THE EFFECT OF TELECOMMUNICATION PRICE WAR ON CONSUMERS IN THE KUMASI METROPOLIS

BY

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BSc, (Hons)

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THESIS TOPIC

THE EFFECT OF TELECOMMUNICATION PRICE WAR ON CONSUMERS
IN THE KUMASI METROPOLIS

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JUNE, 2011
DECLARATION

I hereby declare that, this project report is the result of my own work, except for the literature whose sources have been explicitly stated and that, this thesis has neither in whole nor in partly been prescribed by another degree elsewhere.

..........................................................             ....................................................

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(SUPERVISOR)             (STUDENT)

...........................................................................

PROFESSOR ISAAC DONTWI
(DEAN, IDL)
ABSTRACT

Twelve months ago, the Ghanaian telecom sector's average mobile call rate was fifteen Ghana pesewas (GHp 15) per minute. Today, it has fallen sharply to eight Ghana pesewas (GHp 8) per minute. Vodafone, Zain, Tigo and MTN have all announced price cut of up-to 50% from their original levels. As good as consumers in Kumasi Metropolis may find the price war, very little is known about how responsive consumers would to the price decreases and how the price reduction affects consumers’ spending. This research looked at how consumers perceived the existence of price war in the telecom industry and how they have responded to these price decreases in the telecommunication industry. This researched also looked at the effect of price war on consumer spending on telecommunication and effects on service quality in the industry. The research analysis was based on a consumer survey that involved 200 subscribers in Kumasi Metropolis primarily from four tertiary institutions in Kumasi. The research findings showed that the recent acquisition of mobile operator, Zain, by India’s Airtel, prompted the all-out price war. And consumers, the intended beneficiaries were aware of the price war phenomena in the telecom industry. The Price war has caused an increase in multiple subscriptions in Ghana, a situation which was also worsening because of the introduction of dual SIM card mobile phones in the market. However, people were unwilling to change or switch completely to a different network because of high switching cost. This research found that spending by consumers across networks has decreased because subscribers have acquired additional sim cards therefore, many people carefully choose network to use in order to get the best rate depending on who they are calling. Because more attention is given to winning the current price war, key service qualities has been neglected. This research established the following service qualities exist in the industry: Poor customer service, poor signal availability, average call connection rate, high call drop rate, less accurate billing. Finally, the research also established that consumers prefer cheaper brand in terms of services charges. However, that must be in consonance with an excellent service quality.
DEDICATION

I wholeheartedly dedicate this research work to the Lord Almighty through whose guidance and protection I have been able to reach this far in my education.

Secondly, to the people who gave meaning to my life especially to my parents, my son Evion Keifer Suntherland, supervisor, unibank staff and all the participants.

Thank you so much.
ACKNOWLEDGEMENTS

To God be ALL the glory for His inspiration, protection and guidance granted me to come out with this project.

I wish to express my sincere gratitude to my Supervisor, ERIC OSEI OWUSU-KUMIH, for his contributions and encouragement.

Finally, I would like to thank my husband who contributed in diverse ways to make the project come to reality.

May the Good Lord richly bless you all.

Thanks.
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CHAPTER ONE
GENERAL INTRODUCTION

1.1 Background of Study

Hundreds of millions of Ghana Cedis are at stake in an explosive price war between the five mobile telephone operators in Ghana, over tariffs. Twelve months ago, the Ghanaian telecom sector's average mobile call rate was fifteen Ghana pesewas (GHp 15) per minute, it then fell to ten Ghana pesewas (GHp 10) and then subsequently to eight Ghana pesewas (GHp 8) per minute. Vodafone, Zain, Tigo and lately MTN have all announced price cut of more than 50% from their original levels.

Price war is a term used to indicate a state of intense competitive rivalry amongst competitors, accompanied by a multi-lateral series of price reduction. One competitor lowers its price, and then others will lower their prices to match. If one of them reduces the price again, a new round of reductions starts (Wuebker and Baumgarten 2006). Marketing experts often say that Creating low price appeal in order to increase customers is often the goal, but the result of one retaliatory price slashing after another could results to detrimental effect on revenues in the industry hence profits (Barnes 2004).

The telecommunication industry currently has more than sixteen million subscribers which include multiple subscriptions (NCA, 2010). Price wars within the Telecom industry can create economically devastating and psychologically debilitating situations
that take an extraordinary toll on the subscriber, the company, and the industry profitability. No matter whom wins, the combatants all seem to end up worse off than before they joined the battle. And yet, price wars are becoming increasingly common and uncommonly fierce in Ghana.

1.1.1 Problem Statement

While consumers may benefit from price wars within the telecommunications market, it is instructive to investigate whether or not consumers are better off. How responsive have consumers been to the price war? And does the price reduction have any effect on consumers’ spending? To the best of my knowledge, not a single empirical paper has systematically examined the effect of the price war on consumers in the telecommunication industry in Ghana. This is an important gap, since the net outcome for firms involved in a price war hinges upon these (possibly countervailing) effects. This research work will attempt to fill this gap in literature.

1.2 Objectives

The objectives of this research work are as follows:

1. To determine whether price war exist in the telecom industry from the consumer perspective.
2. To determine consumer response to price war in the telecommunication industry in Ghana.
3. To determine the effect of price war on consumer spending on telecommunication.
4. To determine whether Price war affects service quality in the industry.
5. To determine whether price war affects service provider’s brand image.

1.3 Research Questions

This study aims at addressing the following research questions:

1. What do consumers make of the existence of price war in the telecom industry in Kumasi Metropolis?
2. How do consumers respond to price war in the telecommunication industry in Kumasi Metropolis?
3. What is the effect of price war in the telecom industry on consumer spending in Kumasi Metropolis?
4. Does price war affect service quality in the telecom industry?
5. Does price war affect service provider brand image?

1.4 Justification of the Research

Globacom Ghana, the sixth national operator’s entry into the Ghana telecoms market has hyped intense price wars between the sector operators that include MTN, Vodafone, Kasapa, Tigo and Zain. The fierce price war that is raging has left consumers at the receiving end as the major beneficiaries. Watchers and researchers have noticed
substantial reductions in the unfolding price drama within telecoms industry over the last twelve months.

Government would see the downward price movements as the key value driver for further increasing the penetration rates of rural telephony in Ghana, and this would be a fulfilment under the restructurings, deregulations and privatizations in the telecom sector in the middle 90s (ADP 2000). The industry regulator National Communication Authority would be left with a huge responsibility to keeping players in check thereby not being seen as mala fide. However, it lasting on consumers is yet to be seen, from above, price cutting in the industry would have some form of impact whether positive or otherwise on all consumers.

In the developed economies, academic researchers and practitioners alike know that the outbreak of a price war means disastrous consequences for firms involved and hence they all view price wars in an industry as the failure of managerial rationality. Therefore it is would be of relevance that an empirical evidence are adduced to support a decision making position within this industry especially regarding its effect on consumers in Ghana.

1.5 Limitations

Our study is limited to make two hundred randomly selected young adults from four selected tertiary schools in Kumasi to fill out a questionnaire provided by the
researcher. They will answer questions regarding the price war within the telecom industry in Ghana and issues relating to it. The researcher is aware that by only asking young university students in Kumasi about the effect of price war on the consumer in the telecom industry it won’t be possible to draw conclusions concerning all of Kumasi Metropolis on the topic. However, the researcher is of the view that, young adults are the most frequent users of phones and therefore creating a general picture of young adult towards this issue is very relevant.

1.6 Synopsis of the Chapters

1.6.1 Literature Review

The chapter two is the literature review which relates to the study of the previous secondary data available on this topic. This chapter primarily includes what Price War is all about, the merits and demerits associated with it, the effectiveness Price War and its effect on the industry.

1.6.2 Practical research Methodology

The chapter three establishes the method to be adopted to carry out this study and thus it talks about the appropriateness of quantitative research as compared to the usage of qualitative approach for this particular research. Also the use of survey with the help of questionnaire has been reasoned in this chapter. Apart from this the criterion for the selection of the sample size is disclosed.
1.6.3 Presentation of Empirical Data
The chapter four reveals the analysis and interpretation of the responses which were collected during the interviews. A wide range of sub-topics under this theme has been touched upon; some of the results are consistent with the literature review and some opposing.

1.6.4 Discussion and Analysis
The chapter five is related to the final conclusion where all the findings from the research have been summarized. Finally expresses the limitations that were faced while conducting this research. It also states an extensive area appropriate for future research.
CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

In the battle to capture the customer, companies use a wide range of tactics to ward off competitors. Increasingly, price is the weapon of choice - and frequently the skirmishing degenerates into a price war. Creating low-price appeal is often the goal, but the result of one retaliatory price slashing after another is often a precipitous decline in industry profits (Rao et al, 2000).

Price wars can create economically devastating and psychologically debilitating situations that take an extraordinary toll on an individual, a company, and industry profitability. No matter who wins, the combatants all seem to end up worse off than before they joined the battle. And yet, price wars are becoming increasingly common and uncommonly fierce.

