business Romero (2005). According to researcher, competitive advantage is derived when total quality management is served well in telecommunication firms in Ghana hence, good services tends to be the outcome of the firm to gain more power on customers or consumers. Day-in-day-out, mobile telecommunication firms tends to bring out services in Ghana such as free night calls, mobile money, pay for me etc. Total quality management has brought about a strong competitive advantage among these firms and how well a particular firm produces strong and quality services determines its activeness in the market.

TQM in Mobile Telecommunications Companies/Firms

Awuor and Kigathi (2012) explored the quality management issues in telecommunications firms in Kenya and the went on further by pointing out that competition has forced many organizations to re-evaluate their competitive strategies and management practices with an aim of improving performance to increase the shareholder's wealth. It is because of this that firms are being force to take up TQM which a relatively new management practice and organizational outcomes to create a quality organization that continuously strive and maintain performance. Quality in telecoms is measured using different aspects, services availability, reliability, dependability and flexibility. These are key among others to assessing the quality of a telecommunication firm. Companies can either take a proactive or reactive stance in ensuring quality is maintained and achieved. Whereas traditional approach to quality would mean companies waiting to correct or try and restore the service after an outage, the modern and contemporary TQM seeks to forestall any such from happening. It seeks to ensure quality

right time first by mitigating all the network services compromising outages. Companies can either implement the traditional approach to quality or adopt contemporary TQM. Sue and Hsu (2002) studied the implementation of quality management practices in 39 telecommunication organizations in Taiwan. Poor training of the staff and weak supplier management were noted as the vital dimensions of quality management for significant performance. Tsang and Antony (2001) identified critical success factors of TQM in UK services organizations including Telecommunication. Based on the study of 300 subjects, the study identified top management commitment, customer focus, training and development, teamwork, continuous improvement, quality systems and policies, supervisory leadership, supplier partnership/supplier management, and cultural change as essential dimensions of TQM. Patel and Djerdjouri (2000) examined the implementation of TQM practices in Telecom Fiji. The results of the study indicated a change in organizational culture, improved productivity, improvement in management and employee relations, increased employees' commitment. There was a considerable improvement in team based approach which resulted in increased efficiency and effectiveness, and considerable savings were made in the labour costs. A considerable improvement in processes was also experienced. Antilla (2000) investigated the impact of TQM implementation in Sonera Corporation, a leading Finnish Telecommunication Company. The results indicated significant improvement in profitability and customer base due to effective leadership, learning of employees, increased innovations of products, services and processes, and change in organizational culture.

In telecommunication companies, managers/leaders acquire energy through satisfying customer needs and organizational survival which is the main philosophy of TQM. Total quality management is a holistic quality improvement approach to firms for the purpose of improving performance in terms of quality and innovation for the last two decades in the field of telecommunication. It also seeks to create performance in telecommunication companies so by a competitive advantage being created.

The definition of the concept of TQM is multifarious, but from whatever perspective it is defined, it talks about meeting customer requirements (providing customer satisfaction) which is a primary objective of quality management, if they are to succeed. Organizations exist to provide a service or product to its customers who are becoming more demanding and are seeking higher quality, better value, and lower costs. These customer requirements mirror the global economic pressures organizations face in their own businesses. Total Quality Management (TQM) is a quality management system which requires the cooperative endeavor of everyone in the organization to produce services or products that looks at quality from the customer's perspective. All services or products must meet or exceed the customer's expectations. Under TQM, quality is an essential part of every stage of the production process and not merely an inspection at the end. (Irechukwu, 2010). Particularly in the last two decades, TQM has received a great attention worldwide (Jung & Wang, 2006). Many researchers have stated that the total quality management (TQM) strategy is a potentially useful tool for fostering learning and increasing a company's competitive advantage (Marchnez-Costa et al,2008). Since the TQM philosophy is more frequently practiced in the manufacturing industry (Joiner, 2007), and a little attention has been paid on the implementation of TQM and consequently its impact on the OP, particularly for the service industry (Prajogo, 2005). Some studies indicated positive relationship (Matsuo, 2006.), negative (Balkin et al,2000) and no significant relationship (Greve, 2003) between innovation and organizational performance.

