

Game Theory Analysis On The Effects Of Marketing Communication Strategies On Brand Awareness In Telecommunication Industry In Kumasi-Kejetia: A Prospective Data On Mtn And Glo Customers

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ABSTRACT: Globalization and civilization has led to the innovation of information technology products such as computer, mobile phones, I pads, e.t.c. With this innovation of new information technology, it has called in for several telecommunications to the economy of Ghana which includes MTN, Vodafone, Tigo, Airtel, Expresso and Glo which in effects produce a wide range of goods and services and these are not an end in themselves. However, how to get to the targeted customers through their unique brands for profit making is what many businesses of the telecommunication contemplate and find it difficult to answer and achieve. This brings in the issue of how to market and communicate the product to the loyal and new customers. This study aimed at exploring the effects of marketing communication strategies on brand awareness of consumers in the telecommunication industry and their effects on the market share. Three hundred (300) respondents were sampled. The study adopted a qualitative approach in its design and convenience sampling methods, with questionnaires and interview for data collection from the field. With the help of SPSS and game theory analysis, the data were analyzed. The study showed that significant number of respondents had some level of awareness and knowledge of the various telecommunication products. Also, marketing communication strategies helped improve awareness of the brand. It also showed that radio and television advertisement (media) was the preferred marketing communications strategy of both the consumers and the brand managers of telecommunication, although it was an expensive communication strategy. The study recommended that the various telecommunications should leverage on its popularity and preference to consumers.

Keyword: Marketing communication, Game theory, Telecommunication, media, brand and Awareness

1.0 INTRODUCTION

For many active and thriving businesses, the essence of being in business is to make profits. In order to survive, many businesses have to generate enough income to suborn expenses and these incomes usually come from the sales of the businesses products and services. In the concepts of market structures theoretically, many businesses are out there competing and struggling each day to make their products known and heard in order to make good sales. Making ones, products and service known involves very tedious work, effort and research, since many of the consumers of the various products are scattered over a wide area, at each point in time. This has called for many companies to either compete or collude in the global market in order to get their market share of the customers for profit making.

Even though telecommunication companies like MTN, Glo, Vodafone, Tigo e.t.c. do exercise some sort of corporate social responsibilities like the provisions of healthcare facilities, sponsoring of premier leagues, provisions of pipe-

borne waters, school e.t.c. to the villages, communities and the nation at large but the underlining driving motive of their establishment is for profit making. This therefore brings to the fore, the essence of advertising their products to the citizens to get the targeted market share. Marketing communication strategies is a subset of the promotion mix, which includes the product, price, place and promotion. As a promotional tool, these marketing communication strategies, such as advertising, sales promotion and public relations, serves as a major tool in creating product awareness and conditioning the mind of a potential consumer to take eventual purchase decision. Research has proven that there is a significance impact of marketing communication strategies on the sales values of many products and services. Again, marketing communication is focused on the product or service differentiations, demand generation and product or service positioning (Clow & Baack, 2002). According to Keegan and Green (2011), marketing communication is the Promotion, of the marketing mix, which refers to all forms of communication used by organisations to inform, remind, explain, persuade and influence the attitudes and buying behaviour of customers. Profit –making firms and

businesses primary goal of marketing communication is to build awareness of the business, products differentiation and sphere of influence in position through customer-facing materials, such as brochures, press release, web sites and trade show presentations.

In view of the above, the study sort to identify the marketing communication strategies used by the telecommunications industry in Ghana, to assess the level of customer awareness of brands of telecommunication products (i.e. specific reference to MTN and Glo) and to ascertain the key marketing communication strategies through which most consumers become aware of their products.

2.0 LITERATURE REVIEW

Keegan and Green (2011), defines marketing communication as all forms of communication, used by organizations to inform, remind, persuade and influence the attitude and buying behavior of customers.

According to Li Po (2006), modern marketing differs from traditional perspective on the subject matter in several ways. Modern marketing calls for more than just developing a good product, pricing it attractively, and making it available to the target customers. He further argued that, marketing communication is an incredibly variegated, challenging, exciting and dynamic subject matter, which changes constantly.

Maignan et al, (2005) postulated that marketing is an organizational function and a set of processes for creating, communicating and delivering value to customers and for managing customer relationships in ways that benefits the organizations and its stakeholders.

Armstrong et al, (2005) emphasized that companies must also communicate with current and prospective customers, and what they communicate should not be left to chance.

Communication is thus defined, as transmitting, receiving and processing information (Clow & Baack, 2002).