In July 1999, Sprint announced a night-time long distance rate of 5 cents per minute. In August 1999, MCI matched Sprint's off-peak rate. Later that month, AT&T acknowledged that revenue from its consumer long-distance business was falling, and the company cut its long-distance rates to 7 cents per minute all day, every day, for a monthly fee of $5.95. AT&T's stock dropped 4.7% the day of the announcement. MCI's stock price dropped 2.5%; Sprint's fell 3.8% (Harvard Business Review, 2000).
2.2 Development of Telecommunications in Ghana

The history of telecommunications in Ghana dates back to the colonial era when the system was established by the British administration for one basic purpose to facilitate control and exploitation of the colony (Allotey & Akorli, 1999; Noam, 1999). The form of state-run monopoly systems, focused mainly in areas of economic activity, thus established the basis for the structure of telecommunications after independence. This structure persisted in Ghana until the early 1990s when it was caught up in a wave of restructurings, deregulations and privatizations sweeping the continent (Sarbib, 1997).

The liberalization process was motivated by a combination of pressure from international finance agencies, WTO commitments, inefficiency in the existing system, the government’s need for revenue, and a desire to promote universal service (Addy-Nayo, 2001; Bennell, 1996; Frempong & Henten, 2004; Noam, 1999; Noll & Shirley, 2002). Active design and implementation of telecommunications reform in Ghana begun with the Accelerated Development Programme 1994-2000 (ADP 2000), which sought primarily to promote competition in the telecommunications industry.

2.2.1 Introduction of Mobile Telephony in Ghana

The first rollout of mobile phones in Ghana was undertaken by Millicom International Cellular S.A. in 1992 with its Mobitel brand. Millicom, a Luxembourg-based company, has operations in 17 countries in Latin America, Africa and Asia. Millicom has been operating in Africa for 14 years with Ghana being the first country it moved into
(Romero, 2006). It started out using the analog ETACS (Extended Total Access Communication System) standard and switched to digital under the brand name Buzz in 2000. The brand, and company name, was changed again to tiGo in March 2006 to conform to a global branding strategy. In terms of subscription levels, tiGo is currently the second largest network. Celtel joined the field in 1994. It is currently owned by Hutchison Telecommunications International Limited, which is based in the Cayman Islands and operates in nine markets in Africa, the Middle East and Asia. Celtel originally run on an analog AMPS (Advanced Mobile Phone Service) system. It went digital in 2005 and is the only mobile phone network provider using the CDMA (Code Division Multiple Access) standard, a feature that was primarily determined by the company’s history with its US shareholders and the spectrum the company was allotted (this is discussed below in the section on network technology).

Celtel was re-branded Kasapa in 2003 to give it a local identity, and has since then pursued a distinct strategy aimed at low-income subscribers and until recently, Espresso. Despite its relatively early entry into the market, Celtel failed to capture a significant market share due to management problems. Mobitel had so dominated the market that “mobitel” became the generic name for mobile phones in Ghana. Capital Telecom was licensed in 1995 to provide rural telephony in southern Ghana via wireless local loop. This was part of a Rural Telecommunication Project initiated by the Ministry of Telecommunications and Transport. Capital Telecom faced numerous technical, managerial and political problems, which eventually led to its collapse. Its equipment
had a capacity of 10,000 lines but Capital Telecom never installed more than 600 lines. Outside of this attempt at rural telephony, mobile phone ownership was limited to government officials and wealthy business people.

2.2.2 From Analog to Digital

Mobitel began to lose its hold on the market when Scancom, entered the market in 1996 using GSM (Global System for Mobile Communication) technology, and rapidly captured the market. Scancom was taken over by Investcom LLC and renamed Areeba in 2005, and then was taken over by the MTN Group in 2006, through its acquisition of Investcom. MTN, a South African-based mobile phone network provider, is currently present in 21 countries in Africa and the Middle East. Areeba is currently the largest network provider in terms of subscriptions although it has been losing market share in the last year (56% in September 2006, down from 64% in January the same year, Goshen, 2006). From this point onwards, each company that entered the industry opted for the GSM digital standard. The next entrant was Onetouch, a subsidiary of Ghana Telecom (GT), the incumbent national fixed line provider. Technically, Onetouch is supposed to function as an independent company; however in practice it continues to be a branch of GT. As such it is state-owned, with a foreign partner providing management services. The mobile phone service began in 2000 and is currently third place in terms of market share. Westel started operating as Ghana’s second national telecommunications network provider in 1996, providing fixed wireless services on a CDMA network. Ownership has since shifted from full government ownership (via a
government-owned entity, the Ghana National Petroleum Company, GNPC) to part
government (one-third), part strategic investor (Western Wireless of the US) and
recently back to full government ownership. Plans are underway to find a new strategic
partner. Management problems as well as interconnection problems with Ghana
Telecom have prevented Westel from fully taking off. Subscriptions have stagnated at
less than 3000 fixed wireless lines since 1999. In November 2006, the company
announced that it is preparing to launch a GSM mobile phone service, which will make
it the fifth mobile phone network providers.

<table>
<thead>
<tr>
<th>Major shareholder</th>
<th>Tigo</th>
<th>Kasapa</th>
<th>Areeba</th>
<th>Onetouch</th>
<th>Westel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Millacom International Cellular S. A. (100%)</td>
<td>Hutchison Telecommunications International Ltd. (80%)</td>
<td>MTN Group (98%)</td>
<td>Government of Ghana (100%)*</td>
<td>Government of Ghana (100%)*</td>
<td></td>
</tr>
<tr>
<td>Start year for mobile service</td>
<td>1992</td>
<td>1994</td>
<td>1996</td>
<td>2000</td>
<td>n/a</td>
</tr>
<tr>
<td>Technology</td>
<td>GSM 900</td>
<td>CDMA 2000 1X</td>
<td>GSM 900</td>
<td>GSM 900</td>
<td>GSM 900</td>
</tr>
<tr>
<td>Subscriptions (2006)</td>
<td>1.546,721</td>
<td>200,104</td>
<td>2,585,467</td>
<td>877,106</td>
<td>0</td>
</tr>
<tr>
<td>Market share</td>
<td>28%</td>
<td>5%</td>
<td>54%</td>
<td>13%</td>
<td>n/a</td>
</tr>
</tbody>
</table>

*Both companies are in the process of seeking strategic investors.*

Table 2.1 A table showing Mobile phone Network providers adopted.
Source: Mobile communication and development: a study of mobile phone appropriation in Ghana (Sey, A., 2008)

Interestingly, Kasapa reinvested in analog equipment in 2000, four years after Scancom
had commenced operations with a GSM network and had demonstrated that the market
preferred this technology to the analog system. By this time, the benefits of digital
versus analog were clear to the consuming public – for instance, less bulky handsets,
better signal coverage, texting ability, and caller identification. The strategy of maintaining the analog network served primarily to give Kasapa a continued presence in the market, but an insignificant market share, although its subscriber base (which had been in decline) did begin to grow after 2001.

With three companies in the market (Mobitel, Celtel and Scancom) there was more choice for consumers, but little else changed. Network providers continued to offer service in essentially the same way. Telephony was still the preserve of the wealthier population, until the drive for market expansion and revenue reliability led network providers to the prepaid system.

2.3 Price War

Modern marketing begins and ends with the customer needs. Satisfaction of customer needs is the function and goal of marketing. Marketing management continuously endeavours to improve the quality of life of the people by providing them better products and services at affordable prices (Rao et al. 2000, Busse 2002). Marketing is an ongoing and dynamic process involving a set of interacting activities between producers and consumers, meeting the consumer demands and expectations in a fair manner. Besides quality, price is a critical component in the marketing of any product or services. Pricing has an important bearing on the competitive position of a product. The consumers support directly depends on the price fixed (Heil and Helsen 2001). The marketing manager often uses pricing as a tool for achieving the targeted market share
or sales volume. The marketing managers of different and competing business enterprises/industries dealing with same and/or similar kind of products often resort to competitive pricing in order to capture major market share or out beat the competitor in the market, which often leads to price war in the market field.

Price war is a term used in economic sector to indicate a state of intense competitive rivalry amongst suppliers of goods and services, accompanied by a multi-lateral series of price reduction (Busse 2002). One competitor lowers its price, and then others will lower their prices to match. If one of them reduces the price again, a new round of reductions starts. In the short-term, price wars are good for consumers, who can take advantage of lower prices. Often they are not good for the companies involved. The lower prices reduce profit margins and can threaten the survival of supplier companies. In the medium to long term, they can be good for the dominant firms in the industry.

Typically, the smaller, more marginal firms cannot compete and must close. The remaining firms absorb the market share of those closed. The real losers then, are the marginal firms and their investors. In the long term, the consumer may lose too. With fewer firms in the industry, prices tend to increase, sometimes higher than before the price war started (Heil and Helsen 2001). Price wars are characterized by competing firms struggling to undercut each other’s prices (Assael 1990). Urbany and Dickson (1991) refer to a “price-cutting momentum,” the downward price pressure that drives other competitors to follow the initial move. Price is the logical weapon of choice: it is
easy to change fast (Kalra, Raju, and Srinivasan 1998). Unlike typical intense price competition, price wars lead to prices that are not sustainable in the long term (Schunk 1999). Based on an extensive review of business press articles and academic literature, Heil and Helsen (2001) define a price war to require one or more of the following conditions: a strong focus on competitors instead of on consumers, the pricing interaction as a whole is undesirable to firms, the competitors did neither intend nor expect to ignite a price war, the competitive interaction violates industry norms, the pricing interaction occurs at much faster rate than normal, the direction of pricing is downward, and the pricing interplay is not sustainable.