TQM focus on satisfying the customer needs. Goh and Ridgway (1994) argued that that to remain competitive organizations must satisfy their customer needs at reasonable cost. Wilkinson (1998) suggest that; “in terms of TQM, the conception of quality should meet customer requirements”. Similarly, Agus and Hassan (2011) revealed that TQM has a significant relation-ship with customer-related performance. Rampersad (2001) proposed that everyone in organization should consider continuous improvement as one’s daily life to comprehend customer satisfaction. Similarly, the senior management must understand the purpose and principles of TQM and should also consider the internal strategic management processes, training and development, participation of their staff, and their own role in implementing the TQM approaches. (Taylor & Wright, 2003).

Results of TQM implementation showed success in improving an organization’s physical performance in terms of financial achievements (Hendricks and Sinfhal, 2001) and product quality (Agus, 2005) and in terms of invisible forms like customer satisfaction (Rahman and Bullock, 2005), problem solving (Vouzas, 2004), and workforce commitment (Rahman and Bullock, 2005). Supporters of TQM suggest that implement it well generate higher quality products. According to Deming (1986), quality is the principal determinant of success in competitive environments. Sila and Ebrahimpour (2005) concluded that TQM impact business performance. Sharma and Gadeene (2001) argued that TQM is a holistic management philosophy and to have the full potential of the TQM on OP a holistic approach of TQM should be applied rather than on piecemeal basis.

Impact of TQM On Mobile Telecommunication Services and Business Performance

The relationship of TQM and business performance is evident. TQM focuses on meeting and exceeding customers’ requirements, accelerates customer loyalty and market share of products and services. The internal focus of TQM results in reducing variation, waste and ultimately the cost of production. This helps the organization to achieve cost competitiveness. The relationship between quality management, profitability, and market share has been studied in depth by the Strategic Planning Institute of Cambridge, Massachusetts. The conclusion, based on performance data of about 3000 strategic business units, is unequivocal. It states that “one factor above all other – quality management–drives market share. And when superior quality and large market share are both present, profitability is virtually guaranteed” (cited in Ross, 1999, p. 9). Researchers and quality experts have agreed that TQM has beneficial effects on business performance.

The studies found that companies implementing TQM practices show better than average results (Ramesh, 1998). Fynes and Voss (2001) noted that adoption of quality management enables organization to remain competitive. The introduction of this philosophy leads to superior performance and competitive advantage (Lee, Adam, & Tuan, 1999; Lemark, Reed, & Satish, 1997; Mann and Kehoe, 1994; Zhang 2000). Rahman (2001) studied the positive impact of TQM practices on business outcome of small and medium enterprises in Western Australia. The result reflected significant relationship with business outcome measured in terms of revenue, profitability and numbers of customers.

Researchers claimed that TQM practices or similar quality management initiatives are found to have significant impact on firms’ performance (Huq & Stolen, 1998; Rao, Solis & Raghunathan, 1999; Reich, 1994; Seawright & Young, 1996; Tobin, 1990). From the researcher, in Ghana, TQM and competitive advantage have helped the development of mobile firms. Foreign investors have taken the heed to come in enhance the mobile telecommunication services in terms of quality. Consumers are also having the choice of

choosing among several brands of telecommunication firms for good services and products. The country as a whole is also earning some part of economic communication development from the strong competitive advantage in the system.