In the past, a number of terms have been used in the field of marketing communications, the most common of which appear to be “advertising” and “promotion”. The origin of these two words helps us to explain what marketing communication entail, namely the pushing forward of products or services and the turning of the consumer towards the product or service for an eventual purchase.

3.0 MATERIALS AND METHODS

The study used primary source of data with a sample size of 300 respondents across the inhabitants of Kumasi-Kejetia. The study sampled telecommunication users from Kumasi-

Kejetia. The study was solely a qualitative analysis. With the help of game theory the study analysed the responses taking from the field. A convenience sampling method was used to solicit for information from the respondents in the study area to identify the customer’s level of awareness on the various marketing strategies adopted by the telecommunication industries and their effects on the demand for their products. The study used questionnaires and interviews to retrieve all the relevant information needed for the study. The study used SPSS to organize process and interpret the data gathered from the field. A game theory analysis using both the strategies form and extensive diagram was used to explore the effects of marketing communication strategies on brand awareness of consumers in the telecommunication industry.

3.1 Conceptual Analysis of Game Theory

Game is any situation or any interaction between parties (i.e. players) that is govern by rules and has outcomes (i.e. pay-offs) which is based on the parties choices (i.e. strategies). Again, it is any situation (interaction) that is governed by rules with specified outcomes or payoffs based on strategic interaction. Whatever choices one player made, the player has all kinds of strategies available to him/her to come out with the best outcome. A game involve more than one player e.g. TV game, football, basketball, Tennis game e.t.c. thus a game cannot be played alone, unless players are more than one (i.e. football game: Kotoko vrs Brekum Chelsea). This particular game theory is within a market structure between MTN and Glo Companies in the telecommunication industry. The two companies are competing for the market share. MTN Company is the incumbent player who has a loyal customers and Glo is the new company which just joined the market. So here, in order to begin the game, the incumbent (MTN) will always make a first move for the new company (Glo) to also make a move, since they just joined the market.

3.1.1 Description of Game

A standard game always has the following features;

1. **Players:** the players involved MTN and Glo Companies in the telecommunication industry.
2. **Rules:** the rules are that, the two companies make a simultaneous move game. MTN does not observe what Glo is doing and Glo too does not see the moves of MTN since they work separately and they make a move at the same.
3. **Strategies:** they are options available to the players. This specifically refers to the marketing strategies (i.e. advertisement through package branding or no advertisement) and whatever strategies a player chooses affect his/her outcome/payoffs.

4. **Outcome:** they are the payoffs or the market shares for profit making to the various players based on their strategic efficiency.
5. **Nash equilibrium:** A pair of strategy choices that are at least 'best' responses to each party to sustain and keep their respective market share for profit making.

3.1.2 Presentation of a Structured Game

A structured game can be organized or presented in two forms: thus in an extensive form and in a strategic form.

Extensive form game: here, the entire game structure is organized or presented in a tree diagram form. It could be in a diagonal way from left to right or straight form (vertical form or horizontal) e.t.c.

Strategic form game: here, the entire game structure is organized or presented in a scheduler or tabular form. Under this structured form, always the first player is placed or labeled at the left- middle of the table and the second player is placed or labeled at the top middle of the table. It also represents matrix-form payoffs.

4.0 EMPIRICAL RESULTS

4.1 Descriptive Analysis

4.1.1: Percentage of Users of Both MTN and Glo Network

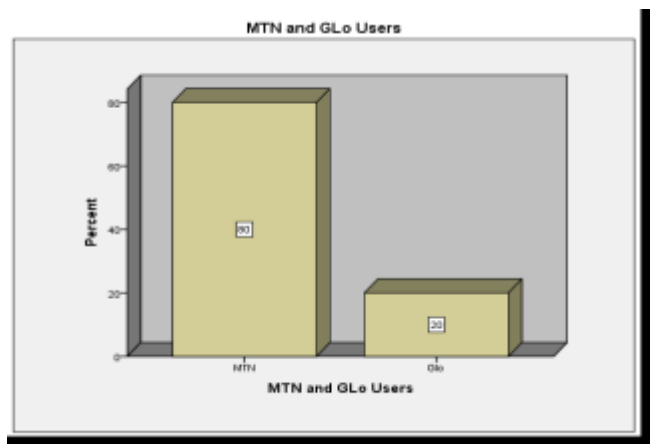


Figure 1: Percentage of Users of Both MTN and Glo Network

Source: Field data, January, 2016

Figure 1 reveals the various mobile phones users, using either or both MTN and Glo network. From the data obtain from the field, 80% of the total respondents representing 240 individuals were subscribed to MTN mobile network, whereas 20% of the total respondents representing 60 individuals were subscribed to Glo mobile network. The reasons for the majority of the respondents using MTN were due to their period of operations and most of the

respondents' mobile phone contacts and business partners used MTN network.