Price wars have become a fact of life in a wide range of industries (Rao, Bergen, and Davis 2000). Business press and academic papers report on price wars in industries ranging from electricity (Fabra and Toro 2005), oil (Slade 1992), telecom (Young 2004), cars (Breshnahan 1987), airlines (Busse 2002), and fast food (Gayatri 2004) to groceries (Barnes 2004). Price wars erupt at various levels in the distribution channel, and with growing frequency and intensity (Heil and Helsen 2001). This leads Rao et al. (2000, p. 116) to conclude that “If you’re not in a battle currently, you probably will be fairly soon”.

Academic literature on price wars can be classified into three research streams. A first set of papers are game-theoretic contributions, with a strong focus on price war antecedents. An important price war trigger revealed by these papers is competitive
entry (Milgrom and Roberts 1982, Elzinga and Mills 1999). Other factors found inductive to price wars are declining economic conditions (Slade 1990, Eilon 1993) and – often related to this – consumers’ low (and/or declining) brand loyalty and high (and/or increasing) price sensitivity (Sairamesh and Kephart 2000, Klemperer 1989).

A second stream of more managerial papers reflects on the link between price wars and firm strategies and characteristics.

Companies with high exit barriers (Heil and Helsen 2001), and high stakes in the market or a worsened financial situation (Busse 2002) are more inclined to initiate a price war or enter an on-going battle. In doing so, these firms hope to bring about a market clear-out and profit from reduced competition in the long term (Fudenberg and Tirole 1986, Klemperer 1989), or at least to halt the loss of customers and maybe even re-attract clientele (Elzinga and Mills 1999, Klemperer 1989). A widely advertised price cut may also establish a more favorable price image (Rao et al. 2000, Busse 2002).

A final stream consists of empirical papers documenting price war consequences. Unfortunately, despite the importance of price wars, such empirical contributions are extremely scarce, and suffer from some limitations. While the studies by Green and Porter (1984), Breshnahan (1987), Rotemberg and Saloner (1986) and Levenstein (1997) do provide a flavor for the nature and impact of price wars, the data set limitations of these studies do not allow to go beyond a rough empirical assessment. Heil and Helsen (2001) provide some preliminary evidence on overall price war effects
for 15 case-studies in a diversity of industries - which include dwindling prices, declining image and revenues, and profit erosion for the parties involved. They also provide initial indications of increased shelf price elasticities for incumbent brands of a personal care product, following a price war.

2.3.1 Effects Price War on Consumer Spending

Henderson (1997) suggests that, in the absence of a strong and sustainable cost advantage, price wars are “good for absolutely nothing” and may lead to dramatic losses for the market players involved. Work done by Heerde et al, 2007 established how price wars affect consumer spending, leading to negative impact of the price war on some market players and a positive impact for others. Given the focus on a retail setting, the decomposition of this spending effect into two major components i.e. (i) store visits, and (ii) spending, once a consumer decides to buy in the store. Moreover, we distinguish between the price war’s (i) main effect on these performance measures and (ii) its moderating impact on consumers’ sensitivity to weekly store prices and to overall store price image. From the findings above, the researcher expects substantial differences in the price war’s performance effects in the short term versus the long term. The latter is important from a managerial perspective, as great initial results may encourage retailers to further cut prices, even when the long-term effects of competitive escalation are disastrous (Dekimpe and Hanssens 1999, Ghemawat 1991).

Again, by definition, price wars constitute market disruptions: market players announce major strategy changes, and formulate unprecedented claims on reduced prices. For
instance, the two major high-service/high price Dutch retailers stated that shopping in their chain allows for “dramatic savings” on grocery spending (Albert Heijn) and that “gigantic” benefits are to be reaped from permanent price reductions (Super de Boer). Such widely publicized claims may shake up consumers’ former beliefs about the market, and lead them to reconsider their established purchase patterns, both in terms of store visits and spending.

In the short term, i.e., right after the start of the price war, consumers face increased uncertainty about which stores offer the best value for money. As a result, they are likely to adopt risk-reducing strategies (Blattberg and Neslin 1989), engaging in comparison shopping in order to update previous information (Mick and Fournier 1998). In other words, they will visit more chains, at least to check out the new prices in these stores.

At the same time, the price war’s influence on spending is subject to three forces. First, the price war leads to lower prices, and as a result spending reduces even when quantities remain the same. In our approach we focus on the impact of the price war on spending controlling for these price-driven changes. This impact may be negative due to the second force: consistent with the argument on uncertainty, consumers may split their total goods spending across more stores, thereby reducing the probability of systematically getting the worst deal (Fox and Hoch 2005). So while visiting more stores, shoppers would spend less per store. Conversely, the short-term impact of the
price war on spending may be positive due to the third force: the sudden and heavily publicized price drop may create an unexpected “psychological income” or “windfall” effect. For instance, one field experiment found that, when given a monetary award before entering a store, shoppers spend more in the store – in excess of the monetary award (Heilman, Nakamoto, and Rao 2002). In a similar vein, the price war’s sudden promise of “dramatic savings” may induce consumers to “burn a hole in their pockets,” that is, to disproportionally increase their spending, as the savings enable them to afford better quality brands and to enjoy the transactional utility of getting a great deal (Chandon, Wansink, and Laurent 2000).

2.3.2 Price War Decrease Consumer Spending Long-Term

Compared to the short term, we see little reason for the price war to increase store visits in the long term. Indeed, consumers in mature markets tend to develop stable purchase patterns which are only temporarily disrupted by marketing activities (Ehrenberg 1988). While specific stores may benefit from increased visits in the long term (see below), consumers are unlikely to permanently increase the overall frequency of store visits. In contrast, the price war is likely to decrease spending in the long term, even after controlling for the changes driven by price reductions. Analogous to the argument for the short-term effect, the researcher expect that a shopping environment characterized by an escalating price war induces consumers to split their total goods spending more evenly across the stores they visit. In contrast, the opposing force of a windfall effect is most likely only short-lived as families are unlikely to consume much more food overall
– even when prices drop substantially. An analogous result holds at the category level:
while weekly price promotions may expand the category substantially, they do so only
temporarily (Pauwels, Hanssens, and Siddarth 2002, Van Heerde, Leeflang, and Wittink
2004).

2.3.3 Effects of Price War Consumer Sensitivity and Brand Image

One of the unique features of a price war is that pricing interactions occur at a much faster rate than previously (Heil and Helsen 2001). Intensive price interactions make price a more easily accessible attribute, which, as a result, increases its importance as a purchase criterion (Wänke, Bohner, and Jurkowitsch 1997). Lab experiments by Wathieu, Muthukrshnan, and Bronnenberg (2004) show strong evidence for this effect in a brand setting: offering and retracting discounts decreases the subsequent choice share for high-priced brands, while it increases the choice share of low-priced brands.

A price war between stores may enhance a consumer’s reliance on two different types of price information. First, a consumer is confronted with actual, objective prices charged by stores, which may vary weekly as a result of regular price changes or promotional deals. These weekly prices determine how much the consumer will actually pay for a specific product basket, in a specific store and week. Store visit sensitivity to price is defined as the response parameter of weekly store price in the model for store visit probability, and the spending sensitivity to price as the response parameter of weekly store price in the model for spending.
Second, consumers also hold subjective summary views of the stores’ overall price appeal. As shown by Mägi and Yulander (2005), these subjective brand images constitute a separate price dimension that is at best moderately associated with actual objective prices and is more stable over time. Price image differentiates stores based on their perceived price positioning. This perceived price positioning has been found to exert an important influence on store selection (Arnold, Oum, and Tigert 1983, Severin, Louvière, and Finn 2001), over and above objective weekly store prices.

Consistent with this dual retail price construct, increased sensitivity to weekly prices and brand image triggered by a price war may materialize in two ways (Lal and Rao 1997; Bell and Lattin 1998, Galata, Bucklin, and Hanssens 1999). First, the price war may stimulate more opportunistic buying behavior, consumers shopping around more to benefit from weekly deals on prices (Bell and Lattin 1998; Fox and Hoch 2005). Hence consumers will be more responsive to stores’ actual weekly prices (Fox and Hoch 2005, Drèze, Nisol, and Vilcassim 2004).

Clearly, responding more strongly to weekly prices requires increased effort from consumers. They may also engage in other, more general-impression-based forms of price-oriented shopping. A consumer's enhanced focus on price then translates into systematically seeking out stores with a favorable overall price image (Bell, Ho, and Tang 1998; Galata, Bucklin, and Hanssens 1999; Rhee and Bell 2002), and allocating
larger shares-of-wallet to these stores. Price wars are very different from a period of intense price promotions (Heil and Helsen 2001).