Barriers in Planning and Implementing TQM Practices

In competitive environment organizations pursue initiatives to achieve competitive advantage through quality management and customer satisfaction. TQM experts offered different prescriptions for success. Organizations adopted different quality management frameworks for superior performance and competitiveness with excellent results. These achievements led some of the experts to believe TQM philosophy as an organizational panacea. Despite success stories, many quality management initiatives resulted in failure. Since most researchers agree that the philosophy and principles of TQM are sound, examples of TQM failures have led the quality experts and researchers to identify the likely impediments associated with this issue. Researchers have explored organizational failure to achieve transformation to TQM and focused on issues namely; strategic quality management, role of leadership, organizational culture, management style, human resource management and development, resource constraints and relationship with stakeholders. Empirical studies have been carried out to identify the potential barriers to TQM during planning and implementing. Glover (1993) argued that failure of total quality management initiatives is attributed to conceptual weakness, incompatibility of quality management system with culture and poor implementation. Kanji (1996) identified management style that hinders learning, inculcates fear and results in functional paradox (cited in Tamimi & Sebastianelli, 2003, p.48). Matta, Davis and Mayer (1996) found that poor corporate culture, lack of employees' support and weak integration with suppliers and customers hinder quality management practices. Kotter (1995) identified lack of vision, inadequate involvement and empowerment of employees and failure to institutionalize improvements and new approaches as barriers to TQM. Hemphill (1996, p. 69) concluded that "inexperience TQM consultants, lack of top-level leadership, ineffective employees' training, incomprehensible terminology and tools and unmonitored cost are the obstacles." Graham (1992, p. 70) described the reasons for failure of total quality management and summarized that, "there are many reasons, but the most important of these is lack of leadership." Tamimi and Gershon (1995) in a survey of 378 firms, based on Deming principles, concluded that lack of cultural change resulted in failure of TQM. Kolesar (1995) established that implementation of partial total quality management criteria results in failure. Sinclair and Zairi (1995, p.42) argued that "an inappropriate performance measurement could be major cause of failure in the implementation of total quality management." Tamimi and Sebastianelli (2003), in a national survey of quality managers in United States, examined the problems of successful organizational transformation. Essential aspects identified were (a) lack of commitment of top management and poor strategic planning for quality management, (b) ineffective HRM, (c) non responsive organizational structure, (d) quality was not everybody's responsibility, (e) customers were not integrated in TQM initiatives, and (f) best quality practices were not benchmarked. Porter and Parker (1993, p.16) concluded that "the results indicate that where TQM is viewed by management as an optional extra, it is likely to fail." Cooper and Phillips (1995, p.5) have argued that the "lack of cultural change was one of the reasons for the failure of TQM initiatives." Zubair (1996, p.14) indicated the reasons for TQM implementation failure to be the "defective understanding of TQM itself." Ngai and Cheng (1997) identified cultural and employee's barriers, infrastructure barriers, managerial barriers and organizational barriers as main impediments to quality management initiatives. Empirical researches have been carried out to identify the barriers to TQM. Various studies carried out by different researchers in different contexts (Edward, 1993; Evans & Lindsay, 2002; Fagadesh, 1999; Rad, 2005; Salegna &

Fazel, 2000; Whalen & Rahim, 1994; Wilkinson & Whitcher, 1993; Zain & Kifayah, 2002; Zia, 2005) have identified the most common barriers as follow:

1. Lack of consistent senior management commitment and support.
2. Provision of insufficient infrastructure to support quality management initiatives.
3. Absence of formalized strategic planning for quality management.
4. Inadequate customer focus.
5. Weak integration of suppliers in quality management.
6. Organizational politics.
7. Absence of supporting organizational culture.
8. Resistance to change by employees.
9. Inadequate HRM practices.
10. Considering TQM as a quick-fix.
11. Short-term approach with focus on immediate financial results.
12. Functional paradox (Inter departments' rivalry).
13. Weak supporting systems.
14. Lack of understanding about implementation of quality management.
15. Continued dependence on traditional incentives, recognition and appraisal systems.
16. Inadequate resources.
17. Inefficient process management.
18. Outdated technologies.
19. Ineffective information management system.
20. Inadequate system to measure quality.
21. Unfavorable environment of introducing quality management.