4.1.2: Marketing Strategies Adopted by Telecommunication Industry

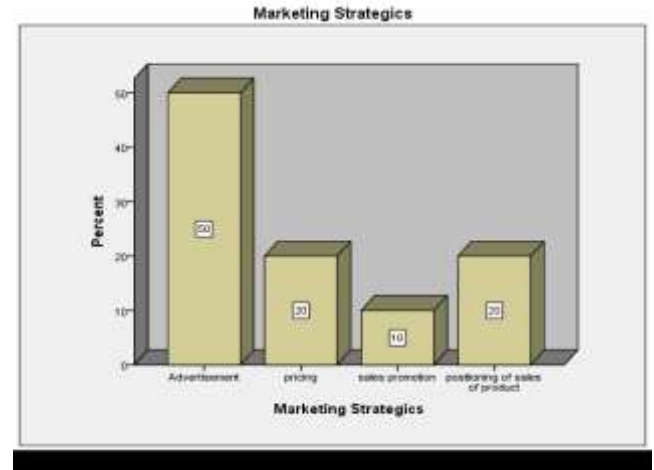


Figure 2: Marketing strategies Adopted by Telecommunication Companies

Source: Field data, January, 2016

Figure 2, reveals the various marketing strategies adopted by the two telecommunications (i.e. MTN and Glo) from the field data. In relation to figure 2, 50% of the respondents were of the view that advertisement is the key marketing strategies the managers and the operators of the telecommunication companies in the industry used in selling and promoting their existing and new products. 20% of the respondents were of the view that telecommunication used convenient pricing policy to enhance affordability. People were of the view that, the transfers mechanism or method of MTN credit pricing (i.e. 20 pesewa, 30 pesewa e.t.c.) makes it more affordable for the less privileged and poor to access MTN communication network. 10% of the respondents were also of the view that, the telecommunication industry also used sales promotion as one of the marketing tool. The reason was that most of them brought initiative sales promotion tool such as free night call, free beyond two (2) minutes, e.t.c. to boost sales of their product in order to harness profit. Lastly, 20% of the remaining respondents were of the view that the positioning of their sales joints close to the business areas, commercial areas, e.t.c. and also the extending of their network high tensions to the remote areas is one of their telecommunication marketing tools in order to get a market share for profit making.

4.1.3: Sources of customers Awareness (i.e. information) on the Telecommunication Marketing Strategies (i.e. Products availabilities) for Both MTN and Glo

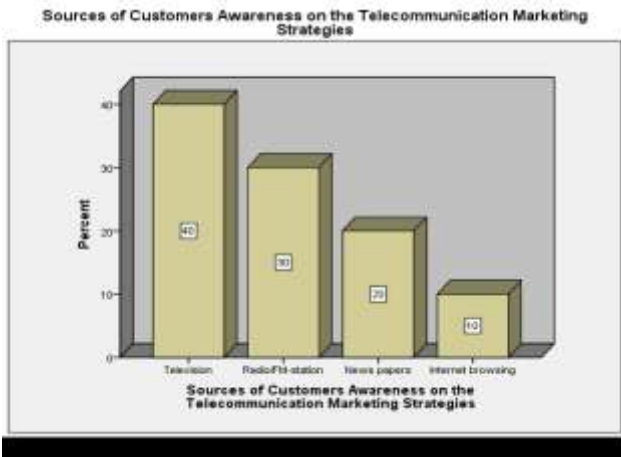


Figure 3: Sources of customers Awareness (i.e. information) on the Telecommunication Marketing Strategies (i.e. Products availabilities) for Both MTN and Glo

Source: Field data, January, 2016

Figure 3, shows the sources of customers' information on the various telecommunication marketing strategies adopted by the management of the telecommunication industry. In relation to the data, 40% of the total respondents had their sources of information about the various products run by the telecommunication industry through Television, 30% through Fm-stations (i.e. radio advert), 20% through Newspapers and 10% of the respondents through internet browsing. This source of information buttresses on the point that, the key marketing strategies used by the telecommunication industry is through media and audio-visual advertisement. The industry advertised their existing and new products on the aforementioned mediums to increase demand for their product in order to attain supernormal profit.