2.4 Causes of Price War

The main reasons that price wars occur are (Heil and Helsen 2001):

- **Product differentiation lacking**: Some products are, or at least are seen as commodities. Because there is little to choose between brands, price is the main competing factor.

- **Penetration pricing**: If a merchant is trying to enter an established market, it may offer lower prices than existing brands.

- **Oligopoly**: If the industry structure is oligopolistic (that is, has few competitors), the players will closely monitor each other’s prices and be prepared to respond to any price cuts.

- **Process optimization**: Merchants may incline to lower prices rather than shut down or reduce output if they wish to maintain the economy of scale. Similarly, new processes may make it cheaper to make the same product.

- **Bankruptcy**: Companies near bankruptcy may be forced to reduce their prices to increase sales volume and thereby provide enough liquidity to survive.

- **Predatory pricing**: A merchant with a healthy bank balance may deliberately price new or existing products in an attempt to topple existing merchants in that market.
Competitors: A competitor might target a product and attempt to gain market share by selling its alternative at a lower price. Some argue that it is better to introduce a new rival brand instead of trying to match the prices of those already in the market.

2.5 Reactions to Price Challenges

The first reaction to a price reduction should always be to consider carefully: Has the competitor decided upon a long-term price reduction? Is this just a short-term promotion? If it is the latter, then the reaction should be that relating to short-term promotional activity and the optimum response is often simply to ignore the challenge. Too often, price wars have been started because simple promotional activities have been misunderstood as major strategic changes (Drèze, et al, 2004). But if it seems that it is a long-term move then there are many possible reactions (Drèze, et al, 2004):

- Reduce price: The most obvious and most popular reaction is to match the competitor's move. This maintains the status quo (but reduces profits pro rata). If this route is to be chosen it is as well to make the move rapidly and obviously - not least to send signals to the competitor of your intention to fight.

- Maintain price: Another reaction is to hope that the competitor has made a mistake, but if the competitor's action does make inroads into a merchant's share, this can soon mean customers lose confidence and subsequent loss of sales.
Split the market: Branch one product into two, selling one as a premium and another as a basic. This effective tactic was notably used by Heublein, the owner of the Smirnoff brand of vodka).

React with other measures: Reducing price is not the only weapon. Other tactics can be used to great effect: improved quality, increased promotion (perhaps to improve the idea of quality)

2.6 Anatomy of the Telecommunication Price War in Ghana

Vodafone Ghana began the ‘war’ when it reduced its tariff from 14Gp per minute to 8Gp, but only on condition that the subscriber wishing to enjoy the new tariff registered through a code. In less than 48 hours, Zain (Airtel) unconditionally dropped its tariff from 12Gp per minute to 8Gp per minute, making it possible for subscribers to enjoy a new tariff regime, described by many even from other networks as the most attractive so far. (Narku-Dowuona, S. 2010)

The country's largest mobile operator MTN is announced a new tariff recently. According to the mobile operator, prepaid subscribers will have to pay just 7.5 pesewas for a minute spent talking on the phone and not the previous tariff of 14 pesewas which applied to calls to all networks. However, subscribers will first have to choose one of three tariff plans. Additionally they will only enjoy the low tariff if they speak for more than 3 minutes. The first minute according to the “talk a lot” plan for instance attracts 10 pesewas whilst the
second and third minutes attract a 9 pesewa tariff. TIGO by the way, charges a little over 16 Ghana pesewas whilst Kasapa or Expresso charges 15 Ghana pesewas also for peak time calls by prepaid users. Against this background, the tariffs stand as follows; Voice-On-Net (Peak), Zain 8Gp, MTN 7.5Gp, Tigo 15Gp and Vodafone 8Gp. For short messaging service (SMS), Zain charges 4Gp on-net, MTN 4Gp, Tigo 3.8Gp and Vodafone 4Gp while the off-net charges stand at Zain 4Gp, MTN 4Gp, Tigo 3.8Gp and Vodafone 4Gp.

2.4.1 Examples of Various Telecom Operators Price War Promos

2.4.1.1 Examples of Vodafone Price War Promos

2.4.1.2 Talk more with Vodafone

![Image of Vodafone Prepaid Card]

Figure 2.1 Example of Vodafone Prepaid Card

Great offer from Vodafone!

Top up your Vodafone mobile or prepaid fixed line and get bonus credits in the Vodafone Talk ‘n’ Talk promotion. Top up with GH¢ 2 or GH¢ 5 and get 50% bonus
credits. To get a bigger bonus, top up with GH¢10 or GH¢20 and get 75% bonus credits. Bonus credits can be used for all calls and SMS’s to all networks both local and international. They can also be used for browsing with our EDGE service on your mobile phone and data dongle.

2.4.1.3 Vodafone launches the lowest Mobile rate in Ghana!

Vodafone's new 8Gp tariff is the lowest mobile call rate in Ghana and allows prepaid customers to call any local network for only 8Gp per minute. This is not a discounted rate, unlike other networks where you only get discounts in certain Zones and or at certain times of the day, this is Vodafone's flat rate cost available all day every day. As you can see from the diagram below, MTN and Tigo charge you a whopping 14 and 15 Gp per minute.
This means that with Vodafone, you get to speak for a massive 12 and a half minutes for every GH₵1 you top up.
2.4.1.4 Examples on MTN Price War Promos

2.4.1.5 MTN Biggest Promo called MTN ZONE

Enjoy more talk time at unbeatable value with calls from as low as 1.5Gp on MTN Zone. Now, your MTN Zone is reloaded so you can talk more with friends and family in more places at 7Gp, 5Gp, 3Gp, or less per minute. When you make a call on MTN Zone, you see your call price on your phone. With the all new MTN Zone, you can talk for much less. Everywhere is still your Zone. MTN Zone calls are still billed per second. So go on and enjoy Best Coverage. Best Network Quality. Best 3G Coverage. Best Value Offers. Activate MTN Zone today. Send 1 to 135 and talk for much less. Life is always richer with MTN. MTN. Everywhere you go.
Figure 2.5 An ad showing an MTN Zone

Figure 2.6 An advert showing MTN SMS and IDD Bundle promo
With MTN ‘SMS Bundle’ Service, you can enjoy 20 SMS at only 50 Ghana Pesewas? Send a black text to 1322 to subscribe now and enjoy great savings when you send SMS messages only the network that enriches your lives everywhere you go.

Figure 2.7 A ad showing a 3.5 Modem Offer promo offered by MTN

2.4.1.6 MTN 3.5G Modems for free!

Own a brand new MTN 3.5G modem and Internet SIM for free when you buy 2.5GB of data/internet at only GHS60.

- Pay As You Go customers have a maximum of 3 months to use the 2.5GB of data.
- Individual Pay Monthly customers can pay upfront or have the cost included in their monthly bill.
- Corporate Pay Monthly customers have the option to pay upfront or choose a 12 or 24 month instalment plan.
2.4.1.6 Examples Airtel Price War Promo adverts

Figure 2.8 An ad showing Airtel Promo

Up until October, 2010 Airtel was known as Zain which was deeply involved in the price cutting initially. The table below shows the various tariffs at Airtel.
### Prepaid Tariff

<table>
<thead>
<tr>
<th>Service</th>
<th>On net</th>
<th>Off net</th>
<th>On net</th>
<th>Off net</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mobile &amp; Fixed Voice</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6am–10pm</td>
<td>8p/ min</td>
<td>8p/ min</td>
<td>1.5p/ min</td>
<td>8p/ min</td>
</tr>
<tr>
<td>10pm – 6am</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SMS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>On net</td>
<td>4p/ SMS</td>
<td>4p/ SMS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Off net</td>
<td>4.4p/ SMS</td>
<td>4.4p/ SMS</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MMS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>On net</td>
<td>18p/ MMS</td>
<td>18p/ MMs</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>One Network</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Receiving)</td>
<td>4p/ min</td>
<td>4p/ min</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Video Calls</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>On net</td>
<td>12p/ min</td>
<td>12p/ min</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Data</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>20p/ mb</td>
<td>20p/mb</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>F &amp; F</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(mobile to mobile)</td>
<td>5p/ min</td>
<td>5p/min</td>
<td>1.5p/min</td>
<td>1.5p/min</td>
</tr>
<tr>
<td>(mobile to fixed)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2.2 Table showing Airtel Postpaid and Prepaid Tariff
*Free night calls offer for 15Gp usage in a day.*

<table>
<thead>
<tr>
<th>Service Type</th>
<th>On Net</th>
<th>Off Net</th>
<th>6am – 10pm</th>
<th>10pm – 6am</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mobile &amp; Fixed Voice</strong></td>
<td></td>
<td></td>
<td>Peak</td>
<td>Off Peak</td>
</tr>
<tr>
<td>On net</td>
<td>8p/ min</td>
<td>8p/ min</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Off net</td>
<td>8p/ min</td>
<td>8p/ min</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SMS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>On net</td>
<td>4p/ SMS</td>
<td>4p/ SMS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Off net</td>
<td>4.4p/ SMS</td>
<td>4.4p/ SMS</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>MMS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>On net</td>
<td>18p/ MMS</td>
<td>18p/ MMS</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Video Calls</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>On net</td>
<td>12p/ min</td>
<td>12p/ min</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 2.3 Table showing Post-paid tariff of Airtel
2.4.1.6 Examples Tigo Price War Promo adverts

2.4.1.7 Tigo Number One Promo

Tigo #1 is a frequent number program which allows prepaid subscribers to have one Tigo number to which unlimited calls can be made for free, each month. To participate, the subscriber must be in the active status and must pay a subscription fee of GHC 4.99 each month.