These barriers provide insight to the management to understand the hindrance to the success of quality management initiatives. These can help organizations to evaluate their quality practices and identify the areas that need improvement. The diversity of these obstacles makes it difficult to identify which one causes TQM failure. A combination of these factors would be causing failure of quality management pursuits of the organizations. The understanding of perspectives of quality Gurus, the principles highlighted in awards framework and these barriers would help the management to initiate a proactive approach to quality management efforts in the organizations for sustainable performance excellence. A study conducted by Kanji and Asher (1996) showed that in Western European countries, for instance France, Italy, England, and Norway the way firms implement their TQM practices is very complicated and has a long process. The analysis carried out shows that the level of TQM implementation in telecommunication institutions is even worse. According to Kanji and Asher (1996), the following were the problems noted in the implementation of TQM.

- The industries do not have even a single conception of quality;
- There is no clear vision, mission and concrete quality policy for the institutions;
- The leaders of the institutions do not understand the modern concept of quality and obligation to it;
- Firms have poor observation, care and control of quality of industrial practice;
- There is lack of time and resources and most enterprises prefer short-term goals to the long-term ones;
- The process of achieving total quality management is complicated involving all members of the organization;
- Organizations require enough time to change employees' traditional standpoint to the concept of quality.

METHODOLOGY

The study chose the Ghana as the research area due to the fact that it has better mobile telecommunication facilities and competition between the telecom operators seems to be very fierce in the area as compared with other parts of African countries. Besides, Ghana contains a heterogeneous population of mobile phone users with diverse socio-economic background and therefore consideration would be centered on Ghanaians who are familiar of the mobile telecommunication system and how these telecommunication firms tends to create competitive advantage. It is thus a fact that, MTN, GLO, VODAFONE, EXPRESSO, TIGO AND AIRTEL are the mobile telecommunication service firms in existence hence, services provided are being used by people in the country. The choice of research area is also serving as the population for the study The descriptive research method is employed since much of the data collection is based on questionnaires. The study uses quantitative method, which is designed to get some reviews from customers or consumers, telecommunication companies and other organizations on total quality management as competitive tool in the mobile telecommunication services in Ghana. The aim of the study is to evaluate TQM as a competitive advantage tool in mobile telecommunication services in Ghana. As such, the target population of the study is focused the users of mobile telecommunication services from mobile telecommunication firms in Ghana. Since the population is so large, it is prohibitively expensive to gather data on all the elements. Thus, one hundred and fifty (150) mobile phones users from mobile telecommunication firms in and from Ghana are sampled for the study given the time constraints and limited resources available. The sum of one hundred and fifty (150) questionnaires is distributed out to help the main core and aim of the research. The sample for this study is selected by using simple and stratified random sampling. The instrument that is employed to conduct this study is questionnaire of a five point likert scale which comprises of twenty (20) questions in four (4) major sections namely Section A, Section B, Section C and Section D. Data collection by the researcher is taken from respective apportioned or named sectors which thus include some consumers (users of the services) of mobile telecommunication service companies or firms. Each questionnaire is attached with instructions that clearly explains the purposes of the study and as such, some questionnaires is sent through mails and some part in handy and returned to the researcher as expected through the same way as distribution. The study is basically a survey research; hence the researcher relied mainly on primary data. Data on the socio-economic characteristics of respondents was analyzed using descriptive statistics, frequencies and percentages. Data on total quality management as competitive advantage tool in mobile telecommunication services dimensions, customer satisfaction on the services were analyzed using correlations and multiple linear regressions. The Statistical Package for Social Sciences (SPSS) is used to process the data set.

RESULTS

Preliminary Analysis

Data collected from the respondents are explored in this chapter to identify the nature of the variables. Through the exploration, some of the objectives and research questions would be answered. The mean and standard deviation of the attributes, age distribution, frequency distribution of mobile phone network, bar graphs of the opinion of respondents on the mobile phone attributes are used to explore the data. Bartlett.s test of sphericity proposed by Bartlett (1954) as well as Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy proposed by Kaiser and Rice (1974) are used to ascertain the appropriateness of the use of factor analysis in further analysis, while Cronbach.s alpha is used to test the reliability (consistency) of the data (Nunnally,1978).