4.1.4: Consumer's awareness about the existence of MTN companies and Products

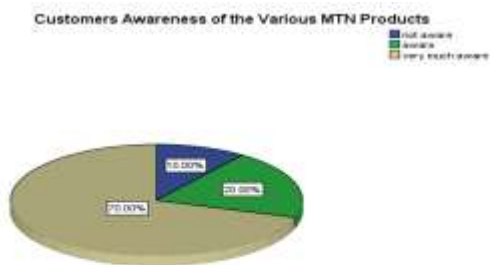


Figure 4: Consumer's awareness about the existence of MTN companies and Products

Source: Field data, January, 2016

Figure 4 reveals consumers awareness about the existence of MTN companies. In relation to the field data, the key marketing tool used by the industry is the media and audio-visual advertisement. This has revealed the level of awareness of the respondents to the operations of MTN companies, regional, district, towns and communities' branches of MTN companies as well as their various products and consumer packages. 70% of the respondents were very much aware of the services provided by the MTN companies, their accessible branches for help if the need arises, 20% of the total respondents were aware and 10% of the respondents were not aware of the various products or services provided by the telecommunication company (i.e. MTN) and these are the likely floating network shoppers. In the nut-shell, 90% of the respondents are likely to be the loyal customers to the MTN companies if all things being equal.

4.1.5: Consumer's awareness about the existence of Glo companies and Products

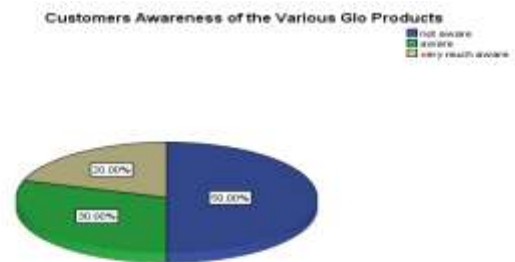


Figure 5: Consumer's awareness about the existence of Glo companies and Products

Source: Field data, January, 2016

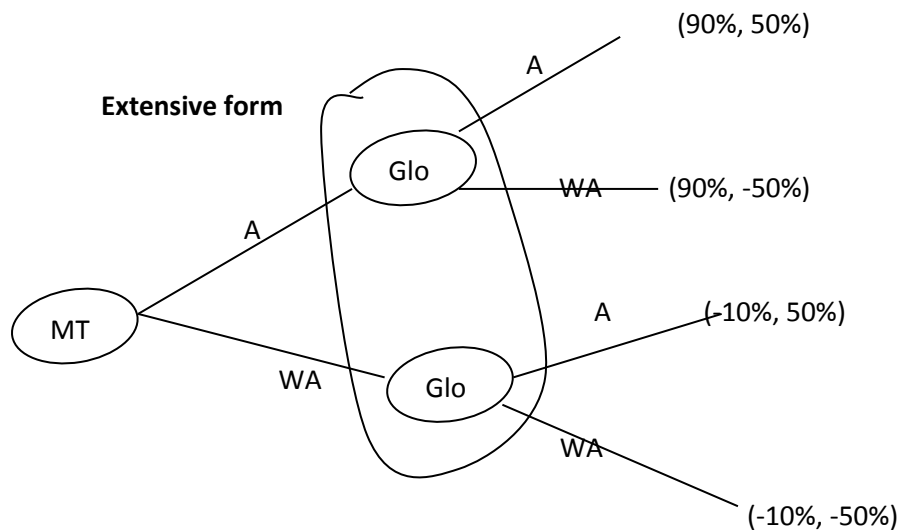
Figure 5 reveals consumers awareness about the existence of Glo companies. In relation to the field data, the key marketing tool used by the industry is the media and audio-visual advertisement. This has revealed the level of awareness of the respondents to the operations of Glo companies, regional, district, towns and communities' branches of Glo companies as well as their various products and consumer packages. 50% of the respondents were not aware of the services provided by the Glo companies, their accessible branches for help if the need arises, 30% of the total respondents were aware and 10% of the respondents were very much aware of the various products or services provided by the telecommunication company (i.e. Glo). In the nut-shell, 50% of the respondents are likely to be the loyal customers to the Glo companies if all things being equal.

4.2: Game Theory Analysis for Market Share Competition between MTN and Glo Companies in the Telecommunication Industry

Assumptions to the analysis

In order for the two rival companies to compete for the market share in the real-world, MTN and Glo have two strategies. Thus, either they advertise the product or their

4.2.1: An Extensive Form (i.e. tree diagram) of the Simultaneous move Game between MTN and Glo Company from the field data.