Figure 2.9 An advert showing Tigo number one promo

2.4.1.8 Tigo Smart Talk Promo

Figure 2.10 An advert showing Tigo Smart Talk Promo
For every call made from one Tigo subscriber to the other, you only pay for the first three minutes and Tigo pays for the rest. Tigo is giving a life time opportunity to its customers to talk for longer durations but not all can afford to do so; Therefore a lot of subscribers rush through conversations and cut the line once they’ve said what they wanted.

<table>
<thead>
<tr>
<th>Prepaid Tariff</th>
<th>Services</th>
<th>Tariff Per second (Tax Exclusive)</th>
<th>Tariff Per second (Tax Inclusive)</th>
<th>Tariff Per minute (Tax Inclusive)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak Period</td>
<td>On-net calls</td>
<td>0.0024</td>
<td>0.0025</td>
<td>0.1500GP</td>
</tr>
<tr>
<td></td>
<td>X-net calls (Fixed and Mobile)</td>
<td>0.0026</td>
<td>0.0027</td>
<td>0.1620GP</td>
</tr>
<tr>
<td>Off Peak</td>
<td>On-net calls</td>
<td>0.0014</td>
<td>0.0016</td>
<td>0.096GP</td>
</tr>
<tr>
<td></td>
<td>X-net calls (Fixed and Mobile)</td>
<td>0.0026</td>
<td>0.0027</td>
<td>0.1620GP</td>
</tr>
<tr>
<td>Messaging</td>
<td>SMS (On-net)</td>
<td>0.0380</td>
<td>0.0403</td>
<td>0.0403GP</td>
</tr>
<tr>
<td></td>
<td>SMS (X-net)</td>
<td>0.0380</td>
<td>0.0477</td>
<td>0.0477GP</td>
</tr>
<tr>
<td></td>
<td>SMS (International)</td>
<td>0.1060</td>
<td>0.1124</td>
<td>0.1124GP</td>
</tr>
<tr>
<td></td>
<td>MMS (per data)</td>
<td>0.0009</td>
<td>0.0010</td>
<td>0.10GP per 100kb</td>
</tr>
</tbody>
</table>

Table 2.4 A table showing the various tariffs at Tigo
2.7 Avoiding the Price War

Price wars can lead to a severe erosion of profits. Unless there is a significant cost advantage, for the company introducing the price cut, a price reduction will lead to retaliation by competitors. So dropping prices normally does not lead to an increase in market share. Instead it leads to a sharp drop in profits (Bell, Ho, and Tang 1998).

Price wars also shape customer expectations. Research indicates that the lowest price people pay for a product or service is remembered longest, and becomes their reference point. Driving down prices to unreasonable levels has a dramatic influence on a customer's perception of what is a "reasonable" price long after the war ends (Heil and Helsen 2001). Price wars also divert the attention of customers away from product benefits towards price. That is usually bad for the industry.

Many of the justifications given by managers for entering a price war are untenable. The claim that weak competitors can be knocked out through a price war is weak. Indeed, there is sufficient empirical evidence to indicate that price wars are not guided by any logic. They tend to get emotional and continue long after it has become economically unviable to offer these products at such low prices.

As Mägi and Yulander (2005) point out, price wars usually occur by accident than by design. Sometimes, companies do embark on a price war, as part of a deliberate, well planned strategy. Such a strategy would make sense if the company has invested in a
new technology or developed a new process that slashes costs. The company may then attempt to lower its prices to gain share and preempt competitors. The giant retailer, Wal-Mart, with its excellent distribution and logistics capabilities is a good example. But most price wars end up in a lose-lose situation. A good example is the HLL vs P&G detergent war in India.

How can companies avoid price wars? To start with, senior managers must not yield quickly when frontline sales people call for price cuts. Top management must be on their guard when sales personnel tell them that a competitor has cut its price and plead for an immediate matching price cut. Senior managers must dig further to get additional information about the price cut. Does the discounted price apply only for a few days of a festive season? Is it restricted to only some distributors and only to large quantities? An across the board retaliation under such circumstances is eminently avoidable.

There are some industries where marketers must be particularly careful, as the risk of price wars is inherently higher. In case of commodities, price is likely to be an important buying factor. Similarly, in industries with low capacity utilization or in a shrinking market, the probability of price wars is higher as players feel the pressure to grab a bigger share of a stagnant cake. When there are only a few large customers who enjoy high bargaining power, there is strong price pressure on all competitors. The more fragmented the market, the greater the risk as it is difficult to impose pricing discipline. The airline industry is a good example (Bell, Ho, and Tang 1998). If one airline cuts
prices, typically others follow. Similarly, risk increases when barriers to switching suppliers are low, when price sensitivity is high, and when costs are unstable or declining. The PC industry is a good example. With PCs increasingly moving towards a standard or modular configuration, switching costs have reduced significantly.

Misreading competitor moves can trigger off an avoidable price war. Companies must keep their cool and not react until they understand the reason behind a competitor's price cut. It often makes sense to delay the response until one is sure about the need to respond. Indeed, the best response to a price cut by a competitor is usually to do nothing. Even when a response is required, something other than price must be first explored. Finally, when retaliation is justified, making it as limited as possible, such as by restricting the price cut to a small geographical region can go a long way in avoiding or at least moderating a price war.

Marketing communications have a big influence on price wars. Advertisements should not keep drawing customer attention to prices. This unfortunately is the trend today for many products in our country today. It also makes sense to gain market share, gradually. Aggressive attempts to snatch share from key rivals too quickly, often lead to sharp retaliation, igniting a price war. The kind of signals top management sends out is also important. Price communications should be carefully drafted to minimize the chance of misinterpretation by customers or competitors. Companies must ensure their actions are not seen by competitors as price undercuts. When cutting prices, they
must communicate clearly all qualifiers and limitations and, in some circumstances, an explanation of the action e.g. The price will remain in force until the current stocks are exhausted. Companies must also proactively communicate the dangers of price competition and the virtues of competition on the basis of value. They can write about this in magazine/newspaper articles, in company newsletters, in industry association meetings and talk about it in public forums. One way to avoid entering a price war, is to sign long-term contracts with key customers. Such contracts also give suppliers more latitude to offer more value and differentiate their services and to create a sustainable barrier to future price undercutting by competitors. Another way is to pursue the strategy for which Wal-Mart is famous, Every Day Low Prices (EDLP).

Only in some exceptional cases, must a company immediately and publicly match the price cut. If a rival steals a major customer, the company by immediately going after one of the rival’s major customers in the same market, can communicate to competitors that their price aggression will be matched move for move. Needless to say, this strategy is risky. Rivalry across the entire industry may escalate. So this step must be taken with extreme care, and after all other options have been explored and tried out. To conclude, price wars are avoidable for many reasons. Once they start, things can go out of control. A cool headed proactive approach will go a long way in preventing the environment from getting excessively heated (Bell, Ho, and Tang 1998). This it will go a long way in minimizing the probability of a price war.
CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction
Methodology is the answer to the why and how the research was carried out in the first place. This increases the possibility of receiving appropriate answers to the research questions and derives valuable insights into the topic at hand. The choice of research approach is the first topic discussed in this chapter, followed by data collection, sample selection and data analysis.

3.2 Choice of Research Methods
Research means different things to different people (Amartunga et al, 2002) and the intention behind it are to investigate innumerable data, theories, experiences, concepts and law. The two broad and distinct approaches to social research cover the Quantitative and Qualitative methods of enquiry. The purpose of this study is to create a picture of the effects of the telecommunication price war on consumers in the Kumasi metropolis. To get a reliable result, it will be of great importance to collect a larger amount of data hence, quantitative method fits this study. Frechtling and sharp (1997) characterized the common data collection techniques used in quantitative research as questionnaires, tests and existing literature.

3.3 Research Design
Research collect evidence when they are interested in someone’s opinion, then further
attempts are made to determine the prevailing opinion within a particular group. A survey study was deemed appropriate for this research because of the following three reasons: 1) Survey research involved data collection from a group, generalising the results of the study to predict the attitude of the population of interest. 2) The survey questionnaire may be structured to elicit information from the population of interest in a systematic and unbiased manner. 3) Survey allows the researcher to make statistical analysis of the data and generalise it to a larger population, hence a perfect choice for a consumer research.