Correlation Matrix of the Variables (Mobile Phone Attributes)

The correlation matrix of the data obtained to understand the attributes of mobile phone network is shown in Table 1. Surprisingly, there are relatively low positive correlations among all the mobile phone attributes ranging from 0.151 to 0.787. The lowest correlation 0.151 is between “Close relations (eg. Friends, Family etc) use same network” against “Network has wider coverage”. This convinces us that a network that has more people who are closely related such as family and friends does not necessarily has a when the network has a wider coverage area or a network that has a wider coverage area does not mean it has more people who are closely related such as family and friends are patronizing the network.

Table 1: Correlation matrix of the mobile phone attributes (variables)

	Network has wider coverage	I am very loyal to my network	Lower tariff	Frequent Promotions/Rewarding Motivation	Close relations (e.g. Friends, Family etc.) use same network	Faster internet speed	Cheaper starter pack	Strong network in my area	Mobile Phone Banking services	Frequently organize games of chance	Has good adverts	Active in charity/social work
Network has wider coverage	1.000											
I am very loyal to my network	.266	1.000										
Lower tariff	.152	.498	1.000									
Frequent Promotions/Rewarding Motivation	.414	.426	.529	1.000								
Close relations (eg. Friends, Family etc) use same network	.151	.170	.356	.483	1.000							
Faster internet speed	.419	.165	.292	.453	.555	1.000						
Cheaper starter pack	.421	.447	.283	.560	.352	.510	1.000					
Strong network in my area	.462	.653	.345	.599	.430	.561	.787	1.000				
Mobile Phone Banking services	.453	.253	.258	.477	.574	.471	.288	.298	1.000			
Frequently organize games of chance	.452	.192	.287	.517	.464	.456	.445	.537	.514	1.000		
Has good adverts	.505	.200	.292	.356	.481	.561	.189	.423	.625	.616	1.000	
Active in charity/social work	.366	.591	.386	.393	.320	.340	.328	.320	.443	.721	.527	1.000

Moreover, the highest correlation 0.787 is found between “Cheaper starter pack” and Strong network in my area”. It is not surprising that these two mobile phone attributes have relatively high correlation as compared to others, this means, cheaper starter pack influences one’s choice of that particular network. This is because during these activities (events) adverts are made and it creates awareness so that when one wants to purchase a network, that particular network would be most appealing.

The null hypothesis, H_0 that the population correlation matrix is an identity matrix or the variables are uncorrelated ($r=0$) - is rejected by Bartlett’s test of sphericity. Since there are correlations (though, low positive correlations) among the mobile phone attributes, then there is a strong reason for factoring or factor analysis is an appropriate technique for the analysis.

Kaiser-Meyer-Olkin (KMO) And Bartlett's Test

Table 2 shows Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's Test of sphericity. The KMO statistics varies between 0 and 1. The value of KMO is very close to 0.768, is large (that is > 0.5). We therefore say that the data is very adequate for factoring. This indicates that correlations between pairs of variables (mobile phone attributes) can be explained by other variables (mobile phone attributes) and that, factor analysis is appropriate and correlation matrix is appropriate for factoring.

Moreover, the Bartlett’s test of sphericity is also highly significant with p-value of 0.000 at relatively high chi-square value of 991.234. These tests suggest that factor analysis is appropriate for the data.

Table 2: Kaiser-Meyer-Olkin (KMO) and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.768
Bartlett's Test of Sphericity	Approx. Chi-Square	991.234
	df	66
	Sig.	0.000

Source: Author’s Field Data, October 2017

Factor Analysis

In this section eigenvalues and scree plot is used to determine the number of factors that best summarizes the data.

Factor Extraction

Use of Eigen Value Analysis

In this, eigenvalues greater- than- one rule is used to determine the number of factors (component) to be extracted or retained.

As indicated in Table 3 below, eigenvalues and percentage of variation explained by all the twelve indicator variables (mobile phone attributes). It is clear from Table 13 that, only three (3) components (mobile phone attributes) out of the original fourteen (14) components (mobile phone attributes) have eigenvalues $\lambda_1 = 5.379$, $\lambda_2 = 1.380$ and $\lambda_3 = 1.082$ are significantly greater than one. This proposes that three factors can be extracted.