Where, MTN= player 1 and Glo=player 2.
A=Advertisement and WA=Without Advertisement

Source: Field data, January, 2016

In relation to the tree diagram, MTN Company has only one information set because it operates within one node (i.e. circle). Since the game is a simultaneous move game, Glo does not observe the strategies of MTN so, their movement is the same. In view of that, the two nodes available to Glo is collapse to one with the help of the ring which surrounds Glo1 and Glo2. This implies also that, Glo is also operating in one node (i.e. circle) and has one information set. Since

Strategies	Advertisement (A)	Without Advertisement (WA)
Advertisement (A)	(90%, 50%)	(90%, -50%)
Without Advertisement (WA)	(-10% , 50%)	(-10%, -50%)

MTN is the incumbent company and always makes the first moves, if MTN decides to advertise its products, services and branches whiles Glo stays in the competition without advertisement, MTN gets and maintains 90% of its loyal customers (i.e. summation of very much aware and aware

services rendering to the public or they live without advertisement. Note, if any of them advertised their product, then their products will be well known to the public and this will in effect boost the pay-offs for advertisement. Therefore, the pay-offs for advertisement will take into account the summation of the aware and very much aware values (i.e. percentage groups). So if the company decides not to advertise then, the company loses the unaware group of floating network shoppers.

group) as pay-offs and Glo loses its unaware group mounting up to 50% (i.e. -50%). Again, if both companies MTN and Glo decide to compete with advertisement in the industry both maintain their loyal customers by getting a pay-offs of the very much aware and aware groups, thus 90% for MTN Company and 50% for Glo Company. However, if MTN decides to compete without advertisement since it is the incumbent and has acquire some level of technological dominance in the Ghanaian telecommunication industry and Glo decides to advertise, MTN companies loses only 10% of the unaware group of floating network shoppers but Glo gets and maintain 50% of the loyal customers (i.e. summation of very much aware and aware group). Lastly, if both companies MTN and Glo decides to compete for the market share without advertisement, then MTN Company loses 10% of the unaware group (-10%) and Glo loses 50% of the unaware group (-50%).

4.2.2: A Strategic Form of the Simultaneous move Game between MTN and Glo Company from the field data.

Glo MTN

Source: Field data, January, 2016

In relation to the Strategic form game, the entire game structure is organized or presented in a scheduler or tabular

form. Under this structured form, always the first players is placed or labeled at the left- middle of the table (i.e. MTN) and the second player is placed or labeled at the top middle of the table (i.e. Glo). It also represents the matrix-form payoffs. This structure makes it more user friendly for the researcher to reveal the optimal strategic decision that is best for the two companies. Here, the two companies have weak dominant strategies. MTN Company has a weak strategy of competing without advertisement (WA) and will try its possible best to avoid the weak dominant strategy. Glo Company also has a weak strategy of competing without advertisement (WA) and will try its possible best to avoid the weak dominant strategy. In so doing the two companies will end –up competing by staying with advertisement in order to get their market share. When demand increases the tendency for the companies getting supernormal profit will be very high through sales maximization. So the Nash equilibrium for the two companies marketing strategies will be advertisement for them in order to get a pay-offs of (90%, 50%) for MTN and Glo respectively. This rationale has caused for the intensity of advertisement among the various telecommunication companies among Tigo, Vodafone and others in order to maintain and sustain their market share for profit making.

5.0: CONCLUSION AND RECOMMENDATIONS

The study is expected to serve as a springboard for many elites to research more on how to use game theory to explain the market situations in the real-world. Aside the several challenges facing the country, the study is beseeching all stakeholders to implement the stated policies. The following recommendations are therefore suggested:

1. The study recommends that marketing managers should always brand the product to target the interest of their loyal customers. The branding of the product should also leverage on the educational level of the loyal customers through the use of simple language and audio-visual effective strategies, in order to increase demand for their products.
2. The study further recommends that, stakeholders of the telecommunication should collude, if cannot advertise in the industry than in competing. In doing this will enable the companies to get their market share in terms of customer base and profitability.
3. The study recommends that if the various companies decides to compete for the market share, then the various stakeholders should stay unique in product differentiations through quality packages, affordable pricing and attractive branding. For competition to be possible, the various stakeholders should seek for product differentiation patent rights in order to protect the industry and reduce imitation.

4. As part of the strategies in communicating their brands to consumers, the brand managers should also focus some activities in the neighborhood stores, where most consumers and shoppers prefer to purchase the products.
5. In relation to advertisements, been the most effective strategy, as well as the most expensive strategy, the brand managers could collaborate and pool resources together and negotiate for advertisements slots, and not as individual brands, this will help the companies to minimize the huge monetary expenditure on advertisements. In doing this will help the various companies to enjoy marketing economies of scale.

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