### 3.4 Data Collection

Data collected specifically for the research project undertaken is the definition of primary research as provided by Saunders et.al (2003). The various ways of gathering primary data is through surveys, focus group, observations and interviews. And interview was selected for this research work because interview utilizes open ended questions that constructs and directs the probing of participants’ answers and the goal of in-depth interviewing is to get the participants reconstruct his or her experience within the topic under study thus according to Seidman’s (1998). All the participants would be interviewed face-to-face and the interviews would last for about twenty minutes on average. Responses would be recorded and then transcribed later, but where respondents request to answer question at own time, questionnaire would be given to them and be collected at later date.
3.5 Research Instrument

Data for this research was collected through a questionnaire survey, which consisted of fourteen questions some of which were open ended and closed format as well as likart scale. The first part of the questionnaire collected demographic data of the respondents before the main questions. Before the questionnaires were finally dispatched it was pre-tested on twenty mobile phone users in order to ensure that the best questionnaires were administered. The sample of the questionnaire could be seen at appendix one.

3.6 Sampling Technique

When the telecommunication service providers’ strategists are planning their various pricing regimes, the biggest consumer interests would be younger generation i.e. “the youth”. This is because the usage of mobile phones is high among the generation of thirty-five years and below (Kearney/Cambridge 2004) and also they represent the future of telecommunication. Therefore measuring the effect of price war on them is most relevant.

In this study, non-probability sampling technique called convenience sampling technique was used. When performing convenience sampling the researcher selects respondents that match the target sample (Saunders et al, 2000). The sample was collected from four tertiary institutions in Kumasi, namely: Kwame Nkrumah University of Science and Technology, University College of Education Winneba, Kumasi campus, Kumasi Polytechnic and University College of Management (IMS).
The only criteria used for this sample was the age 18-35, who are largely found in the Polytechnics and the university hence the choice of those four institutions. Again, by conducting the study at those tertiary institutions the researcher decreased the variations in the population data since the age range there is 18-35 (Saunders, 2000).

3.7 Data Collection

Two hundred and fifty questionnaires (250) were issued to two hundred and fifty respondents at random on the four tertiary institution campuses in Kumasi, namely: Kwame Nkrumah University of Science and Technology (KNUST), University College of Education Winneba, Kumasi campus (UCEW-K), Kumasi Polytechnic (K. POLY) and University College of Management (IMS). Apart from KNUST which had one hundred (100) questionnaires dispatched, the others had fifty (50) each. Every tenth student who uses mobile phone on the campuses on the schools was administered. Two hundred and thirty-two (232) were returned, among that number, thirty-two answered questionnaires were not used due to incompleteness and missing answers. The remaining two-hundred answered questionnaires were included in the final data analysis.

3.8 Response Rate

- Total number of questionnaires issued: 250
- Gross total response: 232
- Usable (Net) response: 200
Response Rate = \( \frac{200}{250} \times 100 = 80\% \)

### 3.9 Responses to Questions

Respondents were encouraged to answer the questions as clearly as possible; they were given enough time to answer the questions. Some filled in the questionnaire on the spot, other took it away and left behind their phone numbers from which follow up was done.

### 3.10 Method of Analysis

Data analysis tool SPSS 17 for windows was used to analyse the data obtained. Frequency tables, tabulations and cross tabulations were done with results presentation in the chapter four and appendix two.
3.11 Difficulties and Problems Encountered

Data collection was rather difficult especially with students as majority found the excuse of course work to avoid the researcher. Again, some attached little seriousness to answering the questionnaire because to them since the research was for academic purpose, it will end up in the shelves like others hence, there was no need to waste precious time.
CHAPTER FOUR
DATA PRESENTATION AND ANALYSIS

4.1 Introduction
This chapter will provide the presentation of empirical data findings. It will also provide
the reader with a discussion and analysis of findings.

4.2 Descriptive Presentation of Survey Questions
This field survey was conducted in March 2011. The survey utilized a questionnaire
designed to collect data regarding the effect of price war within the telecommunication
industry on consumers.

Two hundred and fifty questionnaires (250) were issued to two hundred and fifty
respondents at random on the four tertiary institutions in Kumasi, namely: Kwame
Nkrumah University of Science and Technology, University College of Education
Winneba, Kumasi campus, Kumasi Polytechnic and University College of Management
(IMS). Apart from KNUST which had one hundred (100) questionnaires dispatched, the
others had fifty (50) each. Two hundred respondents were returned with no errors, that
constitutes a response rate of 80%.

All the questions on the questionnaires were designed specifically to respond to each
objective.
4.2.1 Objective One

To determine whether price war exist in the Telecom industry from the consumer perspective

Figure 4.1

Figure 4.1 shows how customers of the various telecommunication service providers see the recent reductions in tariffs and charge and whether they think it is significant. From the chart above only six out of the two hundred respondents thought that the reductions were not significant. So all the respondent who were customers of all the networks such as; MTN, Tigo, Vodafone, Kasapa and Airtel have noticed a significant reduction in tariffs.
Figure 4.2 shows how customers of prepaid tariff type consider the recent reductions. Again, majority of the respondent said they had seen a significant reduction in their service charges. Fewer than five respondents from all the networks except Kasapa said the reductions in the service charges were not significant.
Figure 4.3 shows how customers of post-paid tariff type consider the recent reductions. Majority of the respondent said they had seen a significant reduction in their service charges. Only one respondent from Tigo said the reductions in the service charges were not significant. It is important to note that the total number of respondent who were post-paid customers were just twenty-two out of the total respondents’ number of two hundred.
Figure 4.4 shows whether consumers think the significant service charges reduction they are experiencing is a result of the price war within the industry. More than 80% of the respondents said ‘yes’ while 19.5% said ‘no’.

4.2.1.1 An analysis of whether price war exists in the Telecom sector from the consumer perspective

Majority of the respondents have noticed a significant reduction in tariff or charges in recent times as seen in figures 4.1 and figure 4.2. This is consistent with the press releases that came sometime last year from the corporate offices of Vodafone, Zain
Ghana, MTN, Tigo and Kasapa that they have heavily reduced their prepaid tariffs. Zain and Vodafone began by offering the market's lowest tariffs at GHp8 per minute at the time from GHp 15, MTN followed by announcing at the end of October 2010 that it was cutting its prepaid tariff in half to undercut the competition and offer it at GHp 7.5 per minute from GHp 14. Then Tigo and Kasapa followed thereafter in that order.

However, some respondent said they are yet to notice the significant reduction. This was indeed reflected in the various types of services (Prepaid and Post-paid) and products (Voice Call and Data). While majority of prepaid respondent said they have notice the price slashes on their mobiles usage, those on post-paid responded the same way but fewer responding that they have not seen a significant decrease. Two reasons could account for this, the first is that, the new tariff was targeted mostly at its prepaid customers and on voice call product, hence most post-paid customers and data product (SMS and internet) users are yet to notice a significant reduction, and this was applicable to all networks.

Again, Subscribers will first have to choose a tariff plan or call a special number to register before they can benefit from this tariff reduction. Additionally customers will experience the reduction in some cases, if they stay on the phone longer, e.g. Speak for more than 3 minutes before the reduction will apply. Therefore, from the above explanations the inconsistencies amongst consumers as to whether there is a significant reduction or not was hugely anticipated.
Figure 4.4 shows that more than 80% of the respondents said the significant reduction in charges they have seen was as a result of the price war in the telecom sector. This was also consistent with work done by Wuebker and Baumgarten (2006) that defined price war as a severe form of competition in which competitors in an industry try to increase their market share by continually cutting prices or reducing prices ultimately, this result to a severe price drop to a level that cannot be sustained eventually.

4.2.2 Objective Two

To determine whether the price war make consumers more responsive to price in the telecommunication industry in Ghana

Figure 4.5

A Bar Chart showing customers of the five network operators in Ghana and whether they have taken advantage of the recent lower prices as a results of the price war in the telecom industry to acquire another network.

Source: Field work
Figure 4.5 shows whether consumers have acquired additional sim card as a result of the price war in the telecommunication industry. Majority of the respondents who were customers of MTN, Tigo and Vodafone responded ‘Yes’, whiles majority of the customer of Kasapa and Airtel said ‘no’. However, significant majority of respondents had acquired additional sim cards to take advantage of the price war.

Figure 4.6

A Bar Chart showing customers of the five network operators in Ghana and whether they have changed their service provider because of price war in the telecom industry.

Source: Field work
Figure 4.6 shows whether consumers change their service provider for a lower tariff operator. Almost all the customers of all the network providers said ‘no’. Less than thirty-seven respondents said they would change their network providers. This obviously is in the minority of two hundred respondents.

Figure 4.7

A Bar Chart showing customers of the five network operators in Ghana and whether they have influence someone to change their network operator as a result of the price war.