Table 3: Total Variance Explained

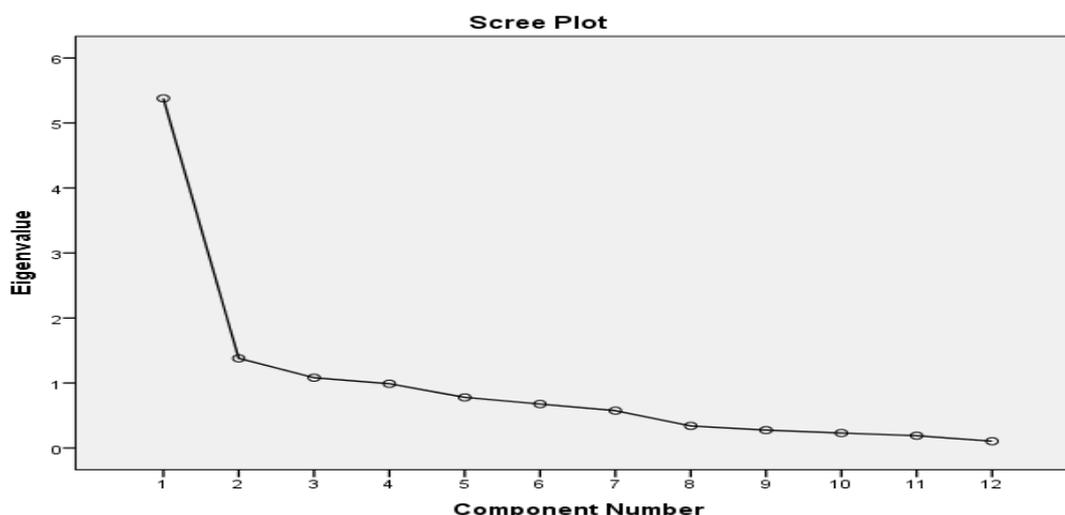
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Eigenvalues	% of Variance	Cumulative %	Eigenvalues	% of Variance	Cumulative %
1	5.379	44.823	44.823	5.379	44.823	44.823
2	1.380	11.496	56.319	1.380	11.496	56.319
3	1.082	9.016	65.334	1.082	9.016	65.334
4	.989	8.240	73.574			
5	.779	6.491	80.065			
6	.677	5.638	85.703			
7	.575	4.791	90.494			
8	.340	2.835	93.329			
9	.275	2.295	95.625			
10	.230	1.921	97.545			
11	.190	1.582	99.127			
12	.105	.873	100.000			

Source: Author's Field Data, October 2017

Scree Plot

Figure 1 below shows the screen plot with an arrow indicating the point of inflexion on the curve. It can be observed that a divergent break occurs at the second component (factor) that is where the arrow is pointing in diagram. Moreover, from the second component (factor) on, it can be observed that the line is almost flat (uniform) meaning each successive factor is accounting for smaller and smaller amounts of the total variation. This means that two factors can be considered for extraction. In all, the maximum number of factors that best explain the data set must not exceed three.

Figure 1: Screen Plot



Reproduce Correlation Matrix

Table 4 shows the Reproduced Correlation Matrix and Residuals of the variables (mobile telecommunication network attributes). The diagonal values in the reproduced matrix (indicated by a), is the communalities; and the residuals (the differences between the observed correlations and the reproduced correlations), in the bottom part of the table for the twelve (12) mobile telecommunication network attributes.

Table 14: Reproduce Correlation Matrix

	Network has wider coverage	I am very loyal to my network	Lower tariff	Frequent Promotions/Rewarding Motivation	Close relations (e.g. Friends, Family etc.) use same network	Faster internet speed	Cheaper starter pack	Strong network in my area	Mobile Phone Banking services	Frequently organize games of chance	Has good adverts	Active in charity/social work
Network has wider coverage	.468 ^a											
I am very loyal to my network	.180	.645 ^a										
Lower tariff	.135	.119	.647 ^a									
Frequent Promotions/Rewarding Motivation	.393	-.085	.504	.719 ^a								
Close relations (eg. Friends, Family etc) use same network	.377	.315	.496	.503	.579 ^a							
Faster internet speed	.452	.158	.472	.626	.570	.634 ^a						
Cheaper starter pack	.351	-.153	.383	.634	.391	.528	.575 ^a					
Strong network in my area	.419	-.066	.475	.711	.503	.629	.629	.707 ^a				
Mobile Phone Banking services	.497	.436	.282	.394	.540	.536	.308	.418	.653 ^a			
Frequently organize games of chance	.582	.155	.170	.525	.455	.571	.478	.556	.591	.733 ^a		
Has good adverts	.542	.393	.205	.399	.508	.534	.329	.430	.660	.653	.689 ^a	
Active in charity/social work	.547	.037	-.109	.360	.238	.392	.368	.403	.462	.697	.567	.793 ^a
Network has wider coverage												
I am very loyal to my network	.085											
Lower tariff	.018	-.063										
Frequent Promotions/Rewarding Motivation	.021	.020	.025									
Close relations (eg. Friends, Family etc) use same network	-.226	-.145	-.140	-.020								
Faster internet speed	-.034	.007	-.179	-.173	-.015							
Cheaper starter pack	.070	.216	-.101	-.074	-.039	-.018						
Strong network in my area	.043	.103	-.129	-.111	-.074	.158	-.068					
Mobile Phone Banking services	-.045	-.184	-.024	.084	.033	-.065	-.020	-.120				

Frequently organize games of chance	-.130	.037	.116	-.008	.009	-.115	-.032	-.019	-.077			
Has good adverts	-.038	-.194	.086	-.043	-.027	.027	-.140	-.008	-.035	-.037		
Active in charity/social work	-.180	.007	.121	.033	.081	-.052	-.041	-.083	-.019	.023	-.040	

Extraction Method: Principal Component Analysis.

a. Reproduced communalities

b. Residuals (after the line) are computed between observed and reproduced correlations. There are 33 (50.0%) nonredundant residuals with absolute values greater than 0.05.

From the table 4 above, the values of the reproduced matrix are close to the values in the original correlation matrix, or residual matrix is close to zero. Since the reproduce matrix is very similar to the observed correlation matrix, then the three factors that were extracted accounted for a great deal of the variance in the original (observed) correlation matrix. Thus, these few (three) factors do a good job of representing the original data.

Factor Rotation**Table 15: Rotated Component Matrix^a**

	Factors		
	1	2	3
Frequent Promotions/Rewarding Motivation	.772		
Lower tariff	.747		
Strong network in my area	.740		
Faster internet speed	.648		
Cheaper starter pack	.648		
Close relations (eg. Friends, Family etc) use same network	.576		.438
Active in charity/social work		.888	
Frequently organize games of chance		.763	
Has good adverts		.628	.471
Network has wider coverage		.601	
I am very loyal to my network			.796
Mobile Phone Banking services		.508	.541

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

Table 15 shows the Rotated Component Matrix^a. From the table, factor loadings less than 0.4 have not been displayed because these loadings were suppressed. The variables are listed in the order of size of their factor loadings because the output was sorted by size.

It is important to note that the factor rotation does not change the underlying solution. It can be seen from Table 15 that factor 1 has high coefficients (correlations or loadings) for attributes such as; Lower tariff, Strong network in my area, Faster internet speed, Cheaper starter pack, and Close relations (eg. Friends, Family etc) use same network. This factor is therefore considered as customer care factor. There is no doubt that potential subscribers look for quality network before making a choice.

It is interesting that factor 2 has high loadings or correlation on the attributes such as; Active in charity/social work, frequently organize games of chance, has good adverts, Network has wider coverage, and Mobile Phone Banking services. This factor is therefore considered as reception benefit factor. Thus, subscribers consider the reward schemes that the network operators can offer him or her and the society before choosing a particular network. It is undoubted that a sports fan would definitely go in for a network operator that sponsors sports (football matches). Also, there is no doubt that an entertainment (music and dance) fan would choose a network that sponsors entertainment.