Source: Field work
Figure 4.7 shows whether customers have been influence by the price reductions to convince someone to change their network or acquire a multiple network. Again, less than fifty respondents said they have influence someone to change their network or acquire another sim in addition to their current operator. Majority of the respondents said they have not as seen in the above bar chart

4.2.2.1 Analysis of whether the price war makes consumers more responsive to price in the telecommunication industry in Ghana

Figure 4.5 shows that significant majority of respondents had acquired additional sim cards to take advantage of the price war. In other words the price war has further increased multiple subscriptions. The recent surge in multiple subscriptions in Ghana has been precipitated by the introduction of mobile phones that have dual SIM card facilities. A GfK survey conducted recently concludes that, over 25% of all mobile handsets in Ghana have dual sim capabilities (GfK 4Q report, 2010). Another reason for multiple subscriptions in Ghana apart from above factors is poor quality of services. Subscribers have been encouraged to acquire handsets for or from all operators in order to guarantee them of a service when it’s mostly needed. The multiple SIM facilitates the consumer-lead desire to participate in promotions that are being run by different networks, depending on time and usage.
Most of the respondents said they would not change their service provider to a competitively cheaper network in other words when given the chance, they would not switch networks but they would not mind acquiring additional network as seen at figure 4.6. Switching behaviour can be enunciated as the process of being loyal to one service and switching to another service, due to dissatisfaction or any other problems. When a consumer is loyal to a particular brand but the brand does not satisfy his/her needs, the consumer would switch to a competitor brand over time. However, this is not that simple in telephony; switching brand means losing your mobile number and in some cases your contacts on your sim as well.

This is a cost most subscribers are not willing to bear. Again, to get a new sim card in Ghana is a cumbersome process recently since the introduction of the compulsory sim card registration exercise. All these contribute to the higher switching cost hence, consumers unwilling to change their service providers. The rolling-out of the mobile number portability (MNP) platform however, will allow all subscribers to keep their mobile number permanently. When this is fully operational, it will reduce the long barriers and high switching cost to consumers.

Again, because switching cost is so high in Ghana, it is difficult convincing someone to change network. As shown at figure 4.7 less than fifty of respondents out of two hundred population said they have influence someone to change their network or acquire another sim in addition to their current operator.
4.2.3 Objective Three

To determine the effect of price war on consumer spending on telecommunication

Table 4.1: A table showing the effect of the price war on the telecommunication expenditure of consumers.

<table>
<thead>
<tr>
<th>CHANGE</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>INCREASED</td>
<td>43</td>
<td>21.5</td>
<td>21.5</td>
<td>21.5</td>
</tr>
<tr>
<td>DECREASED</td>
<td>79</td>
<td>39.5</td>
<td>39.5</td>
<td>61.0</td>
</tr>
<tr>
<td>NO CHANGE</td>
<td>78</td>
<td>39.0</td>
<td>39.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>200</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Source: Field Work

The table 4.1 above shows how the price war has affected the telecommunication expenditure of consumers. From table 4.1, more than 22% said their expenditure has increased in spite of the tariff and charges reduction, 39.5% said the spending on calls and or on data had decreased while 39% said they have not seen any change. In other words, more than 60% said that their expenses as far as calls or data usage is concerned have not come down.
Figure 4.8 shows how the price war has affected the telecommunication expenditure of consumers as far as service type usage is concerned. From figure 4.8 above, more than 70 prepaid respondents said their expenses on calls and or on data have gone down. However, fewer than 10 respondents using a post-paid service type experience a decrease. More post-paid customers said their expenses have not change as compared to prepaid where less than 64 respondent said they have not seen any change in their expenditure.
Figure 4.9 shows how the price war has affected the telecommunication expenditure of consumers as far as product type usage is concerned. From figure 4.9 above, almost equal number of respondents used voice and data. However, lots of the respondents said they have saved money on their call than they have on data, whether text messaging or the internet as they have not seen any change in the data expenditure.
4.2.3.1 Analysis of the effect of price war on consumer expenditure on telecommunication

Telecom service providers were optimistic that the reduction in call charges was not going to affect their earnings as the move was expected to lead to higher usage and a widening of customer base, hence consolidating the long held view that the telecommunication business is inelastic. From table 4.1, more than 22% said their expenditure has increased in spite of the tariff and charges reduction, 39.5% said the spending on calls and or on data had decreased while 39% said they have not seen any change. In other words, more than 60% said that their expenses as far as calls or data usage is concerned have not come down.

There are two driving factors in the telecom growth in Ghana, the first is population, if you have more people, they make more phone calls, hence more revenue. The second factor is increasing GDP per capita (rising around 6 percent nominal per year). Richer people have more money to spend on telecom, and they spend it. Most telecom companies in Ghana seem to focus more on the first factor, that is reduce tariffs in order to increase the subscription base. However, from table 4.1, it is obvious that call tariffs reduction will not be the only parameter for leveraging economies of scale in a competitive market. High entry charges and handset costs could still deter the entry of new subscribers.
More post-paid customers said their spending have not change as compared to prepaid customers who have seen a cut on their spending. This is so because the price cutting was targeted at the prepaid customers, however, there are marginal benefits for the post-paid because the mostly pay a fixed cost for the voice or data service. Most respondents said they have saved money on their call than they have on data, whether text messaging or the internet as they have not seen any change in the data expenditure. This is also could be true because again the data service were not targeted in the various price reduction conflicts. This could be because the service providers might be using the various value additions to pay for the losses if any in price reductions.

4.2.4 Objective Four

Figure 4.10: To determine whether Price war affects service quality in the industry
Figure 4.10 shows customers of the various telecom network operators and how they rate customer service quality offered by their operators. With the exception of Kasapa, majority of the respondents rated their providers poor. In fact, only ten respondents said they were satisfied with the customer service offered by the operator.

Figure 4.11

A Bar Chart showing customers of various network operators and how they rate signal availability.

Source: Field work
Figure 4.11 shows customers of the various telecom network operators and how they rate signal availability as a service quality on the network. None of the respondents rated their operators ‘good’. Most of the respondents said the signal availability of their network was poor, with fewer rating their network ‘average’.

Figure 4.12

A Bar Chart showing customers of various network operators and how they rate call connections of their telecom service provider.

Source: Field work
Figure 4.12 shows customers of the various telecom network operators and how they rate call connection on the network. About forty-six respondents have been impressed with their service operators call connection. They rated ‘good’ while majority of ninety respondents rated ‘average’ call connection rate. About sixty-six respondent said call connection was poor.

Figure 4.13

A Bar Chart showing customers of various network operators and how they rate call drop rate by telecom service provider.

Source: Field work
Figure 4.13 shows customers of the various telecom network operators and how they rate call drop on the network. From the bar chart above, only thirty-five respondents said call drop was low. Majority of more than half the respondents said call drop on their network was high. However, some significant number of sixty respondents said find call drop rate on their network to be average.

Figure 4.14

A Bar Chart showing customers of various network operators and how they rate billing and tariff offered their telecom service provider.

Source: Field work
Figure 4.14 shows customers of the various telecom network operators and how they rate billing of calls and data on the networks. Significant number of about eighty-five respondents said the billing had been poor. While majority of over one hundred and ten rated average how they have been billed.

### 4.2.4.1 Analysis of whether Price war affects service quality in the industry

Service quality is commonly noted as a critical prerequisite and determinant of competitiveness for establishing and sustaining satisfying relationships with customers. Previous studying suggests that service quality is an important indicator of customer satisfaction (Spreng and Machoy, 1996). Attention to service quality can make an organisation different from other organisations and gain a lasting competitive advantage (Boshoff and Gray, 2004). The ITU has outlined the following five quality telecommunication service as a benchmark in the industry. They are; good customer service, high signal availability, low calls connections rate, low call drop rate and accurate billing of services. In particular, consumers prefer service quality when the price and other cost elements are held constant (Turban, 2002), this was consistent with the findings below.

Figure 4.11 shows that with the exception of Kasapa, majority of the respondents rated their providers poor for customer service. In fact, only ten respondents out of two hundred respondents said they were satisfied with the customer service offered by the operator. Customer satisfaction with a company’s products or services is often seen as
the key to a company’s success and long-term competitiveness. According to Brady (1981), increased customer satisfaction leads to higher customer retention rate, increases customer repurchase behaviour and ultimately drive higher firm profitability. However, from the findings shows that customer service has been neglected.

Again none of the respondents rated their operators ‘good’ for the signal availability. Most of the respondents said the signal availability of their network was poor, with fewer rating their network ‘average’. Signal availability is a problem in Ghana, more cell-sites are concentrated at the urban areas while fewer to none at the rural or countryside. This could have contributed to the low ratings. Again, majority of respondents rated “average” the call connection rate as seen in figure 4.13.