Finally, factor 3 has high coefficients or loadings (correlation) for attributes such as; Close relations (eg. Friends, Family etc) use same network, has good adverts, I am very loyal to my network, and Mobile Phone Banking services. This factor is therefore considered as relationship benefit factor. It is convincing that subscribers choose network which has direct relation or benefit from his or her relationship with people he or she knows.

From all the analysis carried out, it is clear that, the three (3) factor solution is appropriate and adequate in explaining the differences that exist in the choice of mobile telecommunication network of the people of Ghana. The first factor is the customer care factor of the people; the next is the reception benefit factor, whilst the last factor is the relationship benefit factor. These three (3) factors identified, best summarize the people's choice of mobile phone network in Ghana.

DISCUSSION

It is substantial to recognize that “long time usage” is the most important (90%, from Table 6) attribute that the subscribers consider. It is true that a subscriber who has used a particular network for a very long time finds it very difficult to change over since most of his/her relations would miss him/her. The next most important attribute is “wider coverage” this is convincing that potential customers look for a network that has nationwide coverage (79.3%, from Table 6), while “lower tariff” is the third most important attribute (70%, from Table 6). It is believed that lower tariff draws potential subscriber's attention to that network.

The participants consider “games of chance” as less important (59.3%, from Table 6). The respondents anticipate that lucky games (lotteries) organized by the mobile telecommunication network operators do not influence them in their choice of mobile telecommunication network.

The MTN which has largest market share as announced by the National Communication Authority (May 2017) in the Ghana's Daily Graphic, still continues to enjoy that privilege in Ghana. Tigo has the third market share after Vodafone in Ghana.

These two mobile phone operators (MTN and Vodafone) that have the largest market share in Ghana operate mobile money services-MTN mobile money and Vodafone Cash. This might be the reason why MTN and Vodafone have overtaken Tigo in terms of market share. It will not be surprising if Tigo and Airtel (which provides money services) overtake Vodafone in the near future. This is a wake-up call for the network providers who are not in mobile money banking services to do so. Expresso which has the least market share in the study area, operates analog services, that is subscribers do not use chip and one has no chance of changing the phone once they have bought analog phone. I believe that if they continue with this service their already existing subscribers might change for other networks.

However, there is a low correlation among the mobile phone attributes; the highest correlation is found between “Cheaper starter pack” and “Strong network in my area”. It is not surprising that these two mobile phone attributes have a high positive correlation as compared to others. This means, stronger network in an area of the network operator influences one's choice of mobile phone network. The lowest positive correlation recorded between “Close relations (eg. Friends, Family etc) use same network” against “Network has wider coverage” indicate that a network that has wider coverage does not necessarily mean more people who are closely related such as family and friends are patronizing the network.

The three (3) factors that recap the data showed that subscribers consider “customer care factor” (which talks about what the operators are doing for its customers and the nation at large) is considered the most significant by the participants. It is important that what mobile telecommunication operators are doing for the society is having a positive impact on the people of Ghana.

The “relationship benefit factor” (which talks about the relationship with other people) is the next most significant factor. It is not surprising that closely related people such as family and friends use the same network since the reward schemes and promotions (free calls to the same network) would be enjoyed by them. Thus, the relationship with other people influences one’s choice of mobile phone network by the people in Ghana.

The “reception benefit factor” is considered the third significant factor when making a choice. This is drawing our attention to the fact that “wider coverage”, “reliability” and “fast internet speed” of a network are not all that important when it comes to the choice of mobile phone network.

CONCLUSIONS

In conclusion, subscribers who decided to subscribe to MTN network considered “long time usage” as their most important attribute. Secondly, the subscribers also consider “wider coverage” as their next most important attribute when it comes to subscription of a network. Furthermore, majority of the subscribers considered “lower tariffs” as their third most important attribute that lure them in choosing MTN and Vodafone network. The least important (or influential) attribute is “games of chance”. Additionally, respondents consider “customer care” as the most important and “reception benefit” of the network operator as the least important factor when choosing a network. Therefore, total quality management is regarded as a competitive advantage tool among in the mobile telecommunication industry in Ghana.

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