Call drop rate is the fraction of the calls which, due to technical reasons, were cut off before the speaking parties had finished their conversation and before one of them had hung up. This fraction is usually measured as a percentage of all calls. More than half of the respondents said call drops on their network were high as seen in figure 4.14. However, some significant number of sixty respondents said find call drop rate on their network to be average. The telecom companies (MTN, Vodafone, Tigo, Kasapa and Airtel) in Ghana have all adopted per-second billing for both local and international calls on their networks, bringing them into line with other service providers in the world. From figure 4.15 significant number of respondents said the billing had been poor. While majority of over 110 rated average how they have been billed.
4.2.5 Objective Five

To determine whether price war affects service provider image

Table 4.2: Table showing whether consumer would choose a telecom brand because it offers lower charges in the industry

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>YES</td>
<td>145</td>
<td>72.5</td>
<td>72.5</td>
<td>72.5</td>
</tr>
<tr>
<td>NO</td>
<td>55</td>
<td>27.5</td>
<td>27.5</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>200</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

Source: Field Work

The table 4.2 above shows whether a consumer in the telecom industry would choose a brand because that particular offers the lowest tariff or charges in the industry. More than 72% said they would prefer a brand which is relatively cheaper in the telecom market. However, less than 28% said they would not use a cheaper brand.
Figure 4.15 shows customers of the various telecom network operators and what would greatly influence them to switch their network operator. Majority of the respondents that are on MTN, Tigo and Vodafone said that, they would greatly be influence by poor service quality, followed by peer pressure, then higher charge before poor brand. However, respondents who were customers of Kasapa and Airtel rated higher charges before poor quality of service, peer and finally poor brand.
Figure 4.16 shows customers of the various telecom network operators and whether they would choose lower charges or tariff over service quality. Majority of the respondents said they would not choose lower charges over quality.
4.2.5.1 Analysis of whether price war affects service provider brand image

Tellis and Gaeth (1990) proposed that consumers tend to be price-seeking (implying under-weighting of price) or price-averse (implying over-weighting of price) as consumer uncertainty about product quality increases, which intimates that the availability of quality information should affect consumer price sensitivity. Table 4.2 show that more than 72% said they would prefer a brand which is relatively cheaper in the telecom market. Most people prefer making cheaper calls or accessing cheaper data source hence, majority of people choosing cheaper brands to more expensive brand. Again from the findings in figure 4.16 majority of the respondents said they would greatly be influence by poor service quality, followed by peer pressure, then higher charge before poor brand. However, respondents who were customers of Kasapa and Airtel rated higher charges before poor quality of service, peer and finally poor brand. When asked whether they would choose lower tariffs over service quality, majority of the respondents said they would not choose lower charges over quality.
CHAPTER FIVE

RESEARCH CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the conclusions of the study and recommendations made to address the main findings obtained from the analysis in the light of the objectives of the study.

The objectives of this research were to determine what consumers make of the existence of price war in the telecom industry in Ghana, to determine consumers response to price war in the telecommunication industry in Ghana. Again, to determine the effects of price war in the telecom industry on consumer spending in Ghana as well as whether price war affects service quality in the industry. And the final objective was to determine whether price war has any effect on the brand image of a telecom service provider in Ghana.

5.3 Conclusion

The recent acquisition of mobile operator, Zain, by India’s Airtel, has now prompted an all-out price war, and over the last few months, calling rates have plummeted. Consumers, the intended beneficiaries are aware of the price war phenomena in the telecom industry.
Price war has further increased multiple subscriptions in Ghana which was already on the increase because of the introduction of mobile phones that have dual SIM card facilities in the market. However, people were unwilling to change or switch completely to a different network because of high switching cost.

Furthermore, contrary to the notion that price reductions in the telecom industry would lead to higher usage and a widening of customer base therefore increases in revenues. This research found that spending by consumers across networks has decreased because of increase in multiple subscriptions. Many people carefully choose network to use in order to get the best rate depending on who they are calling, while doing that subscribers spend less per call hence, decrease in the Average Revenue per User (ARPU) and a decrease overall revenue and profit.

Because more attention is given to winning the current price war, key service qualities has been neglected. This research established the following service qualities exist: Poor customer service, Poor signal availability, Average call connection rate, High call drop rate, less accurate billing. Service quality is commonly noted as a critical prerequisite and determinant of competitiveness for establishing and sustaining satisfying relationships with customers.
With the exception of Kasapa, majority of the respondents rated their providers poor for customer service. Customer satisfaction with a company’s products or services is often seen as the key to a company’s success and long-term competitiveness. Increased customer satisfaction leads to higher customer retention rate, increases customer repurchase behaviour and ultimately drive higher firm profitability. However, the findings showed that customer service has been neglected.

Again none of the respondents rated their operators ‘good’ for the signal availability. Most of the respondents said the signal availability of their network was poor, with fewer rating their network ‘average’. Signal availability is a problem in Ghana, more cell-sites are concentrated at the urban areas while fewer to none at the rural or country side. This could have contributed to the low ratings.

Call drop rate is the fraction of the calls which, due to technical reasons, were cut off before the speaking parties had finished their conversation and before one of them had hung up. This fraction is usually measured as a percentage of all calls. More than half of the respondents said call drops on their network were high. However, some significant number of sixty respondents said find call drop rate on their network to be average. The telecom companies (MTN, Vodafone, Tigo, Kasapa and Airtel) in Ghana have all adopted per-second billing for both local and international calls on their networks, bringing them into line with other service providers in in the world. Significant number of respondents said the billing had been poor.
Finally, the research also established that consumers prefer cheaper brand in terms of services charges. Most people prefer making cheaper calls or accessing cheaper data source hence, majority of people choosing cheaper brands to more expensive brand. Again from the findings majority of the respondents said they would greatly be influence by poor service quality, followed by peer pressure, then higher charge before poor brand. However, respondents who were customers of Kasapa and Airtel rated higher charges before poor quality of service, peer and finally poor brand. When asked whether they would choose lower tariffs over service quality, majority of the respondents said they would not choose lower charges over quality. However, that must be significant be in consonance with an excellent service quality.

5.4 Recommendations

The overall research findings have established that price war benefits no one, not even the consumer. Consumers become more price-sensitive and less brand loyal, margins are squeezed across the board, and the customer-experience ultimately gets worse. Due to the short period of the research duration only one segment of the telecom industry was considered. Future research work could be directed at research such as the following;

- The effect of the price war on the telecommunication companies
- The role of the regulator in the predatory pricing in the telecom industry.
- The impact of the price war on government revenue through the communication service tax Talk tax).
Practitioners on the other hand may use the findings of this research to find a way to draw attention away from the absolute price of calls, and focus more on other aspects of the brand experience, be it calls clarity, acceptable minimal of dropped calls or coverage. And, as it is said that “knowing your customer is key to maintaining your margins in the face of price competition”
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APPENDIX ONE

QUESTIONNAIRE

Research Topic:

THE EFFECTS OF TELECOMMUNICATION PRICE WAR ON CONSUMERS IN THE KUMASI METROPOLIS

This study is conducted as part of a graduate study at Kwame Nkrumah University of Science and Technology. It is my belief that you as my respondent would provide practical and convincing answers to the questions below to enable me present a good report on the topic above.

Thank you in advance for your contribution to this research study which is for and ONLY for academic purpose. Please respond to the following by writing in the blank space provided.

AGE:

18 - 27  □  28 – 37  □  38 – 47  □  48 & ABOVE  □

SEX

MALE  □  FEMALE  □

MARITAL STATUS

MARRIED  □  SINGLE  □

SERVICE TYPE

POST PAID  □  PRE PAID  □

1. Which Network(s) are you on currently? Why?
2. Which of these products do you use very often in a day?
   a) Voice call
   b) Text Messaging
   c) Data (Mobile internet)

3. Has there been a significant reduction by your network operator(s) in your call charges within the last year? YES / NO

4. How has it affected your communication expenditure?
   a) Increased
   b) Decreased
   c) No change

5. Would you describe the various pricing strategies employed by the telecommunication companies recently in Ghana as a price war? YES / NO
   WHY?
   ******************************************************************************
   ******************************************************************************
   ******************************************************************************
   ******************************************************************************
   ******************************************************************************
   ******************************************************************************

6. Have you thought of switching to other networks because of lesser charges? YES / NO

7. Has this pricing competition influenced you to use multiple networks in addition to your old network? YES / NO

8. Have you changed your network operator because of this lower pricing rate competition? YES / NO
9. Have you influence someone to change their network because of lower price rate?  
   YES / NO

10. Which of these will greatly influence you to change network operator?
    a) Higher Charges
    b) Poor Customer Service
    c) Poor service quality eg. High call drop, Poor network clarity etc.
    d) Poor Brand
    e) Others

11. Would you choose low prices over service quality in selecting your network operator? YES / NO

12. How will you rate the quality of service(s) delivered by your network operator(s).

   A. Customer service
      Good □   Average □   Bad □

   B. Billing and Tariff Accuracy
      Good □   Average □   Bad □

   C. Network Signal availability
      Good □   Average □   Bad □

   D. Call connection
      Good □   Average □   Bad □

   E. Drop call rate
      □   □   □
### High                Average                Low

### F. Speech quality

<table>
<thead>
<tr>
<th>Good</th>
<th>Average</th>
<th>Bad</th>
</tr>
</thead>
</table>

13. Would choose a telecom brand because it offers the lowest charges/tariff in the industry. YES / NO  
Why………………………………………………………………..
APPENDIX TWO
Bar Chart

MALE OR FEMALE

MALE

FEMALE

Count

GREATLY INFLUENCE
- HIGHER CHARGES
- POOR CUSTOMER
- SERVICE
- POOR SERVICE QUALITY
- POOR BRAND